March 30, 2018

Russell Larsen Grand Junction Concrete Pipe Co. 556 Struthers Ave. Grand Junction, CO 81501

1313 Sherman Street, Room 215 Denver, CO 80203

COLORADO

Division of Reclamation, Mining and Safety

Department of Natural Resources

RE: South Fruita Gravel Pit, Permit No. M-1981-243, Reclamation Costs Update and Notice of Surety Increase (SI-5)

Dear Mr. Larsen:

In an effort to ensure the Financial Warranty for the above referenced site adequately reflects the actual current costs of fulfilling the requirements of the approved reclamation plan, the Colorado Division of Reclamation, Mining and Safety (Division) has updated the reclamation cost estimate (copy enclosed).

Division calculations estimate the cost to reclaim the above referenced site to be <u>\$200,334.96</u> rounded up to <u>\$200,340.00</u>. This is an increase of <u>\$18,863.33</u> over the <u>\$181,476.67</u> currently held by the Division. This estimate is based on conditions observed during the March 20, 2018 inspection. *Therefore, pursuant to Section 34–32.5–117(4) of the Colorado Land Reclamation Act, adequate Financial Warranty must be submitted to the Division within 60 days of the mailing date of this letter.* The additional amount needs to be accepted prior to **Tuesday, May 29, 2018**. Please review the enclosed figures as soon as possible and contact our office if any calculation errors are noted.

Please make arrangements with Barbara Coria at the Division of Reclamation, Mining and Safety Denver Office, phone no. 303.866.3567, ext. 8148 for submittal of the financial warranty. Any questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Barbara Coria.

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,

Amy Geldell

Amy Yeldell Environmental Protection Specialist Department of Natural Resources Division of Reclamation, Mining and Safety Phone: (970) 254-8511

Ec: Russ Means, Senior EPS, Grand Junction DRMS Jon Muller, Grand Junction Concrete Pipe Co. Enc: Financial Warranty Cost Estimate

COST SUMMARY WORK

]	Fask descrip	ption:	Post Inspection	Update				
Site:	South Fr	uita Gravel P	it Pe	rmit Action:	2018-03	Permit/Jol	o#: M1981243	
P	ROJECT	IDENTIFIC	CATION					
	Task #:	ACY	State:	Colorado		Abbreviation:	None	
	Date:	3/27/2018	County:	Mesa		Filename:	M243-acy	
	User:	ACY						

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
Lower F	.	Useu	Size	Hours	Cust
01a	Push riprap into pond	DOZER	1	21.80	\$4,365.00
02a	Reveg lower pond stockpile area	REVEGE	1	12.00	\$11,170.00
Karp Pr	operty		-		·
03a	Dewater Karp Pond	PUMPING	1	94.85	\$10,134.00
04a	Grade Karp Pond Highwalls	DOZER	1	20.24	\$4,052.00
05a	Rip stockpile/processing area of Karp Pond	RIPPER	1	14.80	\$3,039.00
06a	Place 6" topsoil over Karp Pond area	SCRAPER1	1	19.31	\$17,377.00
07a	Reveg Karp Pond	REVEGE	1	20.00	\$27,418.00
Arcuby	Property		-		
08a	Dewater Arcuby Pond	PUMPING	1	161.34	\$12,634.00
09a	Demo structures	DEMOLISH	1	8.00	\$1,109.25
10a	Grade Karp Pond Highwalls	DOZER	1	8.68	\$1,738.00
11a	Rip stockpile/processing area of Arcuby Pond	RIPPER] 1	21.81	\$4,478.00
12a	Place 6" topsoil over Arcuby Pond area	SCRAPER1	1	24.03	\$21,624.00
13a	Reveg Arcuby Pond	REVEGE	1	32.00	\$34,121.00
14a	Initial Mobilization	MOBILIZE	1	2.88	\$6,696.00
15a	Secondary Mobilization	MOBILIZE	1	2.88	\$1,581.00
		<u>SUBTO</u>	OTALS:	464.62	\$161,536

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$3,263.03
Performance bond:	1.05	Total =	\$1,696.13
Job superintendent:	105.00	Total =	\$7,670.25
Profit:	10.00	Total =	\$16,153.60
		TOTAL O & P =	\$28,783.01
		CONTRACT AMOUNT (direct + O & P) = $($	\$190,319.01

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0.00
Reclamation management and/or administration:	5.00		\$9,515.95
CONTINGENCY:	0.00	Total =	\$0.00
	TOTAL IN	DIRECT COST =	\$38,798.96
TOTAL BO	ND AMOUNT (di	irect + indirect) =	\$200,334.96
TOTAL DOND AND			¢200 240 00

TOTAL BOND AMOUNT (Rounded) = \$200,340.00

BULLDOZER WORK

-	n:	Pu	sh riprap i	into pona			
South Fruita	a Grav	el Pit		Permit Action:	2018-03	Permit/Job#:	M1981243
PROJECT II	DENT	IFICAT	ION				
Date: 3	1A /27/201 CY	8	Sta Coun			Abbreviation: Filename:	None M243-01a
Agenc	cy or or	ganizatio	on name:	DRMS			
HOURLY E	QUIPN	MENT (COST				
Basic Machi		Cat D8T	- 8SU				
Horsepow Blade Ty		310 Semi-Uni	vorcol				
Attachme	·	3-shank r					
Shift Bas		l per day					
Data Sour		(CRG)					
Cost Breakdow							
COSt Dieakuow	<u>11</u> .				Utilization 9	%	
Ownership Co	ost/Hou	r:		\$83.81	NA	<u>, , , , , , , , , , , , , , , , , , , </u>	
Operating Co				\$66.17	100		
Ripper own. Co				\$7.55	NA		
Ripper op. Co				\$2.16	30		
Operator Co	ost/Hou	r:		\$40.52	NA		
Total unit Cost/ Total Fleet Cos MATERIAL	t/Hour:	\$20	0.22 0.22 S				
Total Fleet Cos <u>MATERIAL</u> Initial Volum	t/Hour: QUA I e:2,	\$20 NTITIE 500	0.22				
Total Fleet Cos MATERIAL	t/Hour: QUA e: <u>2,</u> or: <u>1</u> .	\$20	0.22 <u>S</u>				
Total Fleet Cos <u>MATERIAL</u> Initial Volum Swell factor Loose volum Source of estim Source of estim <u>HOURLY PH</u>	t/Hour: QUA! e: 2, or: 1. e: 2, hated vo ated vo ated sw RODU	\$20 NTITIE 500 000 500 LCY blume: vell facto CTION	0.22 <u>S</u> r: <u>Divis</u> Cat H	Iandbook	ion, Mining & Safet	У	
Total Fleet Cos <u>MATERIAL</u> Initial Volum Swell facto Loose volum Source of estim Source of estim	t/Hour: QUAN e: 2, or: 1. e: 2, uated vc ated sw RODU	\$20 NTITIE 500 000 500 LCY blume: vell facto CTION	0.22 <u>S</u> r: <u>Divis</u> Cat H	Iandbook t	 ion, Mining & Safet 	<u>y</u>	
Total Fleet Cos <u>MATERIAL</u> Initial Volum Swell facto Loose volum Source of estim Source of estim <u>HOURLY PH</u> Average push d Unadjusted hou	t/Hour: QUAI e: 2, or: 1. e: 2, ated volume ated	\$20 NTITIE ,500 ,500 LCY olume: vell facto CTION : duction:	0.22 <u>S</u> <u>Cat H</u> <u>200 fee</u> <u>491.9 L</u>	Iandbook t CY/hr		у	
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Total Fleet Cos MATERIAL Initial Volum Swell factor Loose volum Source of estim Source of estim HOURLY PH Average push d Unadjusted hou Materials consis Average push g Average site alt Material weight Weight descript Job Condition C Material	t/Hour: QUAI e: 2, or: 1, e: 2, ated volution ated volutio	\$20 NTITIE ,500 000 500 LCY olume: vell factor CTION : duction: descriptio : 0 % 4,60 2,95 Traj ion Facto or Skill:	0.22 <u>S</u> <u>Cat Has</u> <u>200 feet</u> <u>200 feet</u>	Iandbook t CY/hr ck, poorly rippe , ken 0.750	d or blasted 0.6	<u>ce</u> 3.) <u>HB)</u> 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:	0.780	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.2331	
Adjusted unit production: 11	4.66 LCY/hr	
Adjusted fleet production: 11	4.66 LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$1.746/LCY

