

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

1313 Sherman Street, Room 215 Denver, CO 80203

April 14, 2015

Mr. Gayle Lyman Grand Junction Pipe & Supply Co. 556 Struthers Ave Grand Junction, CO 81501

Re: South Fruita Gravel Pit, Permit No. M-1981-243, Financial Warranty Increase, Revision No. SI-4

Dear Mr. Lyman:

On April 14, 2015 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$181,476.67, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$107,504.67 over the currently held amount of \$73,972.00.

The Division ordered amendment of the current Financial Warranty or submittal of a new Financial Warranty reflecting the increase, within 60 days from the date of this letter. If you wish to submit a different type of Financial Warranty, please contact Barbara Coria at (303) 866-3567 ext. 8148.

If you need additional information, please contact me at the Division of Reclamation, Mining and Safety, Grand Junction Field Office, 101 S. 3rd St., Suite 301, Grand Junction, Colorado 81501, telephone no. (970) 241-2042.

Sincerely,

Travis Marshall Environmental Protection Specialist

Enclosure(s): Reclamation Cost Update SI-4

ec: Russ Means, DRMS Barbara Coria, DRMS



### COST SUMMARY WORK

: S Fruita	Grav Pit		Permit Action:	Reclamation Cost Update	Permit/J	ob#: <u>M1981243</u>
	<u>Γ IDENTIFICA</u>					
PROJEC Task #:	<b><u>F IDENTIFICA</u></b> 001	TION State:	Colorado	Al	obreviation:	None
			Colorado Mesa	AI	obreviation: Filename:	None M243-001

#### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Pump Pit to Establish Pon Final Slope Configuration	PUMPING	1	410.59	\$18,276.00
02a	Cut and Fill Slopes to 3H:1V	DOZER	1	53.84	\$11,259.00
03a	Cut and Fill 5H:1V Slope Area	DOZER	1	1.96	\$409.00
04a	Rip 32.2 acres of compaced area prior to topsoil placement	RIPPER		47.19	\$10,515.00
05a	Place 6 inches of topsoil over 32.2 acres	SCRAPER1	1	36.60	\$37,146.00
06a	Revegetate 32.2 acres with approved seed mix	REVEGE	1	24.00	\$46,624.00
07a	Mobilization	MOBILIZE	1	2.88	\$5,743.00
		SUBTO	DTALS:	577.06	\$129,972

### **INDIRECT COSTS**

#### **OVERHEAD AND PROFIT:**

Liability insurance:	2.02%	Total =	\$2,625.43
Performance bond:	1.05%	Total =	\$1,364.71
Job superintendent:	288.53 hrs	Total =	\$21,685.91
Profit:	10.00%	Total =	\$12,997.20
		TOTAL O & P =	\$38,673.25
		CONTRACT AMOUNT (direct + O & P) =	\$168,645.25

#### 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%		\$8,432.26
CONTINGENCY:	3.00	Total =	\$3,899.16
	TOTAL IN	NDIRECT COST =	\$51,504.67
TOTAL B	OND AMOUNT (d	lirect + indirect) =	\$181,476.67

