September 14, 2018

Eric Frei Flag Resources Inc. 1412 CR 311 New Castle, CO 81641



COLORADO Division of Reclamation, Mining and Safety Department of Natural Resources

1313 Sherman Street, Room 215 Denver, CO 80203

RE: Silt Pit, Permit No. M-1981-202-SG, Surety Reduction Request (SR1), Approval

Dear Mr. Frei:

On September 14, 2018 the Division of Reclamation, Mining and Safety <u>approved</u> your Surety Reduction Request (SR-1), submitted on August 24, 2018. Staff has calculated an estimate (copy enclosed) of the actual cost to complete reclamation at the site and determined that an adequate financial warranty shall be an amount of \$264,210.00. The bond amount currently held by the Division is \$468,320.00. <u>This is a reduction of \$204,110</u>.

Please contact Barbara Coria at our Denver office, ph. 303-866-3567 ext. 8148, to make arrangements for replacement of the current financial warranty with a financial warranty in the reduced amount, as calculated for the approved SR4.

If you require additional information, or have questions or concerns, please feel free to contact me. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 970-254-8511 or via email at amy.yeldell@ state.co.us

Sincerely,

my Geldell

Amy Yeldell Environmental Protection Specialist

Cc: Wally Erickson, Senior EPS, Grand Junction DRMS Barbra Coria, DRMS



COST SUMMARY WORK

Task description: Update	ed based on 9/11/18 inspection for SR-1		
Site: Silt Pit	Permit Action: SR-1	Permit/Job	#: <u>M1981202SG</u>
PROJECT IDENTIFICATION	1		
Task #: ACY	State: Colorado	Abbreviation:	None
Date: 9/12/2018	County: Garfield	Filename:	M202-ACY
User: ACY		_	

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demo/Removal of Structures	DEMOLISH	1	16.00	\$7,834.59
02a	Dewatering of east lake to allow for grading	PUMPING	1	458.61	\$52,305.00
03a	Reduce North Highwall to 3:1 Slope	DOZER	1	3.19	\$718.00
03b	Reduce South Highwall to 3:1 Slope	DOZER	1	12.36	\$2,783.00
03c	Reduce sediment pond and dike Highwall to 3:1 Slope	DOZER	1	6.36	\$1,432.00
04a	Rip compacted areas	GRADER	1	21.56	\$3,177.00
05a	Topsoil North Highwall area	DOZER	1	9.00	\$1,876.00
05b	Topsoil remaining areas	SCRAPER1	1	124.11	\$43,876.00
05c	Finish grading topsoiled areas	GRADER	1	24.20	\$3,381.00
06a	Reveg all disturbed areas not to be pond	REVEGE	1	65.00	\$94,315.00
07a	Initial Mobilization	MOBILIZE	1	2.65	\$5,453.00
07b	Secondary Mobilization	MOBILIZE	1	2.65	\$1,542.00
		SUBTO	DTALS:	745.69	\$218,693

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	0.00	Total =	\$0.00
Performance bond:	0.00	Total =	\$0.00
Job superintendent:	145.00	Total =	\$10,592.25
Profit:	10.00	Total =	\$21,869.30
		TOTAL O & P =	\$32,461.55
		CONTRACT AMOUNT (direct + O & P) = $($	\$251,154.55

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

TOTAL BOND A	MOUNT (F	Rounded) =	\$264,210.00
TOTAL BO	ND AMOUNT (di	irect + indirect) =	\$264,212.28
	TOTAL IN	DIRECT COST =	\$45,519.28
CONTINGENCY:	0.00	Total =	\$0.00
Reclamation management and/or administration:	5.00		\$12,557.73
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0.00
Financial warranty processing (legal/related costs):	500.00	Total =	500.00

DEMOLITION WORK

,	Task description:	Demo/Remo	oval of Structur	es		
Site:	Silt Pit		Permit Action:	SR-1	Permit/J	lob#: <u>M1981202SG</u>
<u>PROJE</u>	CT IDENTIFICATION	N				
Task #:	01A	State:	Colorado		Abbreviation:	None
Date:	9/12/2018	County:	Garfield		Filename:	M202-01a
User:	ACY					
	Agency or organizat	ion name:	DRMS			

Location adjustment: 95.50 %

UNIT COSTS

Structure or Item **Demolition Menu** Unit **Total Cost** Dimensions Quantity Unit Selection Description Cost Fuel Containment 30' x 20' x 3' Floor, concrete, 900.00 SF \$720.00 \$0.80 demolition only, average reinforcing - 6 in. thick Load/haul/dump Push cement into pit 200.00 CY \$0.51 5400 cf \$102.00 demolished materials/debris into pit -Max. 1,000 ft. haul Remove Metal Debris 20' x 10' x 20 Loading and 5 mile haul, 148.00 CY \$10.27 \$1,519.96 salvage allowed - Steel frame structures Batch Plant Pad 5300 sf Demo. and on-site 5,300.00 SF \$1.11 \$5,861.80 disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	16.00	(unadjusted):	\$8,203.76	location):	\$7,834.59

PUMPING WORK

Task description:	Dewa	itering of east lake to	allow for grading		
Silt Pit		Permit Action	n: SR-1	Permit/Job#:	M1981202SG
PROJECT IDENTIFI	CATIO) N			
Task #: 02A Date: 9/12/2018 User: ACY		State: Colorad County: Garfield		Abbreviation: Filename:	None M202-02a
Agency or organ	ization	name: DRMS			
HOURLY EQUIPME					
Make and Model: Attachment 1: Attachment 2: Labor Unit 1: Horsepower:	Descri Centri Suctio Discha Pump 70		5 ft.	Quantity 3 6 6 1	
	er day 95				
<u> </u>	Tons)				
Cost Breakdown: Ownership Cost/H Operating Cost/H Operator Cost/H	lour: lour:	\$33.39 \$52.86 \$27.80	Utilization % NA 100 NA	- - -	
Total Unit Cost/H	lour:	\$114.05			
Total Fleet Cost/F		\$114.05			
Initial Pond Volu		810.20		Conversion factor:	325850.5800
Total Pond Inflow Volu	face rea: ume	264,004,139.92 46,000	gallons Sq. ft.	Unit inflow rate in gph/sq. ft.:	0.1758
per H	our:	8,086.80	gallons		
Source of	f estima	ted volume: 40.51	ac pond 20'D, 2300 l	ft adjacent to river	
PUMPING TIME					
Est	timated nated Di	ump Capacity: Suction Head: scharge Head: Total Head: ump Capacity:	200,000 15 15 30 168,000	gph/pump feet feet feet gph/pump	
		Site Altitude:	5,440	feet	
		ping Capacity:	504,000 523.82	gph hours	
		itial Pumping:	4,236,009	gallons	
Net Unad	justed P	umping Time:	532.22	Hours	
		stment Factor:	0.9400	(3% rule)	
		ciency Factor:	0.9167 458.62	(55 min./hr.) hours	
JOB TIME AND COS			Total jol		Hours
Unit cost: \$0.000)195	/Gallon	Total jo	b cost: \$52,305	-