Total job time:	21.80 Hours
Total job cost:	\$4,365

REVEGETATION WORK

Т	Task descrip	otion:	Reveg lower pon	d stockpile a	area		
Site:	South Fr	uita Gravel Pi	t Per	mit Action:	2018-03	Permit/Jol	o#: <u>M1981243</u>
<u>P</u>]	ROJECT Task #:	IDENTIFIC	ATION State:	Colorado		Abbreviation:	None
	Date: User:	3/27/2018 ACY	County:	Mesa		Filename:	M243-02a
		ency or organiz	ation name: DR	MS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	300.00	pound	\$0.27	\$81.00
			Total Fertilizer Materials Cost/Acre	\$81.00

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

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	0.05	1.95	\$1.42
Indian Ricegrass - Paloma	3.12	10.10	\$30.42
Crested Wheatgrass - Ephraim	1.50	6.89	\$5.51
Canby Bluegrass - Canbar	0.45	9.57	\$4.28
Galleta	3.00	10.95	\$74.10
Saltbush, Four Wing	1.00	1.38	\$12.50
Totals Seed Mix	9.12	40.83	\$128.22

Application

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

MULCHING and MISCELLANEOUS

Materials

	Units /			
Description	Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.74	\$2.74
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$524.74

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$66.02
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
Weed spray, truck, aquatic area, nox. [DMG]		\$68.50
	Total Mulch Application Cost/Acre	\$233.84

NURSERY STOCK PLANTING

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

	No. of Acres:	5.5	Cost /Acre:	\$1,450.71	
Estimate	ed Failure Rate:	40%	Cost /Acre*:	\$1,450.71	
*Selected Replanti	ng Work Items:	FERTILIZING,TII	LLING,SEEDING,MU		
		LCHING			
Initial Job Cost:	\$7,978.91				
Reseeding Job Cost:	\$3,191.56				
Total Job Cost:	\$11,170				
Job Hours:	12.00				

PUMPING WORK

Task description:	Dewater Karp Pond			
S Fruita Grav Pit	Permit Actio	on: 2018-03	Permit/Job#:	M1981243
PROJECT IDENTIE	FICATION			
Task #: 03A	State: Colora	do	Abbreviation:	None
Date: 3/27/2018	County: Mesa		Filename:	M243-03a
User: ACY				
Agency or orga	anization name: DRMS			
HOURLY EQUIPM	ENT COST			
	Description		Quantity	
Make and Model:	Centrifugal pump - 200M, 1	10 in.	3	
Attachment 1:	Suction hose - 6 in. diam., 2		9	
Attachment 2:	Discharge hose - 6 in. D., 2	5 ft.	3	
Labor Unit 1:	Pump operator		1	
Horsepower:	70			
	per day			
Weight:	1.95			
(U	JS Tons)			
Cost Breakdown:				
Oumanshin Cost	(Lour: \$27.60	Utilization %		
Ownership Cost Operating Cost		NA 100	_	
Operator Cost		NA	-	
Total Unit Cost		1171	-	
Total Fleet Cost	t/Hour: \$106.83			
PUMPING QUANT	<u>ITIES</u>			
Initial Pond Vo	lume: 144.00		Conversion factor:	325850.5800
Final Pond Vo	lume: 46,922,483.52	gallons		
Total Pond Inflow Su			Unit inflow rate in	
	Area: 418,176	Sq. ft.	gph/sq. ft.:	0.1758
Total Pond Inflow Vo				
Ĩ	Hour: 73,515.34	gallons		
Source	of estimated volume: <u>9.6 ac</u>	pond 15' Deep, botto	m inflow	
PUMPING TIME				
Ma	ximum Pump Capacity:	200,000	gph/pump	
H	Estimated Suction Head:	15	feet	
Est	imated Discharge Head:	15	feet	
	Total Head:	30	feet	
	CPB Pump Capacity:	168,000	gph/pump	
	Site Altitude:	4,600	feet	
۰.:۲ ۷	sted Pumping Capacity:	504 000	anh	
	adjusted Pumping Capacity:	<u>504,000</u> 93.10	gph hours	
	during Initial Pumping:	6,844,290	gallons	
	adjusted Pumping Time:	106.68	Hours	
	tude Adjustment Factor:	0.9700	(3% rule)	
	Pump Efficiency Factor:	0.9167	(55 min./hr.)	
	djusted Pumping Time:	94.86	hours	
JOB TIME AND CO	<u>DST</u>	Total joł	o time: 94.86	Hours
		-		
Unit cost: \$0.0	00188 /Gallon	Total jo	b cost: \$10,134	