Task description:	Pump Pit to Establish Pon	Final Slope Configura	tion	
e: <u>S Fruita Grav Pit</u>	Permit Action:	Reclamation Cost	Permit/Job#:	M1981243
PROJECT IDENTIF	ICATION			
Task #: 01A Date: 4/13/2015 User: THM	State: Colorado County: Mesa	)	Abbreviation: Filename:	None M243-01a
Agency or orga	nization name: DRMS			
HOURLY EQUIPMI				
HOURET EVOL MI				
Make and Model:	Description Centrifugal pump - 200M, 10	in	Quantity 1	
Attachment 1:	Suction pipe - 10 in. diam., 25		6	
Attachment 2:	Discharge pipe - 10 in. D., 25		4	
Labor Unit 1:			0	
Horsepower:	70			un and a second s
Shift Basis: 1 Weight:	per day 1.95 S Tons)			
Cost Breakdown:				
Ownership Cost/	Hour: \$22.52	Utilization % NA		
Operating Cost/		100		
Operator Cost/		NA		
Total Unit Cost/				
Total Fleet Cost	/Hour: \$44.51			
PUMPING QUANTI				
Initial Pond Vol			Conversion factor:	1.0000
Final Pond Vol		gallons	Conversion lactor.	1.0000
Total Pond Inflow Su		8=	Unit inflow rate in	
	Area: 16,800	Sq. ft.	gph/sq. ft.:	0.3516
Total Pond Inflow Vo	lume Hour: 5,906.88	gallons		
ľ				
	of estimated volume: <u>Previou</u>	isly accepted values		
PUMPING TIME				
	ximum Pump Capacity:	200,000	gph/pump	
	stimated Suction Head:	15	feet	
Esti	mated Discharge Head:	15	feet	
	Total Head:	30	feet	
	CPB Pump Capacity:	168,000	gph/pump	
	Site Altitude:	4,600	feet	
Adim	sted Pumping Capacity:	168,000	gph	
	djusted Pumping Time:	446.08	hours	
	during Initial Pumping:	2,634,912	gallons	
	djusted Pumping Time:	461.76	Hours	
	ude Adjustment Factor:	0.9700	(3% rule)	
	Pump Efficiency Factor:	0.9167	(55 min./hr.)	
Total A	djusted Pumping Time:	410.60	hours	
JOB TIME AND CO	<u>DST</u>	Total job ti	ime: 410.60	Hours
Unit cost:\$0.0	00236 /Gallon	Total job c	cost: <b>\$18,276</b>	