BULLDOZER WORK

Task description:	Kedu	ce North Highwall	to 3:1	Slope		
: Silt Pit		Permit Acti	ion: S	SR-1	Permit/Job#:	M1981202SG
PROJECT IDEN	NTIFICATIO	<u>DN</u>				
Task #: 03A		State: Color	ado		Abbreviation:	None
Date: 9/12/2	2018	County: Garfie			Filename:	M202-03a
User: ACY						
Agency or	r organization 1	name: DRMS				
HOURLY EQUI	IPMENT CO	<u>ST</u>				
Basic Machine:	Cat D8T - 8	SU				
Horsepower:	310					
Blade Type:	Semi-Unive					
Attachment:	3-shank ripp	ber				
Shift Basis:	1 per day					
Data Source:	(CRG)					
Cost Breakdown:						
				Utilization %		
Ownership Cost/H		\$93.		NA		
Operating Cost/H		\$73.		100		
Ripper own. Cost/H			.93	NA		
Ripper op. Cost/H			.78	100		
Operator Cost/H	Iour:	\$41.	.52	NA		
Total Fleet Cost/Ho <u>MATERIAL QU</u>		20				
MATERIAL QU Initial Volume:	J ANTITIES 1,481					
MATERIAL QU	ANTITIES					
MATERIAL QU Initial Volume: Swell factor:	JANTITIES 1,481 1.060 1,570 LCY I volume: 1 swell factor:	200 LF 20'H of 2 Cat Handbook	2:1 bacl	kfilled highwall		
MATERIAL OU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	1,481 1.060 1,570 LCY I volume: I swell factor: DUCTION nce:	 200 LF 20'H of 2	2:1 bacl	 kfilled highwall 		
MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distant	JANTITIES 1,481 1.060 1,570 LCY I volume: I swell factor: DUCTION nce: production:	200 LF 20'H of 2 Cat Handbook				
MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distan Unadjusted hourly p	JANTITIES 1,481 1.060 1,570 LCY 1 volume: 1 swell factor: DUCTION nce: production: cy description: ent:	200 LF 20'H of 2 Cat Handbook 100 feet 852.6 LCY/hr Partly consolid				
MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distan Unadjusted hourly p Materials consistent Average push gradi	JANTITIES 1,481 1.060 1,570 LCY I volume: I swell factor: DUCTION nce: production: cy description: ent:	200 LF 20'H of 2 Cat Handbook 100 feet 852.6 LCY/hr Partly consolid				
MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distan Unadjusted hourly p Materials consistence Average push gradi Average site altitud	JANTITIES 1,481 1.060 1,570 LCY I volume: I swell factor: DUCTION nce: production: cy description: ent:	200 LF 20'H of 2 Cat Handbook 100 feet 852.6 LCY/hr Partly consolid feet				
MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated MOURLY PROI Average push distan Unadjusted hourly p Materials consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre	JANTITIES 1,481 1.060 1,570 LCY I volume: I swell factor: DUCTION nce: production: output eent: -15 % 2,900 Sand a ection Factor	200 LF 20'H of 2 Cat Handbook 100 feet 852.6 LCY/hr Partly consolid feet lbs/LCY and gravel - Dry		ockpile 1.1		
MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated MOURLY PROI Average push distan Unadjusted hourly p Materials consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corra Ope	JANTITIES 1,481 1.060 1,570 LCY I volume: I swell factor: DUCTION nce: production: optical construction: ent: ent: ent: gender gender gender gender	200 LF 20'H of 2 Cat Handbook 100 feet 852.6 LCY/hr Partly consolid feet lbs/LCY nd gravel - Dry 0.750				
MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Mourney PROI Average push distan Unadjusted hourly p Materials consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre Ope Material cor	JANTITIES 1,481 1.060 1,570 LCY I volume: I swell factor: DUCTION nce: production:	200 LF 20'H of 2 Cat Handbook 100 feet 852.6 LCY/hr Partly consolid feet lbs/LCY ind gravel - Dry 0.750 1.100				
MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Mourly PROI Average push distan Unadjusted hourly p Materials consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre Ope Material cor	JANTITIES 1,481 1.060 1,570 LCY I volume: I swell factor: DUCTION nce: production: optical construction: ent: ent: ent: gender gender gender gender	200 LF 20'H of 2 Cat Handbook 100 feet 852.6 LCY/hr Partly consolid feet lbs/LCY nd gravel - Dry 0.750				

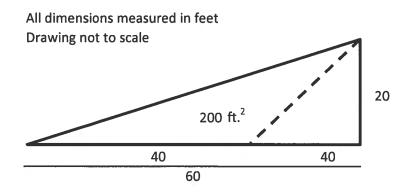
0.830	(1 SHIFT/DAY)
0.800	(FND-RF)
1.329	(CAT HB)
1.000	(CAT HB)
0.793	(CAT HB)
1.000	(PAT)
0.5773	
92.21 LCY/hr	
2.21 LCY/hr	
	0.800 1.329 1.000 0.793 1.000 0.5773

