

Department of Natural Resources 1313 Sherman Street, Room 215 Denver, Colorado 80203

May 12, 2017

Bill Tezak Colorado Quarries Inc 270 S 15th St Canon City, CO 81212

Re: Notice of Surety Increase (SI-01); Red Jasper Granite; Permit No. M-1982-200

Dear Bill Tezak:

On April 19, 2017, the Division of Reclamation, Mining and Safety (Division) conducted an inspection of Red Jasper Granite, Permit Number M-1982-200. In accordance with Rule 4.2.1(1) and (2), the Division may review a financial warranty at any time to determine if the amount is sufficient to perform reclamation. The Division currently holds a financial warranty of \$5,000.00. The Division has calculated a reclamation cost estimate for Red Jasper Granite based on the approved mining and reclamation plans and from site observations made on April 19, 2017. The Division calculated the cost to reclaim the affected disturbance to be \$14,886.00. **This is an increase of \$9,886.00 from the current financial warranty held.**

Pursuant to Rule 4.2.1(2), the current Financial Warranty must be amended or replaced to reflect the increase within 60 days from the date of this letter, due **July 11, 2017**.

For questions regarding financial warranties, please contact Barbara Coria, the Division's Financial Assurance Specialist, at (303) 866-3567 x 8148. There are various financial warranty application forms on our website at mining.state.co.us. Operations located on Bureau of Land Management lands have specific forms which are available on the Division's website.

For all other questions, please contact me at 303-866-3567 x8132.

Sincerely,

Elliott R. Russell

Environmental Protection Specialist

Enclosure: Reclamation Cost Estimate M1982200

Cc: Wally Erickson with DRMS

Barbara Coria with DRMS Stephanie Carter with BLM



COST SUMMARY WORK

Task description: **Cost Summary of Reclamation Task** 2017 Cost Estimate Permit Action: Site: Red Jasper Granite TC-02 Permit/Job#: M1982200 **PROJECT IDENTIFICATION** Task #: 000 Colorado State: Abbreviation: None 5/4/2017 Teller M200-000 Date: County: Filename: User: **ERR** Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	D	Form Used	Fleet	Task	Cost
004	Description	Size	Hours		
001	Mobilization/Demobilization of Reclamation	MOBILIZE	1	7.71	\$4,436.00
	Equipment				
002	Non-Roadable Equipment Site Access	MISC	1	1.00	\$139.18
003	Scale N Quarry Highwall	EXCAVATE	1	1.39	\$191.00
004	Consolidate Material Against N Quarry Highwall	DOZER	1	1.99	\$410.00
005	Rip N Quarry Pit Floor and Road	RIPPER	1	0.76	\$158.00
006	Spread Existing Soil Across N Quarry Pad	DOZER	1	0.07	\$15.00
007	Revegetate N Quarry Pad and Road	REVEGE	1	1.00	\$628.00
008	Scale S Quarry Highwall	EXCAVATE	1	4.19	\$574.00
009	Consolidate Material Against S Quarry Highwall	DOZER	1	7.41	\$1,532.00
010	Rip S Quarry Pit Floor	RIPPER	1	3.16	\$654.00
011	Spread Existing Soil Across S Quarry Pad	DOZER	1	0.76	\$156.00
012	Revegetate S Quarry Pad	REVEGE	1	3.00	\$2,598.00
		SUBTO	TALS:	32.44	\$11,491

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02 \$232.12 Total = Performance bond: \$120.66 1.05 Total = Job superintendent: 16.22 Total = \$1,184.87 Profit: 10.00 Total = \$1,149.10

> TOTAL O & P = \$2,686.75 CONTRACT AMOUNT (direct + O & P) = \$14,177.75

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00 Total = 0.00

Engineering work and/or contract/bid preparation: 0.00 Total = \$0.00

Reclamation management and/or administration: 5.00 \$708.89

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$3,395.64

TOTAL BOND AMOUNT (direct + indirect) = \$14,886.64

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mobilization/Demobilization of Reclamation Equipment Permit Action: 2017 Cost Estimate TC-02 Site: Red Jasper Granite Permit/Job#: M1982200 **PROJECT IDENTIFICATION** Task #: 001 Colorado Abbreviation: State: None 5/4/2017 Date: Teller Filename: TC02 County: **ERR** User: Agency or organization name: DRMS **EQUIPMENT TRANSPORT RIG COST** Shift basis: 1 per day Cost Data Source: **CRG** Data Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006) GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT Truck Trailer Description: TRAILER (25T, 50T, AND 100T) Cost Breakdown: **Available Rig Capacities** 0-25 Tons 26-50 Tons **51**+ **Tons** Ownership Cost/Hour: \$16.63 \$22.33 \$18.37 Operating Cost/Hour: \$44.38 \$46.13 \$50.07 Operator Cost/Hour: \$27.66 \$27.66 \$27.66 Helper Cost/Hour: \$0.00 \$25.39 \$25.39

NON ROADABLE EQUIPMENT:

Total Unit Cost/Hour:

\$88.67

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/uni t	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat 336D L 10'-6"	32.23	\$46.82	\$117.55	1	\$164.37	\$117.55	\$250.00
Cat D8T - 8SU	53.08	\$91.36	\$125.45	1	\$216.81	\$125.45	\$500.00

\$125.45

\$117.55

Subtotals: \$381.18 \$243.00 \$750.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T.	\$115.31	1	\$115.31	\$115.31
Crew				
Power Mulcher (Bowie LD-90)	\$21.31	1	\$21.31	\$21.31

Subtotals: \$136.62 \$136.62

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

COLORADO SPRINGS
miles
mph

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

\$4,045.73

\$390.34

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	1.43	1.43
Return Time (Hours):	1.43	1.43
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.86	2.86

JOB TIME AND COST

Total job time:	7.71	Hours
Total job cost:	\$4,436	

MISC WORK

Task descriptio	n: Non	-Roadable Equipment Si	te Access			
Site: Red Jasper G	Franite		2017 Cost Estimate ΓC-02	1	Permit/Job#:	M1982200
ROJECT IDENTIF	FICATION					
Task #: 002		State: Colorado		Abbrevia	tion: None	e
Date: 5/4/2017		County: Teller		Filen	ame: TC0	2
User: ERR		· -				
	or organization n	ame: DRMS				
	or organization n	ame: DRMS Menu Selection	Quantity	<u>Locatio</u> Unit	on adjustmer Unit	nt: 93.10 % Total Cost
NIT COSTS		Menu Selection Cat 336D L 10'-6"	Quantity 0.64			
INIT COSTS Item Description	Dimensions	Menu Selection		Unit	Unit Cost	Total Cost

HYDRAULIC EXCAVATOR WORK

Task description:	Scale N Quarry Highwall			
te: Red Jasper Granite	Permit Action	2017 Cost Estin TC-02		t/Job#: <u>M1982200</u>
PROJECT IDENTIF	<u>ICATION</u>			
Task #: 003 Date: 5/4/2017 User: ERR	State: Colorado County: Teller)	Abbreviation Filenam	
Agency or orga	nization name: DRMS			
HOURLY EQUIPME	ENT COST			
Basic Machine: Attachment 1:	Cat 336D L 10'-6" Stick ROPS Cab	W	Iorsepower: eight (MT): Shift Basis: eata Source:	268 29.30 1 per day (CRG)
Cost Breakdown:	1	II('1'		
Ownership Cost/	Hour: \$46.82	Utilization % NA		
Operating Cost/		100		
Operator Cost/	Hour: \$37.79	NA		
Total Unit Cost/	Hour: \$136.75			
Total Fleet Cost	/Hour: \$136.75			
MATERIAL QUANT	TITIES			
	57 CCY	Swell factor	:: 1.640	
Loose volume:	110 LCY			
Source of es HOURLY PRODUCT	timated swell factor: Cat Har			
Excavator Cycle Time (10	-			
	Basic Job C Secondary Job Condition with	Condition Description		
	Secondary 100 Condition with	Cycle Time Valu		minutes
Load Bucket Capacity		ejere rime vara		
		I	Bucket Size Class:	Small
Rated Capacit				
Bucket Fill Facto		Poorly blasted (40%	- 50%) 0.450	
Adjusted Capacit				
Job Condition Correction	<u>Factors</u>	Site A	Altitude: 8350 feet	
44.5. 4 4 55	Source			
Altitude Adj: Job Efficiency:	1.00 (CAT F			
Net Correction:	0.83 (1 shift/o 0.83 multiplio			
	<u> </u>		I CIVITY	
	djusted Hourly Unit Production djusted Hourly Unit Production		LCY/Hour LCY/Hour	
	djusted Hourly Fleet Production		LCY/Hour	
JOB TIME AND COS			=	
		Total job time:	1.40	Hours
		_		<u> </u>
Unit cost: \$1	.741 /LCY	Total job cost:	\$191	

BULLDOZER WORK

Task description:	Consolidate Ma	terial Agains	st N Quarry Highwall		
e: Red Jasper Grani		ermit Action:	2017 Cost Estimate TC-02	Permit/Jo	b#: <u>M1982200</u>
PROJECT IDENT	IFICATION				
Task #: 004	State:	Colorado		Abbreviation:	None
Date: 5/4/201		Teller		Filename:	TC02
User: ERR				1 11011111101	
Agency or or	rganization name:D	RMS			
HOURLY EQUIPM	MENT COST				
Basic Machine:	Cat D8T - 8SU				
Horsepower:	310		_		
Blade Type:	Semi-Universal		<u> </u>		
Attachment:	3-shank ripper		_		
Shift Basis:	1 per day		_		
Data Source:	(CRG)		_		
Cost Breakdown:					
			<u>Utilization %</u>		
Ownership Cost/Hor	ur:	\$83.81	NA		
Operating Cost/Hor		\$66.17	100		
Ripper ov	vn.	\$7.55	NA		
Cost/Ho	ur:				
Ripper op. Cost/Hor	ur:	\$7.21	100		
Operator Cost/Hor	ur:	\$41.85	NA		
Swell factor:	NTITIES 460 1.320 507 LCY				
C C	.1 Di iii		M		
Source of estimated s Source of estimated s factor:			on, Mining & Safety		
HOURLY PRODU	<u>CTION</u>				
Average push distance	ce: 60 feet				
Unadjusted hourly	1,246.9 LC	CY/hr			
production:	1,210.7 EC	/			
-					
Materials consistency	y description: Rock,	poorly ripped	or blasted 0.6		
Average push	0 %				
gradient:					
Average site altitude	: 8,350 feet				
Material weight:	2,800 lbs/LCY				
Weight description:	Granite - Broken				
Job Condition Correcti	ion Factor		Source		