CIRCES Cost Estimating Software

### PUMPING WORK

### BULLDOZER WORK

Task description:	Cut ar	nd Fill Slop	es lu SH.IV	/		
S Fruita Grav Pit		Perr	nit Action:	Reclamation Cost Update	Permit/Job#:	M1981243
PROJECT IDENTI	FICATIO	N				
			Colorada			N
Task #: 02A Date: 4/14/2015		State: County:	Colorado Mesa		Abbreviation: Filename:	None M243-02a
User: THM		County.	IVIESa		r nename:	W1243-02a
Agency or org		ama: DB	RMS			
HOURLY EQUIPM	ENT CO	<u>ST</u>				
Basic Machine: C	at D8T - 85	SU				
•	10					
	emi-Univer	sal				
	A					
	per day					
Data Source: (C	CRG)					
Cost Breakdown:						
······································				Utilization %		
Ownership Cost/Hour	:	\$62.67		NA		
Operating Cost/Hour		\$107.59	)	100		
Ripper op. Cost/Hour		\$0.00		0		
Operator Cost/Hour		\$38.85		NA		
•						
Total unit Cost/Hour:	\$209.1					
•						
Total unit Cost/Hour:	\$209.1 <b>\$209.1</b>					
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN	\$209.1 <b>\$209.1</b> TITIES					
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 22	\$209.1 <b>\$209.1</b> TITIES ,222			· 		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 22 Swell factor: 1.1	\$209.1 <b>\$209.1</b> (TITIES ,222					
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 22 Swell factor: 1.1	\$209.1 <b>\$209.1</b> TITIES ,222	1				
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 22 Swell factor: 1.1 Loose volume: 26 Source of estimated vol	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 80 , <b>222</b> LCY hume:	1 Division		ion, Mining & Safety		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 22 Swell factor: 1.1 Loose volume: 26	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 80 , <b>222</b> LCY hume:	1		ion, Mining & Safety		
Total unit Cost/Hour:         Total Fleet Cost/Hour: <b>MATERIAL QUAN</b> Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated swell	\$209.1 <b>\$209.1</b> (TITIES ,222 180 ,222 LCY lume: ell factor:	1 Division		ion, Mining & Safety		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 22 Swell factor: 1.1 Loose volume: 26 Source of estimated vol	\$209.1 <b>\$209.1</b> (TITIES ,222 180 ,222 LCY lume: ell factor:	1 Division		ion, Mining & Safety		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol         Source of estimated sw         HOURLY PRODUCE	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 180 ,222 LCY lume: ell factor: <b>CTION</b>	1  Cat Hand		ion, Mining & Safety		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC       Average push distance:	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 180 ,222 LCY lume: ell factor: CTION	1 Division Cat Hanc 75 feet	lbook	ion, Mining & Safety		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol         Source of estimated sw         HOURLY PRODUCE	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 180 ,222 LCY lume: ell factor: CTION	1  Cat Hand	lbook	ion, Mining & Safety		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC       Average push distance:	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 80 ,222 LCY lume: ell factor: CTION luction:	1 Division Cat Hanc 75 feet 1,017.1 LC	lbook Y/hr	ion, Mining & Safety		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC       Average push distance:         Unadjusted hourly proc       Materials consistency of	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 80 ,222 LCY lume: ell factor: <b>CTION</b> luction:	1 Division Cat Hanc 75 feet 1,017.1 LC	lbook Y/hr			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC       Average push distance:         Unadjusted hourly proc       Materials consistency of         Average push gradient:       Average push gradient:	\$209.1 <b>\$209.1</b> <b>\$209.1</b> <b>TITIES</b> ,222 180 ,222 LCY lume: ell factor: <b>CTION</b> luction: lescription: _5 %	1 Division Cat Hand 75 feet 1,017.1 LC Compa	lbook Y/hr			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC       Average push distance:         Unadjusted hourly proc       Materials consistency of	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 80 ,222 LCY lume: ell factor: <b>CTION</b> luction:	1 Division Cat Hand 75 feet 1,017.1 LC Compa	lbook Y/hr			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC       Average push distance:         Unadjusted hourly proc       Materials consistency of         Average push gradient:       Average push gradient:	\$209.1 <b>\$209.1</b> <b>TITIES</b> ,222 180 ,222 LCY lume: ell factor: <b>CTION</b> luction: lescription: -5 % 4,600	1 Division Cat Hand 75 feet 1,017.1 LC Compa	lbook Y/hr			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated swell         HOURLY PRODUC         Average push distance:       Unadjusted hourly proc         Materials consistency of         Average push gradient:         Average site altitude:	\$209.1 <b>\$209.1</b> <b>\$209.1</b> <b>TITIES</b> ,222 80 ,222 LCY hume: ell factor: <b>CTION</b> huction: -5 % 4,600 2,400	1 Division Cat Hanc 75 feet 1,017.1 LC Compa feet	lbook Y/hr acted fill or e			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated swell         HOURLY PRODUC         Average push distance:         Unadjusted hourly proc         Materials consistency of         Average site altitude:         Material weight:         Weight description:	\$209.1 <b>\$209.1</b> <b>\$209.1</b> <b>TITIES</b> ,222 180 ,222 LCY lume: ell factor: <b>CTION</b> luction: -5 % 4,600 2,400 Clay a	1 Division Cat Hand 75 feet 1,017.1 LC Compa feet lbs/LCY	lbook Y/hr acted fill or e	embankment 0.9		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC         Average push distance:         Unadjusted hourly proc         Materials consistency of         Average site altitude:         Material weight:         Weight description:         Job Condition Correcting	\$209.1 <b>\$209.1</b> <b>\$209.1</b> <b>TITIES</b> ,222 180 ,222 LCY lume: ell factor: <b>CTION</b> luction: -5 % 4,600 2,400 Clay a	1 Division Cat Hand 75 feet 1,017.1 LC Compa feet lbs/LCY nd gravel -	lbook Y/hr acted fill or e			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC       Average push distance:         Unadjusted hourly proc       Materials consistency of         Average push gradient:       Average site altitude:         Material weight:       Weight description:         Job Condition Correctin       Operato	\$209.1 <b>\$209.1</b> <b>\$209.1</b> <b>TITIES</b> ,222 180 ,222 LCY lume: ell factor: <b>CTION</b> luction: -5 % 4,600 2,400 Clay a on Factor or Skill:	1     	lbook Y/hr acted fill or o Dry	embankment 0.9 Source (AVG.)		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       22         Swell factor:       1.1         Loose volume:       26         Source of estimated vol       Source of estimated sw         HOURLY PRODUC         Average push distance:         Unadjusted hourly proc         Materials consistency of         Average site altitude:         Material weight:         Weight description:         Job Condition Correcting	\$209.1 <b>\$209.1</b> <b>\$209.1</b> <b>TITIES</b> ,222 80 ,222 LCY lume: ell factor: <b>CTION</b> luction: -5 % 4,600 2,400 Clay a on Factor or Skill: istency:	1 Division Cat Hand 75 feet 1,017.1 LC Compa feet lbs/LCY nd gravel - 0 0	lbook Y/hr acted fill or e Dry	embankment 0.9		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4788