Fleet size:	1 Dozer(s)
Unit cost:	\$0.458/LCY

Total job time:	3.19 Hours
Total job cost:	\$718

Highwall	reduction ·	- backfill
North Highwa	all slope	

		North Fighwall slope
]	20.00	Highwall Height (ft.)
]	200.00	Length of Highwall (Ift.)
]H:1V	2.00	- — — — Initial Slope
]H:1V	3.00	Desired Slope
-	40,000	Volume of material to be moved (ft. ³)
	1,481	Volume of material to be moved (yd. ³)



BULLDOZER WORK

	Permit Action:	SR-1	Permit/Job#:	M1981202SG
PROJECT IDENTIFIC	ATION			
Task #: 03B	State: Colorado		Abbreviation:	None
Date: $9/12/2018$	County: Garfield		Filename:	M202-03b
User: ACY			T nonune.	11202 030
Agency or organiz	ation name: DRMS			
HOUDI V FOUIDMEN	T COST			
HOURLY EQUIPMEN				
Basic Machine: Cat D Horsepower: 310	8T - 8SU			
1	Universal			
21	nk ripper			
Shift Basis: 1 per				
Data Source: (CRG				
Cost Breakdown:	/			
COST DICARGOWII.		Utilization %		
Ownership Cost/Hour:	\$93.62	NA		
Operating Cost/Hour:	\$73.35	100		
Ripper own. Cost/Hour:	\$8.93	NA		
Ripper op. Cost/Hour:	\$7.78	100		
Operator Cost/Hour:	\$41.52	NA		
Total unit Cost/Hour:	\$225.20			
Total Fleet Cost/Hour:	\$225.20 <u>FIES</u>			
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124	<u>ries</u>			
MATERIAL QUANTITInitial Volume:3,333Swell factor:1.124Loose volume:3,745 I	CIES LCY			
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume	<u>CIES</u> <u>CCY</u> : 1200 LF 20'H of 1.5:	1 cut & fill highwall		
MATERIAL QUANTITInitial Volume:3,333Swell factor:1.124Loose volume:3,745 I	<u>CY</u> : 1200 LF 20'H of 1.5:	1 cut & fill highwall		
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume	LCY 1200 LF 20'H of 1.5: actor: Cat Handbook	1 cut & fill highwall		
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated swell factor: HOURLY PRODUCTION	LCY 1200 LF 20'H of 1.5: actor: Cat Handbook	1 cut & fill highwall		
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated swell factor	TIES LCY :: 1200 LF 20'H of 1.5: actor: Cat Handbook ON 100 feet	1 cut & fill highwall		
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated swell factor: HOURLY PRODUCTION Average push distance:	CY :: 1200 LF 20'H of 1.5: actor: Cat Handbook ON : 100 feet : 852.6 LCY/hr			
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated swell fa HOURLY PRODUCTIO Average push distance: Unadjusted hourly production Materials consistency description	TIES LCY :: 1200 LF 20'H of 1.5: actor: Cat Handbook ON 0N 100 feet on: 852.6 LCY/hr iption: Compacted fill or e			
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated swell fa HOURLY PRODUCTIO Average push distance: Unadjusted hourly productio Materials consistency description Average push gradient:	TIES LCY : 1200 LF 20'H of 1.5: actor: Cat Handbook ON in: 100 feet on: 852.6 LCY/hr iption: Compacted fill or e 0 % 0			
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated swell fa HOURLY PRODUCTIO Average push distance: Unadjusted hourly productio Materials consistency description Average push gradient:	TIES LCY :: 1200 LF 20'H of 1.5: actor: Cat Handbook ON 0N 100 feet on: 852.6 LCY/hr iption: Compacted fill or e			
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated volume Source of estimated swell fa HOURLY PRODUCTION Average push distance: Unadjusted hourly production Materials consistency description Average push gradient: Average site altitude:	TIES LCY : 1200 LF 20'H of 1.5: actor: Cat Handbook ON in: 100 feet on: 852.6 LCY/hr iption: Compacted fill or e 0 % 0			
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated volume Source of estimated swell factor: HOURLY PRODUCTION Average push distance: Unadjusted hourly production Materials consistency description Average site altitude: Material weight:	TIES LCY :: 1200 LF 20'H of 1.5: actor: Cat Handbook ON : 100 feet : 852.6 LCY/hr : Compacted fill or e 0 % 5,440 feet			
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated volume Source of estimated swell fa HOURLY PRODUCTION Average push distance: Unadjusted hourly production Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Fa	TIES LCY : 1200 LF 20'H of 1.5: actor: Cat Handbook ON : 100 feet : 852.6 LCY/hr : Compacted fill or e 0 %	embankment 0.9		
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated volume Source of estimated volume Source of estimated swell fa HOURLY PRODUCTION Average push distance: Unadjusted hourly production Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Fa	TIES LCY : 1200 LF 20'H of 1.5: actor: Cat Handbook ON : 100 feet on: 852.6 LCY/hr : Compacted fill or e 0 %	embankment 0.9		
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated swell fa HOURLY PRODUCTIO Average push distance: Unadjusted hourly production Materials consistency description: Average site altitude: Material weight: Display the description: Job Condition Correction Fa Operator Sk Material consistency	CIES LCY :: 1200 LF 20'H of 1.5: actor: Cat Handbook ON : 100 feet : 852.6 LCY/hr : Compacted fill or et : Compacted fill or et : 2,900 lbs/LCY Sand and gravel - Dry : 0.750 : 0.900	embankment 0.9 <u>Source</u> (AVG.) (CAT HB))		
MATERIAL QUANTIT Initial Volume: 3,333 Swell factor: 1.124 Loose volume: 3,745 I Source of estimated volume Source of estimated volume Source of estimated volume Source of estimated swell fa HOURLY PRODUCTION Average push distance: Unadjusted hourly production Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Fa	TIES LCY : 1200 LF 20'H of 1.5: actor: Cat Handbook ON intion: Compacted fill or e 0 % 5,440 feet 2,900 lbs/LCY Sand and gravel - Dry actor ill: 0.750 cy: 0.900 od: 1.000	embankment 0.9		