BULLDOZER WORK

Task description:	Gr	ade Karp Pon		9		
South Fruita G	ravel Pit	Peri	mit Action:	2018-03	Permit/Job#:	M1981243
PROJECT IDE	NTIFICAT	TION				
Task #: 04A		State:	Colorado		Abbreviation:	None
	/2018	County:	Mesa		Filename:	M243-04a
User: ACY		County.	wiesa		T nename.	11245 044
	or organizatio	- on name' DR	RMS			
	-					
HOURLY EQU						
Basic Machine:	Cat D8T	- 8SU				
Horsepower:	310 Semi-Uni	i				
Blade Type: Attachment:	3-shank r					
Shift Basis:	1 per day					
Data Source:	(CRG)					
	(0,0)					
Cost Breakdown:				Utilization %		
Ownership Cost/	Hour		\$83.81	NA		
Operating Cost/			\$66.17	100		
Ripper own. Cost/			\$7.55	NA		
\mathbf{u}_{ppo}			\$2.16	30		
	Hour:		\$1 .10	20		
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H	Hour:	0.22 0.22	\$40.52	NA		
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho	Hour:	0.22	\$40.52	NA		
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H <u>MATERIAL O</u> Initial Volume: Swell factor:	Hour: ur:\$20 our:\$20 JANTITIE 6,875 1.180	0.22	\$40.52	NA		
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H <u>MATERIAL QU</u> Initial Volume:	Hour: ur:\$20 our: \$20 UANTITIE 6,875	0.22	\$40.52	NA		
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H <u>MATERIAL O</u> Initial Volume: Swell factor:	Hour:	0.22 2 <u>S</u> 7 400 LF 1:		NA	:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL OI Initial Volume: Swell factor: Loose volume: Source of estimate	Hour:	0.22	 5' H to 5:1 a		:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H <u>MATERIAL O</u> Initial Volume: Swell factor: Loose volume:	Hour:	0.22	 5' H to 5:1 a		:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL OI Initial Volume: Swell factor: Loose volume: Source of estimate	Hour: ur:\$20 our:\$20 UANTITIE 6,875 1180 8,113 LCY d volume: d swell facto	0.22	 5' H to 5:1 a		:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate	Hour:	0.22	 5' H to 5:1 a		:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista	Hour:	0.22 25 400 LF 1: vertical or: Cat Hand 50 feet	 5' H to 5:1 a book		:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate	Hour:	0.22	 5' H to 5:1 a book		:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista	Hour:	0.22 2S 400 LF 1: vertical or: Cat Hand 50 feet 1,400.0 LC			:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL OI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly	Hour: ur:\$20 our:\$20 JANTITIE 6,875 1.180 8,113 LCY d volume: d swell facto DUCTION unce: production: ncy descriptio	0.22 2.S 400 LF 1: vertical r: Cat Hand 1 50 feet 1,400.0 LC on: Rock, p		nd 1600LF 15' H to 3	:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL OI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly Materials consister	Hour:	0.22 2.S 400 LF 1: vertical r: Cat Hand 1 50 feet 1,400.0 LC on: Rock, p		nd 1600LF 15' H to 3	:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly Materials consisten Average push grad Average site altitud	Hour: $\begin{tabular}{ c c c c c } & & & & & & \\ \hline ur: & & & & & & \\ \hline ur: & & & & & & \\ \hline ur: & & & & & & \\ \hline volur: & & & & & \\ \hline \hline UANTITIE \\ \hline \hline \hline \hline 0,875 \\ \hline 1.180 \\ \hline 8,113 LCY \\ \hline \hline 0,875 \\ \hline 1.180 \\ \hline 8,113 LCY \\ \hline 0,875 \\ \hline 1.180 \\ \hline 8,20 \\ \hline 0,875 \\ \hline 0,$	0.22 S 400 LF 1: vertical or: Cat Hand 50 feet 1,400.0 LC on: Rock, p 00 feet		nd 1600LF 15' H to 3	:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL OI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly Materials consister	Hour: $\begin{tabular}{ c c c c c } & & & & & & \\ \hline ur: & & & & & & \\ \hline ur: & & & & & & \\ \hline ur: & & & & & & \\ \hline volur: & & & & & \\ \hline \hline UANTITIE \\ \hline \hline \hline \hline 0,875 \\ \hline 1.180 \\ \hline 8,113 LCY \\ \hline \hline 0,875 \\ \hline 1.180 \\ \hline 8,113 LCY \\ \hline 0,875 \\ \hline 1.180 \\ \hline 8,20 \\ \hline 0,875 \\ \hline 0,$	0.22 2.S 400 LF 1: vertical or: Cat Hand [50 feet 1,400.0 LC on: Rock, p		nd 1600LF 15' H to 3	:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly Materials consisten Average push grad Average site altitud	Hour: $\begin{tabular}{ c c c c c } & & & & & & \\ \hline ur: & & & & & & \\ \hline ur: & & & & & & \\ \hline ur: & & & & & & \\ \hline 20 \\ \hline UANTITIE \\ \hline 6,875 \\ \hline 1.180 \\ \hline 8,113 \\ LCY \\ \hline 8,113 \\ LCY \\ \hline 8,113 \\ LCY \\ \hline 0 \\ \hline 8,113 \\ LCY \\ \hline 0 \hline 0 \\ \hline 0 \\ \hline 0 \\ \hline 0 \\ \hline 0 \hline 0 \hline 0 \\ \hline 0 \hline 0 \hline 0 \\ \hline 0 \hline $	0.22 S 400 LF 1: vertical or: Cat Hand 50 feet 1,400.0 LC on: Rock, p 00 feet		nd 1600LF 15' H to 3	:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate HOURLY PRO Average push dista Unadjusted hourly Materials consisten Average push grad Average site altitud	Hour: $\begin{tabular}{ c c c c c } & & & & & & \\ \hline ur: & & & & & & \\ \hline ur: & & & & & \\ \hline 0ur: & & & & & \\ \hline 0ur: & & & & & \\ \hline 0urities & & & \\$	0.22 2.S 400 LF 1: vertical or: Cat Hand 1 50 feet 1,400.0 LC on: Rock, p 00 feet 00 lbs/LCY y and gravel - I		nd 1600LF 15' H to 3	:1 from	
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate MOURLY PRO Average push dista Unadjusted hourly Materials consister Average push grad Average site altitud Material weight: Weight descriptior Job Condition Cor	Hour: $\begin{tabular}{ c c c c } \hline \label{eq:constraint} \\ \end{tabular}$	0.22 2S 400 LF 1: vertical or: Cat Hand 50 feet 1,400.0 LC on: Rock, p 00 feet 00 lbs/LCY y and gravel - I or 0.		nd 1600LF 15' H to 3: l or blasted 0.6 <u>Source</u> (AVG.)		
Ripper op. Cost/ Operator Cost/ Total unit Cost/Ho Total Fleet Cost/H MATERIAL QI Initial Volume: Swell factor: Loose volume: Source of estimate Source of estimate MOURLY PRO Average push dista Unadjusted hourly Materials consister Average push grad Average site altitud Material weight: Weight description Job Condition Cor Op	Hour: $\begin{tabular}{ c c c c c } & & & & & & & & & & & & & & & & & & &$	0.22 2.S 400 LF 1: vertical or: <u>Cat Hand</u> <u>50 feet</u> <u>1,400.0 LC</u> on: <u>Rock, p</u> 00 feet 00 lbs/LCY y and gravel - I or. <u>0.</u> 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.		nd 1600LF 15' H to 3:		