Adjusted unit production:	486.99 LCY/hr	
Adjusted fleet production:	486.99 LCY/hr	

### JOB TIME AND COST

Fleet size:	1 Dozer(s)	
Unit cost:	\$0.429/LCY	
Total job time:	53.84 Hours	
Total job cost:	\$11,259	

### BULLDOZER WORK

	ription:		d Fill 5H:		са		
S Fruita	a Grav Pit		Per	mit Action:	Reclamation Cost Update	Permit/Job#:	M1981243
PROJEC	T IDENT	<b>IFICATIO</b>	N				
Task #:			- State:	Colorado		Abbreviation:	None
Date:		15	County:	Mesa		Filename:	M243-03a
User:	THM						
A	Agency or of	rganization na	ume: DF	RMS			
HOURL	Y EQUIPI	MENT COS	<u>5T</u>				
Basic N	Aachine:	Cat D8T - 8S	U				
Hors	epower:	310					
		Semi-Univers	sal				
Atta	chment:	NA					
Shi	ft Basis:	1 per day					
Data	Source:	(CRG)					
Cost Brea	<u>kdown</u> :				1		
0 1					Utilization %		
	ip Cost/Hou		\$62.67		NA		
	ng Cost/Hou		\$107.59	<b>)</b>	100		
	op. Cost/Hou		\$0.00		0		
Operate	or Cost/Hou	ur:	\$38.85		NA		
Total unit	Cost/Hour:	\$209.11					
	et Cost/Hour	and the second s					
MATER	IAL QUA	NTITIES					
MATER Initial V							
Initial V	olume: _1	1,111					
Initial V	Volume: 1 l factor: 1						
Initial V Swell Loose v	Volume: 1 l factor: 1 volume: 1	I,111 1.180 I, <b>311</b> LCY	Division		tion Mining & Sofate		
Initial V Swell Loose v Source of	Volume: 1 1 factor: 1 volume: 1 °estimated v	I,111 I.180 I,311 LCY volume:			tion, Mining & Safety		
Initial V Swell Loose v Source of	Volume: 1 1 factor: 1 volume: 1 °estimated v	I,111 1.180 I, <b>311</b> LCY	Division Cat Hand		tion, Mining & Safety		
Initial V Swell Loose v Source of Source of	Volume: 1 1 factor: 1 volume: 1 °estimated v	I,111 I.180 I,311 LCY volume: well factor:			tion, Mining & Safety		
Initial V Swell Loose v Source of Source of <b>HOURL</b>	Volume: 1 I factor: 1 Volume: 1 estimated v estimated s V PRODU	I,111 I.180 I, <b>311</b> LCY volume: well factor:	Cat Hand		tion, Mining & Safety		
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p	Volume: 1 I factor: 1 Volume: 1 estimated v estimated s V PRODU push distanc	I,111 I.180 I, <b>311</b> LCY volume: well factor: UCTION	Cat Hand	dbook	tion, Mining & Safety		
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p	Volume: 1 I factor: 1 Volume: 1 estimated v estimated s V PRODU	I,111 I.180 I, <b>311</b> LCY volume: well factor: UCTION	Cat Hand	dbook	tion, Mining & Safety		
Initial V Swell Loose v Source of Source of <u>HOURL</u> Average p Unadjuste	Volume: 1 I factor: 1 Volume: 1 estimated v estimated s V PRODU push distanc ed hourly pro-	I,111 I.180 I, <b>311</b> LCY volume: well factor: UCTION	Cat Hand 50 feet 1,400.0 LC	dbook CY/hr	tion, Mining & Safety		
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p Unadjuste Materials	Volume: 1 I factor: 1 Volume: 1 estimated v estimated s V PRODU push distanc ed hourly pro-	I,111 I.180 I,311 LCY volume: well factor: UCTION se: <u>c</u> oduction: <u>1</u> v description:	Cat Hand 50 feet 1,400.0 LC	dbook CY/hr			
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p Unadjuste Materials Average p	Volume: 1 I factor: 1 Volume: 1 Sestimated v Sestimated s CY PRODU Dush distance a hourly pro- consistency	1,111         1.180         1,311 LCY         volume:         well factor:         WCTION         se:       2         oduction:       1         v description:       1         nt:       -5 %	Cat Hand 50 feet 1,400.0 LC Comp	dbook CY/hr			