Job efficienc	y: 0.830	(1 SHIFT/DAY)
Spoil pil	e: 0.800	(FND-RF)
Push gradier	nt: 1.000	(CAT HB)
Altitud	e: 1.000	(CAT HB)
Material Weigh	nt: 0.793	(CAT HB)
Blade typ	e: 1.000	(PAT)
Net correctio	n: 0.3554	
Adjusted unit production:	303.01 LCY/hr	
Adjusted fleet production:	303.01 LCY/hr	
=		

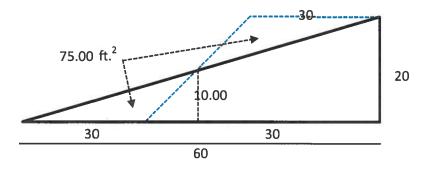
Fleet size:	1 Dozer(s)
Unit cost:	\$0.743/LCY

Total job time:	12.36 Hours
Total job cost:	\$2,783

Highwall reduction - cut and fill

South highwall slope		æ
Highwall Height (ft.)	20.0	
Length of Highwall (Ift.)	1200	
Initial Slope	1.5	H:1V
Desired Slope	3	H:1V
Volume of material to be moved (ft. ³)	90,000	
Volume of material to be moved (yd. ³)	3,333	

All dimensions measured in feet Drawing not to scale



Task # 03C

Page 1 of 2

BULLDOZER WORK

Task description:	Redu	ice sediment pond and	dike Highwall to 3:1 Slo	ре	
: Silt Pit		Permit Action:	SR-1	Permit/Job#:	M1981202SC
PROJECT IDEN	NTIFICATIO	<u>ON</u>			
Task #: 03C		State: Colorado		Abbreviation:	None
Date: $9/12/2$	2018	County: Garfield		Filename:	M202-03c
User: ACY		J		-	
Agency of	r organization	name: DRMS			
HOURLY EQUI	IPMENT CO	<u>)ST</u>			
Basic Machine:	Cat D8T - 8	SU			
Horsepower:	310				
Blade Type:	Semi-Unive				
Attachment:	3-shank rip	per			
Shift Basis:	1 per day				
Data Source:	(CRG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/H	Iour:	\$93.62	NA		
Operating Cost/H	Iour:	\$73.35	100		
Ripper own. Cost/H		\$8.93	NA		
Ripper op. Cost/H	Iour:	\$7.78	100		
Operator Cost/H	Hour:	\$41.52	NA		
Total unit Cost/Hou Total Fleet Cost/Hou	our: \$225.2				
Total Fleet Cost/Ho	our: \$225.2				
Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume:	our: \$225. J ANTITIES 2,222				
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor:	Dur: \$225. JANTITIES 2,222 1.060				
Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume:	our: \$225. J ANTITIES 2,222	20			
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated	\$225 JANTITIES 2,222 1.060 2,355 LCY 1 volume:	20 	cut & fill highwall		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume:	\$225 JANTITIES 2,222 1.060 2,355 LCY 1 volume:	20	cut & fill highwall		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	\$225 UANTITIES 2,222 1.060 2,355 LCY I volume: I swell factor:	20 	cut & fill highwall		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated	\$225 UANTITIES 2,222 1.060 2,355 LCY I volume: I swell factor:	20 	cut & fill highwall		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI	\$225.2 JANTITIES 2,222 1.060 2,355 LCY I volume: I swell factor: DUCTION	20 	cut & fill highwall		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distant	\$225.2 JANTITIES 2,222 1.060 2,355 LCY I volume: I swell factor: DUCTION nce:	20 	 cut & fill highwall		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distant Unadjusted hourly p	\$225 UANTITIES 2,222 1.060 2,355 LCY I volume: I swell factor: DUCTION nce: production:	20 			
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distant Unadjusted hourly proventioned Materials consistent	wr: \$225.2 JANTITIES 2,222 1.060 2,355 LCY I volume: 1 swell factor: DUCTION nce: production: cy description	20 			
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distant Unadjusted hourly p	Dur: \$225.2 DANTITIES 2,222 1.060 2,355 LCY I volume: I swell factor: DUCTION nce: production: cy description ent:0 %	20 			
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distan Unadjusted hourly Materials consisten Average push gradi	pur: $$225.2$ JANTITIES2,2221.0602,355 LCYI volume:I swell factor:DUCTIONnce:production:cy descriptionent:0 %le:5,440	20 			
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distan Unadjusted hourly p Materials consisten Average push gradi Average site altitud	pur: $$225.2$ JANTITIES 2,2221.0602,355 LCYI volume:I swell factor: DUCTION nce:production:	20 1200 LF 20'H of 2:1 Cat Handbook 100 feet 852.6 LCY/hr Partly consolidated feet			
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated MOURLY PROI Average push distant Unadjusted hourly p Materials consisten Average push gradid Average site altitud Material weight: Weight description: Job Condition Corre	pur: $$225.2$ JANTITIES2,2221.0602,355 LCYI volume:I swell factor:DUCTIONnce:production:production:cy description:ent:0 %le:5,4402,900cy constant and aection Factor	20 20 20 20 20 20 20 20 20 20	stockpile 1.1		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Mourly PROI Average push distant Unadjusted hourly p Materials consisten Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre Ope	pur: $$225.2$ JANTITIES 2,2221.0602,355 LCYI volume:I swell factor: DUCTION nce:production:	20 20 20 20 20 20 20 20 20 20	stockpile 1.1 <u>Source</u> (AVG.)		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Mourly PROI Average push distant Unadjusted hourly p Materials consisten Average push gradi Average site altitud Material weight: Weight description: Job Condition Corrr Ope Material c	war: \$225.2 JANTITIES 2,222 1.060 2,355 LCY I volume: 1 swell factor: DUCTION nce: production:	20 20 1200 LF 20'H of 2:1 Cat Handbook 100 feet 852.6 LCY/hr Partly consolidated feet 1bs/LCY and gravel - Dry 0.750 1.100	stockpile 1.1 Source (AVG.) (CAT HB)		
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated Mourly PROI Average push distant Unadjusted hourly p Materials consisten Average push gradi Average site altitud Material weight: Weight description: Job Condition Corrr Ope Material c	pur: $$225.2$ JANTITIES 2,2221.0602,355 LCYI volume:I swell factor: DUCTION nce:production:	20 20 20 20 20 20 20 20 20 20	stockpile 1.1 <u>Source</u> (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:	0.4344	
Adjusted unit production: 37	70.37 LCY/hr	
Adjusted fleet production: 37	70.37 LCY/hr	