Operator Skill:	0.750	(AVG.)
Material consistency:	0.600	(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:	0.821	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2453

Adjusted unit production:

Adjusted fleet 305.86 LCY/hr

305.86 LCY/hr

production: 305.86 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.675/LCY

Total job time: 1.99 Hours
Total job cost: \$410

BULLDOZER RIPPING WORK

Site: Red Jasper (mit Action:	2017 Cost E TC-02	estimate	Permit/Jo	b#: <u>M19822</u>	200
PROJECT ID		ON						
	05	State:	Colorado			reviation:	None	
	4/2017	County:	Teller			Filename:	TC02	
User: E	RR							
Agency	or organization	n name: DR	MS					_
HOURLY EQ	UIPMENT C	<u>OST</u>						
Basic	Machine: Ca	at D8T - 8SU			Horsepower:		310	
Ripper At	tachment: 3-	Shank Ripper		_	Shift Basis:		er day	-
G (D 11					Data Source:	(CRG)	_
Cost Breakdown:	_				Utilization %			
	Ownership C	Cost/Hour:		\$83.81	NA			
	Operating C			\$66.17	100	_		
	er Ownership C	Cost/Hour:		\$7.55	NA	=		
	per Operating C	Cost/Hour:		\$7.21	100	_		
	Operator C	Cost/Hour:		\$41.85	NA			
	Total Unit C	Cost/Hour:		\$206.59				
	Total Fleet C		\$206	50				
	Total Tiect C		φ200					
ea: NA 0.29	acres		nk Volume: Depth (ft):	NA 1.00	BCY Volume:	468	NA	BCY or
	Source of esti	mated quantity	y: DRMS	(.11 acre quar	ry pad and .18 a	cre road)		<u> </u>
HOURLY PRO	<u>ODUCTION</u>							
Seismic:		a · · · · · · · · · · · ·	•.	NTA	C /	1		
Aron		Seismic Veloc	enty:	NA	feet/se	cona		
Area:	Avers	ge Ripping De	nth:	2.56	mph			
		ge Ripping De ge Ripping Wi		7.08	degree	·s		
		e Ripping Wi		25.00	feet	ъ		
		rage Dozer Sp		88.00	feet			
		e Maneuver Ti		0.25	feet			
		ction per unit a		0.456	acres/l	nour		
Job Condition Co	orrection Factor	<u>s</u>						
Un	adjusted Hourly	y Unit Product	ion:	0.456	Acres/	hr		
		Site Altitu	ude:	8,350	feet			
		Altitude A		1.00	(CAT			
		Job Efficien		0.83	(1 shif	•		
		Net Correct		0.83	multip	lier		
		Hourly Unit I Hourly Fleet I		0.38 0.38	Acres/hr Acres/hr			
JOB TIME AN	ND COST							
Fleet size:	1	_ Grader(s)		Total job tim	ne:	0.77	Hours	S
				Total job co		\$158		

BULLDOZER WORK

Task desc	ription:	Spr	ead Existing	Soil Across	N Quarry Pad		
e: Red Ja	sper Gran	ite	Pe	rmit Action:	2017 Cost Estimate TC-02	Permit/Jo	b#: <u>M1982200</u>
PROJEC	T IDENT	IFICATI(<u>ON</u>				
Task #	: 006		State:	Colorado		Abbreviation:	None
Date		17	County:	Teller		Filename:	TC02
User	: ERR		•				
A	agency or o	rganization	name: DF	RMS			
HOURLY	Z EQUIPI	MENT CO	OST				
	Machine:	Cat D8T -	<u>.</u>				
	sepower:	310	050		<u> </u>		
	de Type:	Semi-Univ	versal		_		
	chment:	3-shank ri			_		
	ft Basis:	1 per day	r r -		_		
	Source:	(CRG)			_		
Cost Break	down:				_		
					<u>Utilization %</u>		
Ownersh	ip Cost/Ho	ur:		\$83.81	NA		
	ng Cost/Ho			\$66.17	100		
	Ripper ov						
	Cost/Ho			\$7.55	NA		
Ripper o	p. Cost/Ho	ur:		\$7.21	100		
Operato	or Cost/Ho	ur:		\$41.85	NA		
MATERI Initial V Swell Loose v	olume:	NTITIES 30 1.165 35 LCY		_			
	estimated estimated		Cat Hand		on, Mining & Safety		
HOURLY	Z PRODU	CTION					
Average	push distan	ce:	50 feet				
Unadjuste			1,400.0 LC	Y/hr			
productio			1, DC				
Materials	consistenc	y description	on: Compa	cted fill or er	mbankment 0.9		
Average j	push	0 %					
gradient:							
Average	site altitude	: 8,350) feet				
Material	weight:	2,900) lbs/LCY				
Weight de	escription:	Deco	omposed rock	- 50% Rock	, 50% Earth		
Job Conditi	ion Correct	ion Factor			Source		

Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 497.56 LCY/hr

Adjusted fleet production: 497.56 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.415/LCY

Total job time: 0.07 Hours
Total job cost: \$15

REVEGETATION WORK

Red Jasp	er Granite	Pe	rmit Action:	2017 Cost Estimate TC-02	Permit/Job	o#: <u>M1982200</u>
ROJECT	<u>IDENTIFI</u>	CATION				
Task #:	007	State:	Colorado		Abbreviation:	None
Task #: Date:	<u>007</u> <u>5/4/2017</u>	State: County:	Colorado Teller		Abbreviation: Filename:	None TC02

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	121.20	pound	\$0.34	\$41.21
Triple superphosphate, 0-46-0	87.00	pound	\$0.43	\$37.41
			Total Fertilizer Materials Cost/Acre	\$78.62

Application

Description		Cost /Acre
Hand spread (MEANS 32 01 90.13 0100)		\$638.15
	Total Fertilizer Application Cost/Acre	\$638.15

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arizona Fescue - Redondo	2.00	22.96	\$23.68
Mountain Brome - Bromar	10.00	16.07	\$43.50
Yellow Sweet Clover - Madrid	2.00	11.94	\$5.66
Slender Wheatgrass - Native	4.00	14.60	\$11.28
Mahogany, Mountain	1.16	1.57	\$42.70
Western Wheatgrass - Arriba	6.00	15.15	\$48.48
Totals Seed Mix	25.16	82.29	\$175.30

Application

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

MULCHING and MISCELLANEOUS

Materials

Description Steern delivered (MEANS 21.25.14.16.1200)	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	1.00	TON	\$261.00	\$261.00
Total Mulch Materials Cost/Acre				\$261.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$66.02
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	Total Mulch Application Cost/Acre	\$165.34