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:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted fleet production: 400.82 LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$0.500/LCY

Total job time:	20.24 Hours
Total job cost:	\$4,052

BULLDOZER RIPPING WORK

	Task description: South Fruita	Gravel Pit Per	mit Action:	2018-03	Perm	it/Job#: M1	981243		
bite		ENTIFICATION	IIIIt Action.	2010-05		10 3 00π. <u>IVI1</u>	901243		
	Task #: 05. Date: 3/2	A State: 9/2018 County:	Colorado Mesa		Abbrevi		e 13-05a		
	User: AC								
		<u> </u>	RMS						
		<u>UIPMENT COST</u>							
	Basic Ripper Att	Machine:Cat D8T - 8SUachment:3-Shank Ripper			Horsepower: Shift Basis:	310 1 per day	1		
	Ripper Au	acimient. <u>5-Shank Ripper</u>			Data Source:	(CRG)	·		
	Cost Breakdown								
					Utilization %				
		Ownership Cost/Hour: Operating Cost/Hour:		\$83.81 \$66.17	<u>NA</u> 100				
	Ripp	er Ownership Cost/Hour:		\$7.55	NA				
		per Operating Cost/Hour:		\$7.21	100				
		Operator Cost/Hour:		\$40.52	NA				
		Total Unit Cost/Hour:		\$205.26					
		Total Fleet Cost/Hour:	\$205	5.26					
	MATERIAL (DUANTITIES	Sele	ected estimating	method: Area				
	Alternate Method		ben	etea estimating					
mic:	NA		k Volume:	NA	BCY	NA			
Area:	9.50		Depth (ft):	2.00	Volume: 30,6		BCY or		
		Source of estimated quanti		Report Map an					
		-	ty. <u>ruma</u>	report map an					
	HOURLY PR	JUCTION							
	Seismic:	Seismic Velo	oitu	NA	feet/second				
		Seisinic vei	<u> </u>	NA					
	<u>Area:</u>			2.00	1				
		Average Ripping D Average Ripping W		2.00 7.08	mph degrees				
		Average Ripping Le		200.00	feet				
		Average Dozer S	peed:	88.00	feet				
		Average Maneuver 7		0.25	feet				
	Job Condition Correction Factors								
	Job Condition Co	Production per unit		0.25 0.773	feet acres/hour				
		Production per unit	area:						
		Production per unit	area:	0.773	acres/hour				
		Production per unit prrection Factors adjusted Hourly Unit Produc Site Alti Altitude	area: ction: tude: Adj:	0.773 0.773 4,600 1.00	acres/hour Acres/hr feet (CAT HB)				
		Production per unit prrection Factors adjusted Hourly Unit Produc Site Alti Altitude Job Efficie	area: ction: tude: Adj: ency:	0.773 0.773 4,600 1.00 0.83	acres/hour Acres/hr feet (CAT HB) (1 shift/day)			
		Production per unit prrection Factors adjusted Hourly Unit Produc Site Alti Altitude	area: ction: tude: Adj: ency:	0.773 0.773 4,600 1.00	acres/hour Acres/hr feet (CAT HB))			
		Production per unit prrection Factors adjusted Hourly Unit Produc Site Alti Altitude Job Efficie Net Correc Adjusted Hourly Unit	area: tude: Adj: ency: ction: Production:	0.773 0.773 4,600 1.00 0.83 0.83 0.64	Acres/hour Acres/hr feet (CAT HB) (1 shift/day multiplier Acres/hr)			
		Production per unit prrection Factors adjusted Hourly Unit Produc Site Alti Altitude Job Efficie Net Correc	area: tude: Adj: ency: ction: Production:	0.773 0.773 4,600 1.00 0.83 0.83	Acres/hour Acres/hr feet (CAT HB) (1 shift/day multiplier)			
		Production per unit prrection Factors adjusted Hourly Unit Produc Site Alti Altitude Job Efficie Net Correc Adjusted Hourly Unit Adjusted Hourly Fleet	area: tude: Adj: ency: ction: Production:	0.773 0.773 4,600 1.00 0.83 0.83 0.64	Acres/hour Acres/hr feet (CAT HB) (1 shift/day multiplier Acres/hr)			
	Un	Production per unit prrection Factors adjusted Hourly Unit Produc Site Alti Altitude Job Efficie Net Correc Adjusted Hourly Unit Adjusted Hourly Fleet	area: tude: Adj: ency: ction: Production:	0.773 0.773 4,600 1.00 0.83 0.83 0.64	acres/hour Acres/hr Acres/hr Acres/hr Acres/hr Acres/hr Acres/hr Acres/hr		Hours		