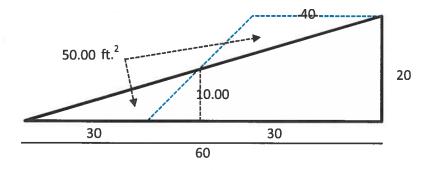
Fleet size:	1 Dozer(s)
Unit cost:	\$0.608/LCY
Total job time:	6 36 Hours

Total job time:	6.36 Hours	
Total job cost:	\$1,432	

Highwall reduction - cut and fill

Sediment pond and dike between	lake area	
Highwall Height (ft.)	20.0	
Length of Highwall (Ift.)	1200	
Initial Slope	2.0	H:1V
Desired Slope	3	H:1V
Volume of material to be moved (ft. ³)	60,000	,
Volume of material to be moved (yd. ³)	2,222	

All dimensions measured in feet Drawing not to scale



MOTOR GRADER WORK

	Rip compacted areas				
: Silt Pit	Permit Ac	ction: SR-1	F	ermit/Job#:	M1981202SG
PROJECT IDENT	IFICATION				
Task #: 04A Date: 9/12/201 User: ACY		brado field		Filename:	None M202-04a
Agency or or	ganization name: DRMS				
HOURLY EQUIP	MENT COST				
Basic Mach	ine: CAT 14M		Horsepower:	-	259
Ripper Attachm			Shift Basis:		er day
			Data Source:		CRG)
Cost Breakdown:			1		
		¢ co 10	Utilization %		
	vnership Cost/Hour:	\$60.13	NA 100	-	
	perating Cost/Hour:	\$50.87	100	-	
	/nership Cost/Hour: perating Cost/Hour:	\$4.07 \$3.53	NA 100	-	
	Derator Cost/Hour:	\$28.69	NA	-	
	otal Unit Cost/Hour:	\$147.28	1471	-	
10	tal Fleet Cost/Hour:	\$147.28			
MATERIAL QUA	NTITIES				
		30.00			acres
		Annual report, proces	ssing areas		
HOURLY PRODU	CTION				
HOURLY PRODU		1.50	mph		
HOURLY PRODU	Average Grader Speed:	1.50	mph pping (0-3 mph)	- 1.50	
HOURLY PRODU	Average Grader Speed: Selected Application:	Ri	pping (0-3 mph)		
<u>HOURLY PRODU</u>	Average Grader Speed:				
	Average Grader Speed: Selected Application: Selected Blade Angle:	Ri -1	pping (0-3 mph) degrees		
Wid	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length:	Ri -1 0.00	pping (0-3 mph) degrees feet		
Wid Net gradin	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass:	Ri -1 0.00 2.00	pping (0-3 mph) degrees feet feet	3	
Wid Net gradin	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production:	Ri -1 0.00 2.00 8.50 1.5455	pping (0-3 mph) degrees feet feet feet feet	our	
Wid Net gradin Unadjus	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: ion Factors	Ri -1 0.00 2.00 8.50 1.5455	pping (0-3 mph) degrees feet feet feet feet acres/h	our	
Wid Net gradin Unadjus	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: ion Factors	Ri -1 0.00 2.00 8.50 1.5455 S	pping (0-3 mph) degrees feet feet feet feet acres/h	our	
Wid Net gradin Unadjus Job Condition Correct	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: ion Factors 1.00 (C	Ri -1 0.00 2.00 8.50 1.5455 Source	pping (0-3 mph) degrees feet feet feet feet acres/h	our	
Wid Net gradin Unadjus Job Condition Correct Altitude Adj	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: ion Factors1.00(C0.90(1s)	Ri -1 0.00 2.00 8.50 1.5455 Source AT HB)	pping (0-3 mph) degrees feet feet feet feet acres/h	our	
Wid Net gradin Unadjus Job Condition Correct Altitude Adj Job Efficiency	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: tion Factors1.00(C0.90(1s)0.9000mu	Ri -1 0.00 2.00 8.50 1.5455 Source AT HB) h/d, fav.) Itiplier	pping (0-3 mph) degrees feet feet feet acres/h	our <u>)</u> feet	
Wid Net gradin Unadjus Job Condition Correct Altitude Adj Job Efficiency	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: ion Factors 1.00 (C 0.900 (nu Algusted Hourly Unit Production	Ri -1 0.00 2.00 8.50 1.5455 Source AT HB) h/d, fav.) ltiplier ction: 1.3909	pping (0-3 mph) degrees feet feet feet feet acres/h dite Altitude: 544(our <u>)</u> feet	
Wid Net gradin Unadjus Job Condition Correct Altitude Adj Job Efficiency Net Correction	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: ion Factors 1.00 (C 0.900 (1s) 0.9000 mu Adjusted Hourly Fleet Production	Ri -1 0.00 2.00 8.50 1.5455 Source AT HB) h/d, fav.) ltiplier ction: 1.3909	pping (0-3 mph) degrees feet feet feet acres/h	our <u>)</u> feet	
Wid Net gradin Unadjus Job Condition Correct Altitude Adj Job Efficiency Net Correction	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: ion Factors 1.00 (C 0.90 (1s) 0.9000 mu Adjusted Hourly Unit Production: COST	Ri -1 0.00 2.00 8.50 1.5455 Source AT HB) h/d, fav.) Itiplier ction: 1.3909 ction: 1.3909	pping (0-3 mph) degree: feet feet feet feet degree: feet feet feet feet acres/hour acres/Hour	our <u>)</u> feet	
Wid Net gradin Unadjus Job Condition Correct Altitude Adj Job Efficiency Net Correction	Average Grader Speed: Selected Application: Selected Blade Angle: Effective Blade Length: th of blade overlap per pass: ng or ripping width per pass: ted Hourly Unit Production: ion Factors 1.00 (C 0.900 (1s) 0.9000 mu Adjusted Hourly Fleet Production	Ri -1 0.00 2.00 8.50 1.5455 Source AT HB) h/d, fav.) ltiplier ction: 1.3909	pping (0-3 mph) degree: feet feet feet feet degree: feet feet feet feet acres/hour acres/Hour	our <u>)</u> feet	Hours