NURSERY STOCK PLANTING

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

JOB TIME AND COST

 No. of Acres:
 0.29
 Cost /Acre:
 \$1,585.63

 Estimated Failure Rate:
 50%
 Cost /Acre*:
 \$1,159.29

*Selected Replanting Work Items: FERTILIZING,SEEDING

Initial Job Cost: \$459.83

Reseeding Job Cost: \$168.10

Total Job Cost: Job Hours: 1.00

HYDRAULIC EXCAVATOR WORK

-	Scale	S Quarry l	Highwall					
e: Red Jasper Granite		Pei	rmit Action:	2017 Cost Esti TC-02	mate	Permit/Jo	b#: <u>M</u>	1982200
PROJECT IDENTIF	ICATIO	<u>N</u>						
Task #: 008 Date: 5/4/2017 User: ERR		State: County:	Colorado Teller		Ab	breviation: Filename:	None TC02	
Agency or orga	nization na	ame: DR	RMS					
HOURLY EQUIPME	ENT COS	<u>ST</u>						
Basic Machine: Attachment 1:	Cat 336I ROPS C	DL 10'-6'' ab	Stick	W	Horsepower: Veight (MT): Shift Basis: Data Source:	1 1	268 29.30 per day CRG)	
Cost Breakdown:			1	Utilization %				
Ownership Cost/	Hour:	\$46.8	32	NA				
Operating Cost/	Hour:	\$52.1	14	100	_			
Operator Cost/		\$37.7		NA	_			
Total Unit Cost/	Hour:	\$136.	15					
Total Fleet Cost	/Hour: _	\$136	.75					
MATERIAL QUANT								
	201		CCY	Swell facto	or: 1.640			
Source of es	timated sv	ed volume: vell factor:	LCY	110' long x 20' hi	gh & 325' lo	ong x 10' hig	gh. 12" a	avg.
Source of es HOURLY PRODUCT	of estimated sv	vell factor:	DRMS:	110' long x 20' hi dbook		ong x 10' hig	gh. 12" a	avg
Source of es	of estimated sv	vell factor:	DRMS: Cat Hand	110' long x 20' hidbook	oty):		gh. 12" a	avg.
Source of es HOURLY PRODUCT	of estimated sv FION oad bucket	vell factor: , swing load	LCY DRMS: Cat Hand ded, dump to Basic Job Co	110' long x 20' hidbook bucket, swing empondition Description Basic Description	oty): on: SEVE on: SEVE	RE	gh. 12" :	avg.
Source of es HOURLY PRODUCT Excavator Cycle Time (lo	of estimated sv FION oad bucket	vell factor: , swing load	LCY DRMS: Cat Hand ded, dump to Basic Job Co	110' long x 20' hidbook bucket, swing empondition Description	oty): on: SEVE on: SEVE	RE	gh. 12" (
Source of es HOURLY PRODUCT	of estimated sv FION oad bucket	vell factor: , swing load	LCY DRMS: Cat Hand ded, dump to Basic Job Co	110' long x 20' hidbook bucket, swing empondition Description Basic Description Cycle Time Value	on: SEVE on: SEVE ue: 0.445	RE RE	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (lo	of estimated sy FION and bucket Seconda	vell factor: , swing load	LCY DRMS: Cat Hand ded, dump to Basic Job Co	110' long x 20' hidbook bucket, swing empondition Description Basic Description Cycle Time Value	oty): on: SEVE on: SEVE	RE RE		
Source of es HOURLY PRODUCT Excavator Cycle Time (lo Load Bucket Capacity Rated Capacit Bucket Fill Factor	of estimated sv FION pad bucket Seconda y:	yell factor: , swing load Fary Job Con 1.56 0.450	LCY DRMS: Cat Hand ded, dump to the ded	110' long x 20' hidbook bucket, swing empondition Description Basic Description Cycle Time Value	on: SEVE on: SEVE ue: 0.445 Bucket Size	RE RE Class: Si	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (lo Load Bucket Capacity Rated Capacit Bucket Fill Facto Adjusted Capacit	of estimated sy FION pad bucket Seconda y:	vell factor: , swing load Fary Job Con	DRMS: Cat Hand ded, dump to the ded, d	110' long x 20' hidbook bucket, swing empondition Description Basic Description Cycle Time Valuated) coorly blasted (409)	on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4	RE RE Class: Si	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (lo Load Bucket Capacity Rated Capacit Bucket Fill Factor	of estimated sy FION pad bucket Seconda y:	yell factor: , swing load Fary Job Con 1.56 0.450	LCY DRMS: Cat Hand ded, dump to the ded	110' long x 20' hidbook bucket, swing empondition Description Basic Description Cycle Time Valuated) coorly blasted (409)	on: SEVE on: SEVE ue: 0.445 Bucket Size	RE RE Class: Si	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (Ic Load Bucket Capacity Rated Capacit Bucket Fill Factor Adjusted Capacit Job Condition Correction	of estimated sy FION Seconda y: y: Factors	yell factor: , swing load Fary Job Con 1.56 0.450 0.70	LCY DRMS: Cat Hand ded, dump let Basic Job Condition within LCY (het Rock - P LCY Source	110' long x 20' hidbook bucket, swing empondition Description Basic Description Cycle Time Valuated) coorly blasted (409) Site	on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4	RE RE Class: Si	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (Ic Load Bucket Capacity Rated Capacit Bucket Fill Facto Adjusted Capacit Job Condition Correction Altitude Adj:	of estimated sy FION bad bucket Seconda y: y: Factors 1.0	yell factor: , swing load Fary Job Con 1.56 0.450 0.70	LCY DRMS: Cat Hand ded, dump to the ded	110' long x 20' hidbook bucket, swing empondition Description Basic Description Cycle Time Valuated caped) coorly blasted (409) Site	on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4	RE RE Class: Si	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (Ic Load Bucket Capacity Rated Capacit Bucket Fill Factor Adjusted Capacit Job Condition Correction	of estimated sy FION Seconda y: y: Factors	yell factor: , swing load Fary Job Con 1.56 0.450 0.70	LCY DRMS: Cat Hand ded, dump let Basic Job Condition within LCY (het Rock - P LCY Source	110' long x 20' hidbook bucket, swing empondition Description Basic Description Cycle Time Valuated caped) coorly blasted (40% Site	on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4	RE RE Class: Si	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (Ic Load Bucket Capacity Rated Capacit Bucket Fill Facto Adjusted Capacit Job Condition Correction Altitude Adj: Job Efficiency: Net Correction:	of estimated sy FION Seconda y: Factors 1.0 0.8	yell factor: , swing load Fary Job Con 1.56 0.450 0.70	LCY DRMS: Cat Hand ded, dump to the dump to the ded, dump to the ded, dump to the ded, dump to the dump to the ded, dump to the d	110' long x 20' hidbook bucket, swing employed and bucket, swing employed	on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4	RE RE Class: <u>Sr</u> 50	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (lo Load Bucket Capacity Rated Capacit Bucket Fill Factor Adjusted Capacit Job Condition Correction Altitude Adj: Job Efficiency: Net Correction: Una	of estimated sv FION pad bucket Seconda y: y: Factors 1.0 0.8 0.8 djusted Hedjusted Hedjusted Heddjusted	yell factor: , swing load Fary Job Con 1.56 0.450 0.70 00 33 33 ourly Unit lourly	LCY DRMS: Cat Hand ded, dump to the dump to the ded, dump to the ded, dump to the	110' long x 20' hidbook bucket, swing employed and bucket, swing employed	on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4 Altitude: 83	RE RE Class: S1 50 50 feet	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (lo Load Bucket Capacity Rated Capacit Bucket Fill Factor Adjusted Capacit Job Condition Correction Altitude Adj: Job Efficiency: Net Correction: Una	of estimated sv FION pad bucket Seconda y: y: Factors 1.0 0.8 0.8 djusted Hedjusted Hedjusted Heddjusted	yell factor: , swing load Fary Job Con 1.56 0.450 0.70 00 33 33 ourly Unit lourly	LCY DRMS: Cat Hand ded, dump to the dump to the ded, dump to the ded, dump to the ded, dump to the dump t	110' long x 20' hidbook bucket, swing employed and Basic Description Cycle Time Value (409) Site (8) B) ay) 94.65	on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4 Altitude: 83	RE RE Class: S1 50 50 feet	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (lo Load Bucket Capacity Rated Capacit Bucket Fill Factor Adjusted Capacit Job Condition Correction Altitude Adj: Job Efficiency: Net Correction: Una	rich setimated sv rich setimat	yell factor: , swing load Fary Job Con 1.56 0.450 0.70 00 33 33 ourly Unit lourly	LCY DRMS: Cat Hand ded, dump to the dump to the ded, dump to the ded, dump to the	110' long x 20' hidbook bucket, swing employed and bucket, swing employed	on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4 Altitude: 83	RE RE Class: S1 50 50 feet	minut	
Source of es HOURLY PRODUCT Excavator Cycle Time (lo Load Bucket Capacity Rated Capacit Bucket Fill Factor Adjusted Capacit Job Condition Correction Altitude Adj: Job Efficiency: Net Correction: Una Add JOB TIME AND COS	rich setimated sv rich setimat	yell factor: , swing load Fary Job Con 1.56 0.450 0.70 00 33 33 ourly Unit lourly	LCY DRMS: Cat Hand ded, dump to the dump to t	110' long x 20' hidbook bucket, swing employed and bucket, swing employed	on: SEVE on: SEVE on: SEVE ue: 0.445 Bucket Size % - 50%) 0.4 Altitude: 83 _ LCY/Hot _ LCY/Hot _ LCY/Hot	RE RE Class: S1 50 50 feet	minut	es