Page 1 of 2

SCRAPER TEAM WORK

18 Cou rganization name: MENTSo	craper: Cat 627 Dozer: Cat D87 Area: NA Area: Cat D87 Grader: NA Truck: NA	nt Description G w/push-pull F - 8SU	Abbrev File ift basis: <u>1 per da</u>	ename: M243-06	5a
18 Cou rganization name: MENT -Su -Su -Su -Su -Su -Su -Su -Su	nty: Mesa DRMS Equipme craper: Cat 627 Dozer: Cat 087 Area: NA Area: Cat D87 Grader: NA Truck: NA	nt Description G w/push-pull F - 8SU	File	ename: M243-06	5a
18 Cou rganization name: MENT -Su -Su -Su -Su -Su -Su -Su -Su	nty: Mesa DRMS Equipme craper: Cat 627 Dozer: Cat 087 Area: NA Area: Cat D87 Grader: NA Truck: NA	nt Description G w/push-pull F - 8SU	File	ename: M243-06	6a
rganization name: MENT -So - So - T t Equipment -Loac - Dump ntenance –Motor C - Water Scraper Wor	DRMS Equipme craper: Cat 627 Dozer: Cat D87 Area: NA Area: Cat D87 Grader: NA Truck: NA	nt Description G w/push-pull F - 8SU	ift basis: <u>1 per da</u>	<u>1y</u>	
-Scraper Wor	Equipme craper: Cat 627 Dozer: Cat D87 Area: NA Area: Cat D87 Grader: NA Truck: NA	nt Description G w/push-pull F - 8SU	ift basis: <u>1 per da</u>	<u>1y</u>	
-Scraper Wor	Equipme craper: Cat 627 Dozer: Cat D87 Area: NA Area: Cat D87 Grader: NA Truck: NA	nt Description G w/push-pull F - 8SU	ift basis: <u>1 per da</u>	<u>1y</u>	
-Si t Equipment -Loac -Dump ntenance –Motor (-Water Scraper Wor	craper: Cat 627 Dozer: Cat D87 Area: NA Area: Cat D87 Grader: NA Truck: NA	nt Description G w/push-pull F - 8SU	ift basis: <u>1 per da</u>	ay 	
t Equipment -Load -Dump ntenance –Motor C -Water Scraper Wor	craper: Cat 627 Dozer: Cat D87 Area: NA Area: Cat D87 Grader: NA Truck: NA	G w/push-pull Γ - 8SU			
t Equipment -Load -Dump ntenance –Motor C -Water Scraper Wor	Dozer: Cat D8 Area: NA Area: Cat D8 Grader: NA Truck: NA	Г - 8SU			
t Equipment -Load -Dump ntenance –Motor C -Water Scraper Wor	Area:NAArea:Cat D8Grader:NATruck:NA				
ntenance –Motor C -Water Scraper Wor	Grader: NA Truck: NA	Г - 8SU			
-Water Scraper Wor	Truck: NA				
Scraper Wor	I				
•	k Team				
•	K I Calli	Support Equip	ment	Maintenance E	lquipmen
	Dozer	Load Area	Dump Area	Motor Grader	Water T
100	100	NA	100	NA	
\$99.75	\$83.81	NA	\$83.81	NA	
\$118.23	\$66.17	NA	\$66.17	NA	
NA	NA	NA	NA	NA	
NA	\$0.00	NA	\$0.00	NA	
NA	\$0.00	NA	\$0.00	NA	
\$41.46	\$40.52	NA	\$40.52	NA	
\$259.44	\$190.50	NA	\$190.50	NA	
2	1	0	1	0	
Work:	\$709.38	Support:	\$190.50	Maint:	\$0.0
	\$118.23 NA NA NA \$41.46 \$259.44 2	\$118.23 \$66.17 NA NA NA \$0.00 NA \$0.00 \$41.46 \$40.52 \$259.44 \$190.50 2 1 Work: \$709.38	\$118.23 \$66.17 NA NA NA NA NA \$0.00 NA NA \$0.00 NA \$41.46 \$40.52 NA \$259.44 \$190.50 NA 2 1 0 Work: \$709.38 Support:	\$118.23 \$66.17 NA \$66.17 NA NA NA NA NA \$0.00 NA \$0.00 NA \$0.00 NA \$0.00 NA \$0.00 NA \$0.00 \$41.46 \$40.52 NA \$40.52 \$259.44 \$190.50 NA \$190.50 2 1 0 1 Work: \$709.38 Support: \$190.50	\$118.23 \$66.17 NA \$66.17 NA NA NA NA NA NA NA \$0.00 NA \$0.00 NA NA \$0.00 NA \$0.00 NA \$41.46 \$40.52 NA \$40.52 NA \$259.44 \$190.50 NA \$190.50 NA 2 1 0 1 0 Work: \$709.38 Support: \$190.50 Maint:

<u>0.90</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 4600 feet

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

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	1200.00	0.00	5.00	5.00	2218	0.67

Haul Time: **0.67** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	5.00	5.00	2814	0.57
				Return Time:	0.57	minutes
			Total Scrape	er team cycle time:	2.74	minutes
			Adjusted	for job conditions:	685.20	LCY/Hour
			Selected Nu	umber of Scrapers:	2	Scraper(s)
	Adjuste	d single scrap	er team (unit)	hourly production:	685.20	LCY/Hour
	Adjusted n	nultiple scrape	er team (fleet)	hourly production:	685.20	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe		-	_ LCY/Hour		
JOB T	IME AND COST					
		Team(s)	_	otal job time:	19.31	Hours

Unit cost: \$1.313 /LCY

Total job cost: \$17,377

REVEGETATION WORK

]	Fask descrip	otion:	Reveg Karp Pond			
Site:	South Fr	uita Gravel Pi	t Permit Action:	2018-03	Permit/Job#	: M1981243
<u>P</u>]	ROJECT Task #:	IDENTIFIC 07A	ATION State: Colorado		Abbreviation:	None
	Date: User:	3/29/2018 ACY	County: Mesa			M243-07a
		ency or organiz	zation name: DRMS			

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	300.00	pound	\$0.27	\$81.00
			Total Fertilizer Materials Cost/Acre	\$81.00

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

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	0.05	1.95	\$1.42
Indian Ricegrass - Paloma	3.12	10.10	\$30.42
Crested Wheatgrass - Ephraim	1.50	6.89	\$5.51
Canby Bluegrass - Canbar	0.45	9.57	\$4.28
Galleta	3.00	10.95	\$74.10
Saltbush, Four Wing	1.00	1.38	\$12.50
Totals Seed Mix	9.12	40.83	\$128.22

Application

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

MULCHING and MISCELLANEOUS

Materials

	Units /			
Description	Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.74	\$2.74
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$524.74

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$66.02
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
Weed spray, truck, aquatic area, nox. [DMG]		\$68.50
	Total Mulch Application Cost/Acre	\$233.84

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:	13.5	Cost /Acre:	\$1,450.71	
Estimate	ed Failure Rate:	40%	Cost /Acre*:	\$1,450.71	
*Selected Replanti	ng Work Items:	FERTILIZING,TII	LING,SEEDING,MU		
		LCHING			
Initial Job Cost:	\$19,584.59				
Reseeding Job Cost:	\$7,833.83				
Total Job Cost:	\$27,418				
Job Hours:	20.00				

DEMOLITION WORK

Site:	South Fruita Gravel Pit		Permit Action:	2018-03	Permit/.	Job#: <u>M1981243</u>
	T IDENTIFICATION		~			
sk #:	09A	State:	Colorado		Abbreviation:	None
Date:	3/29/2018	County:	Mesa		Filename:	M243-09a
User:	ACY					

UNIT COSTS

Location adjustment: 95.50 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Remove scale foundation	70' L x 12' W	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft Max. 200 ft. push	164.00	LF	\$5.86	\$961.04
Remove scale house	10' L x 14' W x 8' H	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	1,120.00	CF	\$0.18	\$200.48

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	8.00	(unadjusted):	\$1,161.52	location):	\$1,109.25