Page 1 of 2

BULLDOZER WORK

Task description:	Topsoil North Highwa				
Silt Pit	Permit A	ction:	SR-1	Permit/Job#:	M1981202SG
PROJECT IDENTIF	ICATION				
Task #: 05A	State: Col	lorado		Abbreviation:	None
Date: 9/12/2018		rfield		Filename:	M202-05a
User: ACY				-	
Agency or organ	nization name: DRMS				
HOURLY EQUIPME	ENT COST				
Basic Machine: Cat	: D8T - 8SU				
Horsepower: 310)				
• 1	ni-Universal				
Attachment: NA					
	er day				
Data Source: (CH	RG)		_		
Cost Breakdown:		I	TT:111 .1		
Ownership Cost/Horr	ሰ	93.62	<u>Utilization %</u> NA		
Ownership Cost/Hour: Operating Cost/Hour:		73.35	<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: MATERIAL QUANT	\$208.49 \$208.49 TTIES				
Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: <u>4,97</u>	\$208.49 <u>TTIES</u> 4				
Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: <u>4,97</u> Swell factor: <u>1.21</u>	\$208.49 <u>TTIES</u> 4				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volume	\$208.49 TTIES 4 5 3 LCY me:	F x 100'	W) @ 10" D		
Total Fleet Cost/Hour:MATERIAL QUANTInitial Volume:4,97Swell factor:1.21Loose volume:6,04	\$208.49 TTIES 4 5 3 LCY me:	F x 100'	 'W) @ 10" D		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volume	\$208.49 1TTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook	F x 100'	 'W) @ 10" D		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance:	\$208.49 TTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook CION 100 feet	F x 100'	'W) @ 10" D		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated swell HOURLY PRODUCT	\$208.49 TTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook CION 100 feet	F x 100'	'W) @ 10" D		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance:	\$208.49 TTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook CION 100 feet ction: 852.6 LCY/hr				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient:	\$208.49 TTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook Cat Handbook Constraints 100 feet ction: 100 feet scription: Partly consol 0 % 0 %				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude:	\$208.49 TTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook FION ction: 100 feet scription: Partly consol 0 % 5,440 feet				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight:	\$208.49 TTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook I factor: 100 feet ction: 852.6 LCY/hr scription: Partly consol 0 % 5,440 feet 1,600 lbs/LCY				
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description:	\$208.49 TTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook FION ction: 100 feet scription: Partly consol 0 % 5,440 feet 1,600 lbs/LCY Top Soil		stockpile 1.1		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction	\$208.49 YTTIES 4 5 3 LCY me: 3.7 ac (1600 L) 1 factor: Cat Handbook FION ction: 100 feet scription: Partly consol 0 % 5,440 feet 1,600 lbs/LCY Top Soil Factor		stockpile 1.1		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator	\$208.49TTIES453 LCYme: $3.7 \text{ ac } (1600 \text{ L})$ l factor:Cat HandbookCIONction: 100 feet ction: 852.6 LCY/hr scription:Partly consol0 % $5,440 \text{ feet}$ 1,600 lbs/LCYTop SoilFactorSkill:0.750		stockpile 1.1 <u>Source</u> (AVG.)		
Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 4,97 Swell factor: 1.21 Loose volume: 6,04 Source of estimated volum Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency des Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction	\$208.49TTIES453 LCY $3.7 \text{ ac } (1600 \text{ L})$ me: $3.7 \text{ ac } (1600 \text{ L})$ I factor: $Cat \text{ Handbook}$ EION 100 feet ction: 852.6 LCY/hr scription:Partly consol0 % $5,440 \text{ feet}$ 1,600 lbs/LCYTop SoilFactor 0.750 skill: 0.750 ency: 1.100		stockpile 1.1		

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:	0.7877	
Adjusted unit production: 6	571.59 LCY/hr	
Adjusted fleet production:	671.59 LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$0.310/LCY

Total job time:	9.00 Hours
Total job cost:	\$1,876

SCRAPER TEAM WORK

Site: Silt Pit	Peri	mit Action:	SR-1	Peri	nit/Job#: <u>M198</u>	1202SG
PROJECT IDENT	TIFICATION					
Task #: 05B	State:	Colorado		Abbrey	viation: None	
Date: 9/12/20	18 County:	Garfield			ename: M202-	05b
User: ACY						
Agency or o	rganization name: DR	RMS				
HOURLY EQUIP	MENT_		COSTSh	nift basis: <u>1 per d</u>	a <u>y</u>	
	-		ent Description			
	-Scraper -Dozer		′G			
Suppor	t Equipment -Load Area	: NA				
	-Dump Area					
Road Mai	ntenance –Motor Grader Water Truck-					
	-Water Huek	. 11A				
Cost Breakdown:	Scraper Work Tea	m	Support Equip		Maintenance	
	Scraper I	Dozer	Load Area	Dump Area	Motor Grader	Water
%Utilization-machine:	100	NA	NA	NA	NA	
Ownership cost/hour:	\$155.61	NA	NA	NA	NA	
Operating cost/hour:	\$166.86	NA	NA	NA	NA	
%Utilization-ripper:	NA	NA	NA	NA	NA	
Ripper own. cost/hour:	NA	NA	NA	NA	NA	
Ripper op. cost/hour:	NA	NA	NA	NA	NA	
Operator cost/hour:	\$31.05	NA	NA	NA	NA	
Unit Subtotals:	\$353.51	NA	NA	NA	NA	
Number of Units:	1	0	0	0	0	
Group Subtotals:	Work: \$3	353.51	Support:	\$0.00	Maint:	\$0.
Total work team cost/	hour: <u>\$353.51</u>					
MATERIAL QUA	<u>NTITIES</u>					
Initial volume: Loose volume:	62,248 75,631	CCY LCY	Swell facto	or: <u>1.215</u>		
Sour	ce of estimated volume:	46.3 ac 3				
Source o	f estimated swell factor:	Cat Hand	lbook			
HOURLY PRODU	JCTION					
			Scraper Bo	owl (volume) Basi	<u>s:</u>	
Material weight:	1,600 lbs/LCY		Struck V	Volume: 24.00	L	CY
Material description:	Top Soil		Heaped V			CY
Rated Payload:	81,600 pounds		Average V	Volume: 29.00	L	CY