BULLDOZER WORK

Task description:	Co	nsolidate Ma	erial Agains	st S Quarry Highwall		
e: _ Red Jasper G i	ranite	Per	rmit Action:	2017 Cost Estimate TC-02	Permit/Jo	b#: <u>M1982200</u>
PROJECT IDE	NTIFICAT	<u>ION</u>				
Task #: 009)	State:	Colorado		Abbreviation:	None
	/2017	County:	Teller		Filename:	TC02
User: ER			101101		1 11011011101	
Agency	or organizatio	n name: DF	RMS			
HOURLY EQU	IPMENT C	COST				
Basic Machine		<u></u>				
Horsepower		050		_		
Blade Type		iversal		-		
Attachment				-		
Shift Basis				<u> </u>		
Data Source				_		
Cost Breakdown:				_		
				Utilization %		
Ownership Cost	Hour:		\$83.81	NA		
Operating Cost			\$66.17	100		
Rippe	r own.		\$7.55	NT A		
Cost	Hour:		\$1.55	NA		
Ripper op. Cost	Hour:		\$7.21	100		
Operator Cost	Hour:		\$41.85	NA		
MATERIAL QU Initial Volume: Swell factor: Loose volume:	950 1.320 1,254 LCS					
			_			
Source of estimate Source of estimate factor:		Division Cat Hand		on, Mining & Safety		
HOURLY PRO	DUCTION					
Average push dis	tance:	135 feet				
Unadjusted hourl		689.5 LCY	/hr			
production:	-					
						
Materials consist	ency descript	ion: Rock, 1	oorly ripped	or blasted 0.6		
Average push	0 %)				
gradient:						
Average site altit	ude: 8,3:	50 feet				
Material weight:	2,80	00 lbs/LCY				
Weight description	on: Gra	nite - Broken				
Job Condition Cor	ection Factor	<u>r</u> _		Source		

Operator Skill:	0.750	(AVG.)
Material consistency:	0.600	(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:	0.821	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2453

Adjusted unit production:

Adjusted fleet 169.13 LCY/hr

production: 169.13 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$1.221/LCY