BULLDOZER WORK

Task description:	Grad	ie Karp I on	d Highwalls			
South Fruita Gr	avel Pit	Perr	nit Action:	2018-03	Permit/Job#:	M1981243
PROJECT IDEN	NTIFICATI(<u>ON</u>				
Task #: 10A		State:	Colorado		Abbreviation:	None
Date: $3/29/2$	2018	County:	Mesa		Filename:	M243-10a
User: ACY		5				
Agency of	r organization	name: DR	MS			
HOURLY EQUI	IPMENT CO	<u>DST</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			\$83.81	NA		
Operating Cost/H			\$66.17	100		
Ripper own. Cost/H			\$7.55	NA		
Ripper op. Cost/H			\$2.16	30		
Operator Cost/H	Iour:		\$40.52	NA		
Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL OU	our: \$200.2					
Total Fleet Cost/Ho <u>MATERIAL OU</u> Initial Volume:	our: \$200. J ANTITIES 2,948					
Total Fleet Cost/Ho	our: \$200. J ANTITIES					
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor:	\$200. UANTITIES 2,948 1.180 3,479 LCY	22		nd 300LF 15' H to 3:1	from vertical	
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume:	Dur: \$200. JANTITIES 2,948 1.180 3,479 LCY I volume:	22		nd 300LF 15' H to 3:1	from vertical	
Total Fleet Cost/Ho MATERIAL OU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	\$200. UANTITIES 2,948 1.180 3,479 LCY I volume: I swell factor:	22 400 LF 15		nd 300LF 15' H to 3:1	from vertical	
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI	\$200. JANTITIES 2,948 1.180 3,479 LCY I volume: I swell factor: DUCTION	22 400 LF 15 Cat Hand		nd 300LF 15' H to 3:1	from vertical	
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distant	\$200. UANTITIES 2,948 1.180 3,479 LCY I volume: 1 swell factor: DUCTION nce:	22 400 LF 15 Cat Hand 50 feet	book	nd 300LF 15' H to 3:1	from vertical	
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI	\$200. UANTITIES 2,948 1.180 3,479 LCY I volume: 1 swell factor: DUCTION nce:	22 400 LF 15 Cat Hand	book	nd 300LF 15' H to 3:1	from vertical	
Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push distant	war: \$200.2 2,948 1.180 3,479 LCY Volume: 1 swell factor: 1 DUCTION nce: production:	22 400 LF 15 Cat Handl 50 feet 1,400.0 LC	book Ý/hr	nd 300LF 15' H to 3:1	from vertical	
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: \$200. Dur: \$200. DANTITIES 2,948 1.180 3,479 LCY I volume: I swell factor: DUCTION nce: production: cy description ent:0 %	22 400 LF 15 Cat Hand 50 feet 1,400.0 LC Rock, p	book Ý/hr		from vertical	
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 consistent Average push gradi	\$200. JANTITIES 2,948 1.180 3,479 LCY I volume: I swell factor: DUCTION nce: production: cy description ent: 0 % e: 4,600	22 400 LF 15 Cat Hand 50 feet 1,400.0 LC Rock, p	book Ý/hr		from vertical	
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 Materials consistent Average push gradi Average site altitud	\$200. UANTITIES 2,948 1.180 3,479 LCY I volume: I swell factor: DUCTION nce: production: cy description ent: 0 % e: 4,600 2,400	22 400 LF 15 Cat Handl 50 feet 1,400.0 LC : <u>Rock, p</u> feet	book Ý/hr boorly ripped		from vertical	
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 consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre	\$200. JANTITIES 2,948 1.180 3,479 LCY I volume: I swell factor: DUCTION nce: production: cy description ent: 0 % le: 4,600 2,400 collay a ection Factor	22 400 LF 15 Cat Handle 50 feet 1,400.0 LCY :	book Y/hr boorly ripped	or blasted 0.6	from vertical	
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 consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre Ope	\$200. UANTITIES 2,948 1.180 3,479 LCY I volume: I swell factor: DUCTION nce: production: cy description ent: 0 % e: 4,600 2,400 color Factor erator Skill:	22 400 LF 15 Cat Handl 50 feet 1,400.0 LCY :	book Y/hr boorly ripped	or blasted 0.6		
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 consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre Ope Material con	war: \$200.2 UANTITIES 2,948 1.180 3,479 LCY I volume: 1 swell factor: DUCTION	22 400 LF 15 Cat Handl 50 feet 1,400.0 LCY :	book Y/hr oorly ripped	or blasted 0.6 <u>Source</u> (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 consistent Average push gradi Average site altitud Material weight: Weight description: Job Condition Corre Ope Material con	\$200. UANTITIES 2,948 1.180 3,479 LCY I volume: I swell factor: DUCTION nce: production: cy description ent: 0 % e: 4,600 2,400 color Factor erator Skill:	22 400 LF 15 Cat Handle 50 feet 1,400.0 LCY :	book Y/hr boorly ripped	or blasted 0.6		

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:	0.958	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.2863	
Adjusted unit production: 40	00.82 LCY/hr	
Adjusted fleet production: 40	00.82 LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$0.500/LCY

Total job time:	8.68 Hours
Total job cost:	\$1,738

BULLDOZER RIPPING WORK

Sito	Fask description:	Kip sto	ckpile/processing are	ea of Arcuby Por	nd		
Sile.	South Fruita	Gravel Pit	Permit Action:	2018-03	Perm	it/Job#: <u>M198</u>	1243
Ī	PROJECT ID	ENTIFICATION	<u>N</u>				
	Task #: 114 Date: $3/2$ User: AC	9/2018	State: Colorado County: Mesa		Abbrevi	ation: None name: M243-	11a
		or organization na	me: DRMS				
T		UIPMENT COS					
±			<u>-</u> 8T - 8SU		Horsepower:	310	
	Ripper Att		nk Ripper		Shift Basis: Data Source:	1 per day (CRG)	
<u>(</u>	Cost Breakdown:	<u>.</u>					
			T T	¢02.01	Utilization %		
		Ownership Cost		\$83.81 \$66.17	<u>NA</u> 100		
	Rinne	er Ownership Cost		\$7.55	NA		
		per Operating Cost		\$7.21	100		
	11	Operator Cost		\$40.52	NA		
		Total Unit Cost	Hour:	\$205.26			
		Total Fleet Cost	Hour: \$20	5.26			
٦	MATERIAL Q						
			Sel	lected estimating	method: Area		
<u> </u>	Alternate Method	<u>ls:</u>					
mic:	NA		Bank Volume:	NA	BCY	NA	DOV
rea:	14.00	acres	Rip Depth (ft):	2.00	Volume:45,1	.73	BCY or
		Source of estimat	ed quantity: Annua	al Report Map and	d field estimates		
Ī	HOURLY PRO	ODUCTION					
S	Seismic:						
<u>-</u>	<u></u>	Sei	smic Velocity:	NA	feet/second		
,	Area:						
F	<u>Alea.</u>	Average F	Ripping Depth:	2.00	mph		
			Ripping Width:	7.08	degrees		
			ipping Length:	200.00	feet		
			e Dozer Speed:	88.00	feet		
			aneuver Time:	0.25	feet		
		Production	n per unit area:	0.773	acres/hour		
<u>J</u>	lob Condition Co	prrection Factors					
	Un	adjusted Hourly U	nit Production:	0.773	Acres/hr		
			Site Altitude:	4,600	feet		
			Altitude Adj:	1.00	(CAT HB)		
			ob Efficiency:	0.83	(1 shift/day	·)	
		1	Net Correction:	0.83	multiplier		
		A diveted U			A		
		Aujusteu no	ourly Unit Production:	0.64	Acres/hr		
			ourly Unit Production: urly Fleet Production:		Acres/hr		
j	JOB TIME AN	Adjusted Ho					
j	JOB TIME AN Fleet size:	Adjusted Ho			Acres/hr	2 H	Iours