<u>0.80</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5440 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:

Road Condition: <u>Rutted dirt, little maintenance, no water, 2" tire penetration 5.0</u>

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	1867	0.52

Haul Time: **0.52** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	2795	0.45
				Return Time:	0.45	minutes
			Total Scrape	er team cycle time:	2.37	minutes
			Adjusted	for job conditions:	609.37	LCY/Hour
			Selected N	umber of Scrapers:	1	Scraper(s)
	Adjuste	d single scra	per team (unit)	hourly production:	609.37	LCY/Hour
	Adjusted n	nultiple scrap	per team (fleet)	hourly production:	609.37	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe		-	_ LCY/Hour		
JOB T	IME AND COST					
	t size: 1	Team(s)				Hours

Unit cost: \$0.580 /LCY

Total job cost: \$43,876

MOTOR GRADER WORK

Task description:	Finish grading topsoiled	areas		
: Silt Pit	Permit Acti	on: SR-1	Pe	ermit/Job#: <u>M1981202SC</u>
PROJECT IDENTI	FICATION			
Task #: 05C	State: Color	ado	Abbr	veviation: None
Date: $9/12/201$				Filename: M202-05c
User: ACY		iu		
Agency or or	ganization name: DRMS			
HOURLY EQUIPM	<u>IENT COST</u>			
Basic Machi	ne: CAT 14M		Horsepower:	259
Ripper Attachme	ent:		Shift Basis:	1 per day
			Data Source:	(CRG)
Cost Breakdown:			-	
Cost Dieakuowii.			Utilization %	
Ow	nership Cost/Hour:	\$60.13	NA	
	berating Cost/Hour:	\$50.87	100	
	nership Cost/Hour:	\$0.00	NA	
	perating Cost/Hour:	\$0.00	1111	
	perator Cost/Hour:	\$28.69	NA	
	tal Unit Cost/Hour:	\$139.69		
Tot	al Fleet Cost/Hour:	\$139.69		
MATERIAL QUAN Total Are		.00		acres
Sou	arce of estimated acreage: M	ajority of areas to be	e topsoiled	
HOURLY PRODU	CTION			
	Average Grader Speed:	1.50	mph	
	Selected Application:		grading (0-2.5 mp	(h) = 1.5
	Selected Blade Angle:	30	degrees	jii) 1.5
	Effective Blade Length:	12.10	feet	
Widt	h of blade overlap per pass:	2.00	feet	
	g or ripping width per pass:	10.10	feet	
	ed Hourly Unit Production:	1.8364	acres/ho	ur
Job Condition Correcti	on Factors	Si	ite Altitude: <u>5440</u>	feet
	So	urce		
Altitude Adj:		Г НВ)		
Job Efficiency:	0.90 (1sh/	d, fav.)		
Net Correction:	0.9000 multi	plier		
	Adjusted Hourly Unit Product	ion: 1.6527	acres/Hour	
	Adjusted Hourly Fleet Product		acres/Hour	
JOB TIME AND C	<u>OST</u>			
Fleet size:	1 Grader(s)	Total job time	24.20	Hours
Unit cost: \$	84.52 per acre	Total job cos	t: \$3,38	1
· · · · · · · · · · · · · · · · · · ·	I	J	+-,00	

REVEGETATION WORK

Task description: Revea		Reveg all disturbed	areas not to be pond		
ite: Silt Pit		Permi	t Action: SR-1	Permit/Job	o#:M1981202SG
PROJEC.	<u>IDENTIFIC</u>	CATION			
Task #:	06A	State: C	olorado	Abbreviation:	None
1 ask #.					
Date:	9/12/2018	County: C	arfield	Filename:	06a

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	100.00	pound	\$0.34	\$34.00
			Total Fertilizer Materials Cost/Acre	\$34.00

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$34.72
	Total Fertilizer Application Cost/Acre	\$34.72

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.50	19.51	\$14.50
Russian Wildrye - VNS	2.00	8.03	\$11.84
Yellow Sweet Clover - Madrid	0.50	2.98	\$1.45
Streambank Wheatgrass - Sodar	1.00	3.26	\$6.23
Tall Wheatgrass - Jose	4.00	7.25	\$9.92
Western Wheatgrass - Native	2.00	5.05	\$14.34
Totals Seed Mix	10.00	46.10	\$58.28

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
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.81	\$2.81
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$578.81

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$68.78
Power mulcher (MEANS 32 91 13.16 0350)		\$92.78
Weed spray, truck, aquatic area, nox. [DMG]		\$70.14
	Total Mulch Application Cost/Acre	\$231.70

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Cottonwood,	40	Tubling, 10 cu. in. container	\$4.38	\$2.40	\$175.20
Narrowleaf		{(MEANS)			
		Totals	Nursery Stoo	ek Cost / Acre	\$175.20

No. of Acres:	50	Cost /Acre:	\$1,451.00
Estimated Failure Rate:	30%	Cost /Acre*:	\$1,451.00
*Selected Replanting Work Items:	FERTILIZING,TII	LLING,SEEDING,NU	
	RSERY,MULCHI	NG	
Initial Job Cost: \$72,550.00			

φ <i>1 2,55</i> 0.00
\$21,765.00
\$94,315
65.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