Total job time: 7.41 Hours
Total job cost: \$1,532

BULLDOZER RIPPING WORK

Site: Red Jasper	r Granite_	Permit Action:	2017 Cost Es TC-02		Permit/Job#: M	1982200
PROJECT II	DENTIFICATI	ON				
Task #:	010	State: Colorado		Abbre	eviation: None	
	5/4/2017	County: Teller			lename: TC02	
	ERR					
Agen	cy or organization	n name: DRMS				
•	QUIPMENT C					
		at D8T - 8SU		Horsepower:	310	
		Shank Ripper		Shift Basis:	1 per day	
rr ·		······································		Data Source:	(CRG)	
Cost Breakdow	<u>'n:</u>			-		
				Utilization %		
	Ownership C		\$83.81	NA		
ъ.	Operating C		\$66.17	100		
	oper Ownership C ipper Operating C		\$7.55 \$7.21	NA 100		
Ki	ipper Operating C Operator C		\$41.85	100 NA		
	Total Unit C		\$206.59	11/7		
	Total Ollit C		ΨΔΟΟ.37			
MATERIAL Alternate Metho	QUANTITIES	Selec	cted estimating	method: Area		
nic: NA	ous.	Bank Volume:	NA	BCY	NA	
rea: 1.20	acres	Rip Depth (ft):		Volume:	1,936	BCY
	Source of esti	mated quantity: DRMS				
HOURLY PI	RODUCTION					
Seismic:						
Seismic:		Seismic Velocity:	NA	feet/seco	ond	
Seismic: Area:		-			ond	
	Averaș	ge Ripping Depth:	2.56	mph	ond	
	Averaş Averaş	ge Ripping Depth: ge Ripping Width:	2.56 7.08	mph degrees	ond	
	Averaş Averaş Averag	ge Ripping Depth: ge Ripping Width: e Ripping Length:	2.56 7.08 25.00	mph degrees feet	ond	
	Averaş Averaş Averas Aver	ge Ripping Depth: ge Ripping Width: e Ripping Length: rage Dozer Speed:	2.56 7.08 25.00 88.00	mph degrees feet feet	ond	
	Averaş Averag Averag Aver Average	ge Ripping Depth: ge Ripping Width: e Ripping Length:	2.56 7.08 25.00	mph degrees feet		
Area:	Averaş Averag Averag Aver Average	ge Ripping Depth: ge Ripping Width: e Ripping Length: rage Dozer Speed: e Maneuver Time:	2.56 7.08 25.00 88.00 0.25	mph degrees feet feet feet		
Area: Job Condition C	Averag Averag Average Average Produc	ge Ripping Depth: ge Ripping Width: e Ripping Length: rage Dozer Speed: e Maneuver Time: ction per unit area:	2.56 7.08 25.00 88.00 0.25 0.456	mph degrees feet feet feet acres/ho	ur	
Area: Job Condition C	Averag Averag Average Average Produc	ge Ripping Depth: ge Ripping Width: e Ripping Length: rage Dozer Speed: e Maneuver Time:	2.56 7.08 25.00 88.00 0.25 0.456	mph degrees feet feet feet	ur	
Area: Job Condition C	Averag Averag Average Average Produc	ge Ripping Depth: ge Ripping Width: e Ripping Length: rage Dozer Speed: e Maneuver Time: ction per unit area:	2.56 7.08 25.00 88.00 0.25 0.456	mph degrees feet feet feet acres/ho	ur	
Area: Job Condition C	Averag Averag Average Average Produc	ge Ripping Depth: ge Ripping Width: ee Ripping Length: rage Dozer Speed: ee Maneuver Time: ction per unit area: ge Wunit Production: Site Altitude:	2.56 7.08 25.00 88.00 0.25 0.456	mph degrees feet feet feet acres/ho Acres/hi feet	ur B)	
Area: Job Condition C	Averag Averag Average Average Produc	ge Ripping Depth: ge Ripping Width: ee Ripping Length: rage Dozer Speed: ee Maneuver Time: etion per unit area: ge Vunit Production: Site Altitude: Altitude Adj:	2.56 7.08 25.00 88.00 0.25 0.456 0.456 8,350 1.00	mph degrees feet feet feet acres/ho Acres/hr feet (CAT H	ur B) Jay)	
Area: Job Condition C	Averag Averag Average Average Produc Correction Factors Jnadjusted Hourly	ge Ripping Depth: ge Ripping Width: ge Ripping Length: rage Dozer Speed: ge Maneuver Time: getion per unit area: getion per unit are	2.56 7.08 25.00 88.00 0.25 0.456 0.456 8,350 1.00 0.83 0.83 0.38	mph	ur B) Jay)	
Area: Job Condition C	Averag Averag Average Average Produc Correction Factors Jnadjusted Hourly Adjusted Adjusted	ge Ripping Depth: ge Ripping Width: ee Ripping Length: rage Dozer Speed: ee Maneuver Time: etion per unit area: Solution of the Manager of t	2.56 7.08 25.00 88.00 0.25 0.456 0.456 8,350 1.00 0.83 0.83	mph degrees feet feet feet acres/ho Acres/hr feet (CAT H (1 shift/c multiplice	ur B) Jay)	
Area: Job Condition (Average Average Average Average Average Produce Correction Factors Janadjusted Hourly Adjusted Adjusted AND COST	ge Ripping Depth: ge Ripping Width: ee Ripping Length: rage Dozer Speed: ee Maneuver Time: etion per unit area: Solution of the Manage	2.56 7.08 25.00 88.00 0.25 0.456 8,350 1.00 0.83 0.83 0.38	mph degrees feet feet feet acres/ho Acres/hr feet (CAT H (1 shift/c multiplic Acres/hr Acres/hr	ur B) day) er	Hours
Area: Job Condition C	Average Average Average Average Average Produce Correction Factors Janadjusted Hourly Adjusted Adjusted AND COST	ge Ripping Depth: ge Ripping Width: ge Ripping Length: rage Dozer Speed: ge Maneuver Time: getion per unit area: getion per unit are	2.56 7.08 25.00 88.00 0.25 0.456 0.456 8,350 1.00 0.83 0.83 0.38	mph degrees feet feet feet acres/ho Acres/hr feet (CAT H (1 shift/c multiplic Acres/hr Acres/hr	ur B) lay) er	Hours