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p Unadjuste Materials Average p	Volume: 1 l factor: 1 volume: 1 cestimated v cestimated s <b>CY PRODU</b> coush distance d hourly pro- consistency push gradier site altitude:	1,111         1.180         1,311 LCY         volume:         well factor:         Well factor:         UCTION         ee:       4         oduction:       4         nt:       -5 %         4,6000 f	Cat Hand 50 feet 1,400.0 LC Comp	dbook CY/hr			
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p Unadjuste Materials Average p Average s Material v	Volume: 1 l factor: 1 volume: 1 cestimated v cestimated s <b>CY PRODU</b> coush distance d hourly pro- consistency push gradier site altitude:	I,111 I.180 I,311 LCY volume: well factor: UCTION ve: oduction: v description: nt:5 % 4,600 f 400 I	Cat Hand 50 feet 1,400.0 LC Compr feet	dbook CY/hr acted fill or			
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p Unadjuste Materials Average p Average of Material v Weight do	Volume: 1 l factor: 1 volume: 1 cestimated v cestimated s <b>2Y PRODU</b> oush distance d hourly pro- consistency oush gradier site altitude: weight: escription:	I,111 I.180 I,311 LCY volume: well factor: UCTION ve: oduction: v description: nt:5 %  4,600 f  Clay ar	Cat Hand 50 feet 1,400.0 LC <u>Comp</u> eet bs/LCY	dbook CY/hr acted fill or	embankment 0.9		
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p Unadjuste Materials Average p Average of Material v Weight do	Volume: 1 I factor: 1 Volume: 1 volume: 1 estimated v estimated s V PRODU oush distance d hourly pro- consistency oush gradier site altitude: weight: escription: ition Correct	I,111 I.180 I,311 LCY volume: well factor: UCTION ve: oduction: v description: nt:5 %  4,600 f  Clay ar ction Factor	Cat Hand 50 feet 1,400.0 LC <u>Comp</u> eet bs/LCY nd gravel -	dbook CY/hr acted fill or	embankment 0.9		
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p Unadjuste Materials Average p Average s Material v Weight de Job Cond	Volume: 1 I factor: 1 Volume: 1 volume: 1 estimated v estimated s V PRODU oush distance d hourly pro- consistency oush gradier site altitude: weight: escription: ition Correct	I,111 I.180 I,311 LCY volume: well factor: UCTION ve: oduction: v description: nt:5 % 600 f  Clay ar ction Factor ator Skill:	Cat Hand 50 feet 1,400.0 LC <u>Comp</u> eet bs/LCY nd gravel -	dbook CY/hr acted fill or Dry	embankment 0.9	)	
Initial V Swell Loose v Source of Source of <b>HOURL</b> Average p Unadjuste Materials Average p Average s Material v Weight de Job Cond	Volume: 1 I factor: 1 Volume: 1 volume: 1 volume: 1 estimated v estimated s V PRODU oush distance d hourly pro- consistency oush gradier site altitude: weight: escription: <u>ition Corrector</u> Opera Material cor	I,111 I.180 I,311 LCY volume: well factor: UCTION ve: oduction: v description: nt:5 % 600 f  Clay ar ction Factor ator Skill:	Cat Hand 50 feet 1,400.0 LC Comp feet bs/LCY nd gravel( (	Dry	embankment 0.9 Source (AVG.)	)	

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	670.32 LCY/hr	
Adjusted fleet production:	670.32 LCY/hr	

### JOB TIME AND COST

Fleet size:	1 Dozer(s)	
Unit cost:	\$0.312/LCY	
Total job time:	1.96 Hours	
Total job cost:	\$409	