Page 1 of 2

SCRAPER TEAM WORK

Site: South Fruita Gra	vel Pit	Permit Action:	2018-03	Perr	nit/Job#: <u>M198</u>	1243
PROJECT IDEN	TIFICATION					
Task #: 12A	ç	State: Colorado		Abbrey	viation: None	
Date: $3/29/20$		unty: Mesa			ename: M243-	12a
User: ACY		<u> </u>				
Agency or o	organization name:	DRMS				
HOURLY EQUIF	MENT		COSTSI	nift basis: <u>1 per d</u>	av	
		Equipme	ent Description			
	-S	craper: Cat 627	G w/push-pull			
		Dozer: Cat D8	Γ - 8SU			
Suppo	rt Equipment -Loa	d Area: NA p Area: Cat D8	Г <u>- 85</u> 11			
Road Ma	intenance – Motor		1 050			
	-Water	Truck: NA				
	a w	1 -				
Cost Breakdown:	Scraper Wor Scraper	Dozer	Support Equip Load Area	Dump Area	Maintenance Motor Grader	Equipment Water True
0/11/11/ ·* 1.*	-			-		
%Utilization-machine:	100	100	NA	100	NA	1
Ownership cost/hour:	\$99.75	\$83.81	NA	\$83.81	NA	1
Operating cost/hour:	\$118.23	\$66.17	NA	\$66.17	NA	1
%Utilization-ripper: Ripper own. cost/hour:	NA NA	NA \$0.00	NA NA	NA \$0.00	NA NA	1
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	1
Operator cost/hour:	\$41.46	\$40.52	NA	\$40.52	NA	
Unit Subtotals:	\$259.44	\$190.50	NA	\$190.50	NA	1
Number of Units:	2	1	0	1	0	1
Group Subtotals:	Work:	\$709.38	Support:	\$190.50	Maint:	\$0.00
Total work team cost	/hour: <u>\$899.88</u>					
MATERIAL QUA	NTITIES					
Initial volume:	13,552	CCY	Swell fact	or: <u>1.215</u>		
Loose volume:	16,466	LCY				
	rce of estimated vo of estimated swell f			, 14 ac processing	g area 6" thick	
HOURLY PROD	UCTION					
			Scraper Bo	owl (volume) Basi	is:	
Material weight:	1,600 lbs/LCY		Struck	Volume: 15.70	L	CY
Material description:	Top Soil		Heaped	Volume: 22.00	L	CY
Rated Payload:	52,800 pounds		Average			CY
Payload Capacity:	33.00 LCY		Adjusted C	Capacity: 18.85	L	CY

<u>0.90</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 4600 feet

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

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	1200.00	0.00	5.00	5.00	2218	0.67

Haul Time: **0.67** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	5.00	5.00	2814	0.57
				Return Time:	0.57	minutes
			Total Scrape	er team cycle time:	2.74	minutes
			Adjusted	for job conditions:	685.20	LCY/Hour
			Selected N	umber of Scrapers:	2	Scraper(s)
	Adjuste	d single scra	per team (unit)	hourly production:	685.20	LCY/Hour
	Adjusted n	nultiple scrap	ber team (fleet)	hourly production:	685.20	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe			LCY/Hour		
JOB TI	IME AND COST					
	t size: 1	Team(s)	7	Fotal job time:	24.03	Hours

Unit cost: \$1.313 /LCY

Total job cost: ______\$21,624_____

REVEGETATION WORK

Task descrip	otion:	Reveg Arcuby Pond			
te: South Fr	uita Gravel Pi	t Permit Action:	2018-03	Permit/Job	#: <u>M1981243</u>
PROJECT Task #:	IDENTIFIC	ATION State: Colorado		Abbreviation:	None
Date: User:	3/29/2018 ACY	County: Mesa		Filename:	M243-13a

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	300.00	pound	\$0.27	\$81.00
			Total Fertilizer Materials Cost/Acre	\$81.00

Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

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	0.05	1.95	\$1.42
Indian Ricegrass - Paloma	3.12	10.10	\$30.42
Crested Wheatgrass - Ephraim	1.50	6.89	\$5.51
Canby Bluegrass - Canbar	0.45	9.57	\$4.28
Galleta	3.00	10.95	\$74.10
Saltbush, Four Wing	1.00	1.38	\$12.50
Totals Seed Mix	9.12	40.83	\$128.22

Application

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

MULCHING and MISCELLANEOUS

Materials

	Units /			
Description	Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.74	\$2.74
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$524.74

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$66.02
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
Weed spray, truck, aquatic area, nox. [DMG]		\$68.50
	Total Mulch Application Cost/Acre	\$233.84

NURSERY STOCK PLANTING

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

	No. of Acres:	16.8	Cost /Acre:	\$1,450.71	
Estimated Failure Rate:		40%	Cost /Acre*:	\$1,450.71	
*Selected Replanti	ng Work Items:	FERTILIZING,TII	LING,SEEDING,MU		
		LCHING			
Initial Job Cost:	\$24,371.93				
Reseeding Job Cost:	\$9,748.77				
Total Job Cost:	\$34,121				
Job Hours:	32.00				

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Init	tial Mobilization					
S Fruita Grav l	Pit	Permit	Action: 2018	-03	I	Permit/Job#: <u>M</u>	1981243
PROJECT IDEN	TIFICATI	<u>ON</u>					
Task #: 14A		State: Co	lorado		Abbre	viation: None	
Date: 3/29	/2018	County: Me	esa		Fi	lename: M243	3-14a
User: ACY	7						
Agency or	organization	n name: DRMS					
EQUIPMENT T	RANSPOR	<u>T RIG COST</u>					
					Shift ba	sis: 1 per da	v
				C	Cost Data Sour		
Truck	Tractor Desc	ription: GENE	RIC ON-HIGH			OR, 6X4, DIESEI	_ POWERED,
T 1					(2ND HALF,		
Truck	Trailer Desc	ription: G				OP DECK EQU	IPMENT
				TRAILER (25T, 50T, AN	ND 1001)	
Cost Breakdown:							
Available Rig Ca		0-25 Tons	26-50 Tons		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	Cost/Hour:	\$88.67	\$117.55	\$12	25.45		
NON ROADABL	<u>.E EQUIPN</u>	MENT:					
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	\$91.36	\$125.45	2	\$433.62	\$250.90	\$500.00
Cat 627G w/push- pull	43.48	\$99.75	\$117.55	2	\$434.60	\$235.10	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$12.22	\$88.67	1	\$100.89	\$88.67	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$250.00
Centrifugal pump - 200M, 10 in.	1.95	\$8.43	\$88.67	1	\$97.10	\$88.67	\$250.00