BULLDOZER WORK

Task desc	cription:	Spre	ead Existing	Soil Across	S Quarry Pad		
e: Red J a	sper Grani	te	Per	rmit Action:	2017 Cost Estimate TC-02	Permit/Jo	b#: <u>M1982200</u>
PROJEC	T IDENT	IFICATION	<u>ON</u>				
Task #	t: 011		State:	Colorado		Abbreviation:	None
Date		7	County:	Teller		Filename:	TC02
Useı	r: ERR		•				
A	Agency or or	ganization	name: DF	RMS			
HOURLY	Y EQUIPN	MENT CO	OST				
	Machine:	Cat D8T -					
	sepower:	310	050		<u> </u>		
	de Type:	Semi-Univ	versal		_		
	achment:	3-shank rij			_		
	ift Basis:	1 per day	· F		_		
	a Source:	(CRG)			<u> </u>		
Cost Break	-down				_		
Cost Dicar	tuowii.			Ī	<u>Utilization %</u>		
Ownersh	nip Cost/Ho	ır:		\$83.81	NA		
	ng Cost/Ho			\$66.17	100		
o porati	Ripper ow						
	Cost/Ho			\$7.55	NA		
Ripper o	op. Cost/Ho			\$7.21	100		
	or Cost/Ho			\$41.85	NA		
Initial V	l factor:	323					
Loose	volume: 3	376 LCY		<u> </u>			
Source of	f estimated	volume.	DRMS: 4	" on 1/2 size	of pad (.6 acres)		
	f estimated s		Cat Hand		or pad (.o deres)		
HOURLY	Y PRODU	<u>CTION</u>					
Average	push distanc	e:	50 feet				
_	ed hourly		1,400.0 LC	Y/hr			
production							
			~				
Materials	s consistency	y description	on: Compa	cted fill or ei	mbankment 0.9		
Average	push	0 %					
gradient:							
Average	site altitude	8,350) feet				
Material	weight:	2,900) lbs/LCY				
Weight d	lescription:	Deco	mposed rock	- 50% Rock	, 50% Earth		
Job Condit	ion Correcti	on Factor			Source		

Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production:

Adjusted fleet 497.56 LCY/hr

production: 497.56 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.415/LCY

Total job time: 0.76 Hours
Total job cost: \$156

REVEGETATION WORK

Red Jasper Granite	Revegetate S Quarry Pad Permit Action:	2017 Cost Estimate TC-02	Permit/Jol	b#: <u>M1982200</u>
Task #: 012 Date: 5/4/2017 User: ERR	State: Colorado County: Teller		Abbreviation: Filename:	None TC02
Agency or organi	ization name: DRMS			

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	121.20	pound	\$0.34	\$41.21
Triple superphosphate, 0-46-0	87.00	pound	\$0.43	\$37.41
			Total Fertilizer Materials Cost/Acre	\$78.62

Application

Description		Cost /Acre
Hand spread (MEANS 32 01 90.13 0100)		\$638.15
	Total Fertilizer Application Cost/Acre	\$638.15

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arizona Fescue - Redondo	2.00	22.96	\$23.68
Mountain Brome - Bromar	10.00	16.07	\$43.50
Yellow Sweet Clover - Madrid	2.00	11.94	\$5.66
Slender Wheatgrass - Native	4.00	14.60	\$11.28
Mahogany, Mountain	1.16	1.57	\$42.70
Western Wheatgrass - Arriba	6.00	15.15	\$48.48
Totals Seed Mix	25.16	82.29	\$175.30

Application

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

MULCHING and MISCELLANEOUS

Materials

Description Steern delivered (MEANS 21.25.14.16.1200)	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	1.00	TON	\$261.00	\$261.00
Total Mulch Materials Cost/Acre				\$261.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$66.02
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	Total Mulch Application Cost/Acre	\$165.34

NURSERY STOCK PLANTING

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

JOB TIME AND COST

 No. of Acres:
 1.2
 Cost /Acre:
 \$1,585.63

 Estimated Failure Rate:
 50%
 Cost /Acre*:
 \$1,159.29

*Selected Replanting Work Items: FERTILIZING,SEEDING

Initial Job Cost: \$1,902.76

Reseeding Job Cost: \$695.57

Total Job Cost: \$2,598

3.00