## BULLDOZER RIPPING WORK

	Task description:	<b> Rip 32.</b>	2 acres of compaced	area prior to top	soil placement		
Site	S Fruita Grav P	Pit	Permit Action:	Reclamation Co Update	ost Permit/J	ob#:M19	981243
	PROJECT IDEN	NTIFICATION	<u>I</u>				
	Task #: 04A		State: Colorado		Abbreviati	on: None	•
		/2015	County: Mesa		Filenar		
	User: THM	1					
	Agency o	r organization na	me: DRMS				
	HOURLY EQU	IPMENT COS	<u>T</u>				
	Basic M	achine: Cat D	8T - 8SU		Horsepower:	310	
	Ripper Attac	chment: 3-Shar	nk Ripper		Shift Basis:	1 per day	
					Data Source:	(CRG)	
	Cost Breakdown:			e			
		Our analyin Cost	۲ ۴ <i>(</i> (		Utilization %		
		Ownership Cost		9.05 7.59	NA 100		
	Rippe	r Operating Cost		.31	100		
	I I	Operator Cost		8.85	NA		
		Total Unit Cost	/Hour: \$22	2.80			
		Total Fleet Cost	/Hour: <b>\$22</b>	2.80			
	MATERIAL QU	IANTITIES		acted actimating .	mathadi Araa		
			561	ected estimating	method: Area		
	Alternate Methods	<u>.</u>					
Seismic:			Bank Volume:	NA	BCY	NA	
Area:	32.20	acres	Rip Depth (ft):	2.00	Volume:103,89	19	BCY or CCY
		Source of estima	ted quantity: Annua	al Report and con	ditions observed durir	ig inspectior	<u>1</u>
	HOURLY PRO	DUCTION					
	Seismic:						
	<u>Seisinie.</u>	Se	ismic Velocity:	NA	feet/second		
	A						
	Area:	Average	Ripping Depth:	2.56	mph		
			Ripping Width:	7.08	degrees		
			ipping Length:	500.00	feet		
			e Dozer Speed:	88.00	feet		
			Ianeuver Time:	0.25	feet		
		Productio	n per unit area:	0.822	acres/hour		
	Job Condition Cor	rection Factors					
	Una	djusted Hourly U	nit Production:	0.822	Acres/hr		
			Site Altitude:	4,600	feet		
			Altitude Adj:	1.00	(CAT HB)		
			Job Efficiency:	0.83	(1 shift/day)		
			Net Correction:	0.83	multiplier		
		-	ourly Unit Production		Acres/hr		
		Adjusted He	ourly Fleet Production	: 0.68	Acres/hr		
	JOB TIME AN	D COST					
	Fleet size:	1	Grader(s)	Total job time	e: 47.20		Hours
	Unit cost:	\$326.556	Per acre	Total job cos	st:\$10,51	5	

NA

NA

#### Task # 05A SCRAPER TEAM WORK Task description: Place 6 inches of topsoil over 32.2 acres **Reclamation Cost** Permit Action: Site: S Fruita Grav Pit Update Permit/Job#: M1981243 PROJECT IDENTIFICATION Task #: 05A Colorado Abbreviation: State: None Date: 4/14/2015 Mesa County: Filename: M243-05a User: THM Agency or organization name: DRMS HOURLY EQUIPMENT COSTShift basis: <u>1 per day</u> Equipment Description -Scraper: Cat 627G w/push-pull Cat D8T - 8SU -Dozer: Support Equipment -Load Area: NA -Dump Area: Cat D8T - 8SU Road Maintenance -- Motor Grader: NA -Water Truck: NA **Cost Breakdown:** Scraper Work Team Support Equipment Maintenance Equipment Scraper Dozer Load Area Dump Area Motor Grader Water Truck %Utilization-machine: 100 100 NA 100 NA Ownership cost/hour: \$72.62 \$62.67 NA \$62.67 NA

				+		
Operating cost/hour:	\$186.73	\$107.59	NA	\$107.59	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$39.02	\$38.85	NA	\$38.85	NA	NA
Unit Subtotals:	\$298.36	\$209.11	NA	\$209.11	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work:	\$805.83	Support:	\$209.11	Maint:	\$0.00