C'14 D'4		D	A d'ann CD 1				100100000
Silt Pit		Permit	Action: SR-1		· ·	Permit/Job#: <u>M</u>	1981202SG
PROJECT IDEN	TIFICATI	<u>ON</u>					
Task #: 07A		State: Co	olorado		Abbre	eviation: None	
Date: 9/12/	/2018	County: Ga	rfield		Fi	lename: M202	-07a
User: ACY	7	·					
Agency or	organization	name: DRMS					
EQUIPMENT TI	RANSPOR'	T RIG COST					
					Shift ba	sis: 1 per da	v
				C	Cost Data Sou		ta
Truck	Tractor Desc	ription: GENE	RIC ON-HIGH			DR, 6X4, DIESEL	POWERED,
T 1					(2ND HALF,		
Truck	Trailer Desc	ription: G			· · · ·	ROP DECK EQUI	IPMENT
				RAILER	(25T, 50T, AN	ND 1001)	
Cost Breakdown:							
Available Rig Ca	nacitics	0-25 Tons	26-50 Tons	51	Tons		
Ownership (\$16.63	\$18.37		2.33		
Operating (\$44.38	\$46.13		0.07		
	Cost/Hour:	\$27.66	\$27.66		7.66		
	Cost/Hour:	\$0.00	\$25.39		5.39		
Total Unit (\$88.67	\$117.55		25.45		
Total Olin	2030/11041.	φ00.07	ψ117.55	Ψ12	20.40		
NON ROADABL	E EQUIPN	<u>/IENT:</u>					
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
1	(TONS)		t		fleet		
Cat D8T - 8SU	53.08	\$102.55	\$125.45	1	\$228.00	\$125.45	\$250.00
CAT 14M	23.57	\$64.20	\$88.67	1	\$152.87	\$88.67	\$250.00
Cat 637G	57.28	\$155.61	\$125.45	1	\$281.06	\$125.45	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$8.33	\$88.67	1	\$97.00	\$88.67	\$250.00
Centrifugal pump - 200M, 10 in.	1.95	\$10.30	\$88.67	1	\$98.97	\$88.67	\$250.00
2001.1, 10 1							

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. Crew	\$47.19	1	\$47.19	\$47.19
		Subtotals:	\$47.19	\$47.19

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	RIFLE. CO	
Total one-way travel distance:	9.00	miles
Average Travel Speed:	55.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$5,437.28	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$15.44	_

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.16	0.16
Return Time (Hours):	0.16	0.16
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.33	0.33

JOB TIME AND COST

Total job time: **2.65** Hours

Total job cost: _____\$5,453

EQUIPMENT MOBILIZATION/DEMOBILIZATION

: Silt Pit		Permit	Action: <u>SR-1</u>]	Permit/Job#: <u>N</u>	/1981202SG
PROJECT IDEN	NTIFICATI	<u>ON</u>					
Task #:07B			olorado		Abbre	eviation: None	
Date: 9/12 User: AC	2/2018 Y	County: Ga	arfield		Fi	lename: M20	2-07b
Agency o	r organizatior	n name: DRMS					
EQUIPMENT T	<u>'RANSPOR</u>	<u>T RIG COST</u>					
				C	Shift ba Cost Data Sour	1	
Truck	Tractor Desc	ription: GENE	RIC ON-HIGH		CK TRACTO (2ND HALF,	DR, 6X4, DIESE 2006)	L POWERED,
Truch	- T	rintion: G	ENERIC FOLD				IDMENT
TTUCK	r Trailer Desc	<u> </u>			(25T, 50T, A)		JIFINIENI
Cost Breakdown:	t I raner Desc						JIPMENI
Cost Breakdown: Available Rig Ca	apacities	0-25 Tons	26-50 Tons	<u>FRAILER (</u> 51+	(25T, 50T, AN		JIEMIENI
<u>Cost Breakdown:</u> Available Rig Ca Ownership	apacities Cost/Hour:	0-25 Tons \$16.63	26-50 Tons \$18.37	<u>FRAILER (</u> 51+ \$2	(25T, 50T, AN Tons 2.33		
<u>Cost Breakdown:</u> Available Rig Ca Ownership Operating	apacities Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38	26-50 Tons \$18.37 \$46.13	TRAILER (51+ \$2 \$5	(25T, 50T, AN Tons 2.33 0.07		
Cost Breakdown: Available Rig Ca Ownership Operating Operator	apacities Cost/Hour: Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66	26-50 Tons \$18.37 \$46.13 \$27.66	51+ \$2 \$5 \$2 \$2	(25T, 50T, AN Tons 2.33 0.07 7.66		
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper	Apacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39	FRAILER (51+ \$2 \$5 \$2 \$2 \$2	Tons 2.33 0.07 7.66 5.39		
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper	apacities Cost/Hour: Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66	26-50 Tons \$18.37 \$46.13 \$27.66	FRAILER (51+ \$2 \$5 \$2 \$2 \$2	(25T, 50T, AN Tons 2.33 0.07 7.66		
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper	apacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39	FRAILER (51+ \$2 \$5 \$2 \$2 \$2	Tons 2.33 0.07 7.66 5.39		
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit	apacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39	FRAILER (51+ \$2 \$5 \$2 \$2 \$2	Tons 2.33 0.07 7.66 5.39	ND 100T)	
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit	Apacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT:	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55	STRAILER (51+ \$2 \$5 \$2 \$2 \$2 \$2 \$2 \$2 \$2	Tons 2.33 0.07 7.66 5.39 25.45	<u>ND 100T)</u>	
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit NON ROADABI Machine	apacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni	FRAILER (51+ 52 52 52 52 52 52 52 52	Tons 2.33 0.07 7.66 5.39 25.45 Haul Trip Cost/hr/	ND 100T)	DOT Permit
Cost Breakdown: Available Rig Ca Ownership Operating Operator Helper Total Unit NON ROADABI Machine Description Drill/Broadcast Seeder with	apacities Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPM Weight/ Unit (TONS)	0-25 Tons \$16.63 \$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship Cost/hr/ unit	26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t	Size Fleet Size	25T, 50T, AN Tons 2.33 0.07 7.66 5.39 25.45 Haul Trip Cost/hr/ fleet	ND 100T) Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet

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. Crew	\$47.19	1	\$47.19	\$47.19
		Subtotals:	\$47.19	\$47.19

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	RIFLE. CO	
Total one-way travel distance:	9.00	miles
Average Travel Speed:	55.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$1,526.31	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$15.44	

Transportation Cycle Time:

Haul Time (Hours): Return Time (Hours): Loading Time (Hours): Unloading Time (Hours):	Non- Roadable Equipment 0.16 0.16 0.50 0.50	Roadable Equipment 0.16 0.16 NA NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.33	0.33

JOB TIME AND COST

Total job time: **2.65** Hours

Total job cost: \$1,542