Subtotals: **\$1,161.91**

\$752.01

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	\$47.96	1	\$47.96	\$47.96
		Subtotals:	\$47.96	\$47.96

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$6,674.45 \$21.32	_

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.22	0.22
Return Time (Hours):	0.22	0.22
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.44	0.44

JOB TIME AND COST

Total job time: **2.89** Hours

Total job cost: \$6,696

EQUIPMENT MOBILIZATION/DEMOBILIZATION

	ription: Se	condary Mobiliza	uon				
: S Fruita	a Grav Pit	Permit	Action: 2018-	-03]	Permit/Job#:	M1981243
PROJECT	FIDENTIFICAT	ION					
Task #:	15A	State: Co	olorado		Abbre	eviation: No	ne
Date:		· · · · · · · · · · · · · · · · · · ·	esa				243-15a
User:	ACY						
A	gency or organizatio	n name: DRMS					
EQUIPM	ENT TRANSPOR	<u>AT RIG COST</u>					
					Shift ba		
				C	Cost Data Sour	rce: CRG	Data
	Truck Tractor Des	cription: GENE	RIC ON-HIGH	WAY TRU	CK TRACTO	DR, 6X4, DIES	EL POWERED,
		-		400 HP	(2ND HALF,	2006)	
	Truck Trailer Des	cription: G	ENERIC FOLD	ING GOO	SENECK, DF	ROP DECK EQ	UIPMENT
			Т	RAILER (25T, 50T, AN	ND 100T)	
Cost Breako	<u>lown:</u>						
A *1 11		0-25 Tons	26-50 Tons	51+	Tons		
	Rig Capacities						
Ow	nership Cost/Hour:	\$16.63	\$18.37	\$2	2.33		
Ow: Op	nership Cost/Hour: erating Cost/Hour:	\$44.38	\$46.13	\$5	0.07		
Ow: Op	nership Cost/Hour:			\$5			
Ow Op O	nership Cost/Hour: perating Cost/Hour: perator Cost/Hour: Helper Cost/Hour:	\$44.38	\$46.13	\$5 \$2	0.07		
Ow Op O	nership Cost/Hour: perating Cost/Hour: perator Cost/Hour:	\$44.38 \$27.66	\$46.13 \$27.66	\$5 \$2 \$2 \$2	0.07 7.66		
Ow Op O	nership Cost/Hour: perating Cost/Hour: perator Cost/Hour: Helper Cost/Hour:	\$44.38 \$27.66 \$0.00	\$46.13 \$27.66 \$25.39	\$5 \$2 \$2 \$2	0.07 7.66 5.39		
Ow Op O	nership Cost/Hour: perating Cost/Hour: perator Cost/Hour: Helper Cost/Hour:	\$44.38 \$27.66 \$0.00 \$88.67	\$46.13 \$27.66 \$25.39	\$5 \$2 \$2 \$2	0.07 7.66 5.39		
Ow Op O	nership Cost/Hour: perating Cost/Hour: perator Cost/Hour: Helper Cost/Hour: tal Unit Cost/Hour:	\$44.38 \$27.66 \$0.00 \$88.67	\$46.13 \$27.66 \$25.39	\$5 \$2 \$2 \$2	0.07 7.66 5.39	Return Trip	DOT Permit
Ow Op O To NON ROA Machine	nership Cost/Hour: perating Cost/Hour: perator Cost/Hour: Helper Cost/Hour: tal Unit Cost/Hour: ADABLE EQUIP Weight/	\$44.38 \$27.66 \$0.00 \$88.67 MENT:	\$46.13 \$27.66 \$25.39 \$117.55	\$5 \$2 \$2 \$12	0.07 7.66 5.39 25.45	Return Trip Cost/hr/ flee	
Ow Op O Tot	nership Cost/Hour: perating Cost/Hour: perator Cost/Hour: Helper Cost/Hour: tal Unit Cost/Hour: ADABLE EQUIP Weight/	\$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship	\$46.13 \$27.66 \$25.39 \$117.55 Haul Rig	\$5 \$2 \$2 \$12 Fleet	0.07 7.66 5.39 25.45 Haul Trip		
Ow Op O To NON ROA Machine	nership Cost/Hour: perating Cost/Hour: perator Cost/Hour: Helper Cost/Hour: tal Unit Cost/Hour: ADABLE EQUIP Weight/ Unit (TONS) Icast 25.00	\$44.38 \$27.66 \$0.00 \$88.67 MENT: Owner ship	\$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni	\$5 \$2 \$2 \$12 Fleet	0.07 7.66 5.39 25.45 Haul Trip Cost/hr/		

 Subtotals:
 \$196.59
 \$177.34
 \$500.00

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. Crew	\$47.96	1	\$47.96	\$47.96
		Subtotals:	\$47.96	\$47.96

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$1,559.37 \$21.32	_

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.22	0.22
Return Time (Hours):	0.22	0.22
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.44	0.44

JOB TIME AND COST

Total job time:	2.89	Hours

Total job cost: \$1,581

M-1981-243

2015		
Pumping	Approx. 15.3 ac @ 15' deep	2
nade	Approx 7,500 LF of 3:1 250 LF of 5:1	
Ripper	32.200	
Topsoil	32.2 ac 6" thick	
Reveg	32.2 ac w/ 4090 failu No weed treatmen	ire 1
Mob	No pump or secondary	
2018 Pump	KARP Arcuby 9. Ceac 15.200 e 15' de	ep → 24.8ac
arade	1,600 LF 300 LF @ 3:1 400 LF 400 LF @ 5:1 + Push riprap (7000 syft ~10	-7 800 LF
Ripper	9,5ac 14ac	-723.5ac
Topsoil	slopes 4ac 2.8ac Flat 9.5ac 14ac	-> 6.8 ac 7 30.5 -> 23.5 ac
Reveg	13.500 16.800 + weed treatment	-730.500 wy 4090 failure
+ Demo	Scale 2 scale house	
NOB	FRUMPS & Secondary	