Total work team cost/hour: \$1,014.94

### **MATERIAL QUANTITIES**

Initial volume:	26,028	CCY
Loose volume:	26,028	LCY

Swell factor: 1.000

Source of estimated volume: Source of estimated swell factor: Division of Reclamation, Mining & Safety

Cat Handbook

#### HOURLY PRODUCTION

Material weight:	1,600 lbs/LCY	S
Material description:	Top Soil	He
Rated Payload:	52,800 pounds	Av
Payload Capacity:	33.00 LCY	Adjı

#### Scraper Bowl (volume) Basis:

Struck Volume:	15.70	LCY
Heaped Volume:	22.00	LCY
Average Volume:	18.85	LCY
Adjusted Capacity:	18.85	LCY

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

0.90 Minutes 0.60 Minutes

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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	3.00	3.00	2824	0.60

Haul Time: 0.60 minutes

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	3.00	3.00	2874	0.54
				Return Time:	0.54	minutes
			Total Scrap	er team cycle time:	2.64	minutes
			Adjusted	for job conditions:	711.16	LCY/Hour
			Selected N	umber of Scrapers:	2	Scraper(s)
	Adjuste	d single scra	per team (unit)	hourly production:	711.16	LCY/Hour
	Adjusted n	nultiple scrap	per team (fleet)	hourly production:	711.16	LCY/Hour
Optim	Unadjusted unit pro al Number of Scrapers pe			_ LCY/Hour		
JOB T	IME AND COST					
Flee	t size:1	Team(s)		Total job time:	36.60	Hours

Unit cost: \_\_\_\_\$1.427 /LCY

Total job cost: \$37,146

#### Page 1 of 2

### **REVEGETATION WORK**

Task descri	ption:	Revegetate 32.2 acres with approved seed mix				
ite: <u>S Fruita</u>	Grav Pit	Peri	nit Action:	Reclamation Cost Update	Permit/Job#:	M1981243
PROJEC	<u>r identifi</u>	CATION				
Task #:	06A	State:	Colorado		Abbreviation:	None
Date:	4/14/2015	County:	Mesa		Filename:	M243-06a
User:	THM					

#### **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	300.00	pound	\$0.26	\$79.20
			Total Fertilizer Materials	
			Cost/Acre	\$79.20

# Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$52.71
	Total Fertilizer Application Cost/Acre	\$52.71

### **TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$98.01
Total Tilling Cost/Acre	\$98.01

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.05	1.95	\$1.14
Indian Ricegrass - Paloma	3.12	10.10	\$27.18
Crested Wheatgrass - Ephraim	1.50	6.89	\$3.35
Canby Bluegrass - Canbar	0.45	9.57	\$3.77
Galleta	3.00	10.95	\$75.60
Saltbush, Four Wing	1.00	1.38	\$10.73
Totals Seed Mix	9.12	40.83	\$121.76

#### Application

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

### MULCHING and MISCELLANEOUS

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$65.89
Power mulcher (MEANS 32 91 13.16 0250)		\$86.68
	Total Mulch Application Cost/Acre	\$152.57

### **NURSERY STOCK PLANTING**

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

#### JOB TIME AND COST

Defined	No. of Acres:		Cost /Acre:	
Estimate	ed Failure Rate:	40%	Cost /Acre*:	\$1,034.25
*Selected Replanti	ng Work Items:	· · ·	LING,SEEDING,MU	
		LCHING		
Initial Job Cost:	\$33,302.85			
Reseeding Job Cost:	\$13,321.14			

miniai JOD COSt.	333,302.03	
Reseeding Job Cost:	\$13,321.14	
Total Job Cost:	\$46,624	
Job Hours:	24.00	

### EQUIPMENT MOBILIZATION/DEMOBILIZATION

S Fruita Grav P	it	Permit A	ction: Recla Upda	mation Cost te		rmit/Job#:	M198	1243
PROJECT IDEN	TIFICAT	[ <u>ON</u>						
Task #: 07A Sta			lorado		Abbr	eviation:	None	
Date: 4/14/2	2015	County: Me	esa		F	ilename: –	M243-	07a
User: THM						_		
Agency or	organizatior	name: DRMS						
EQUIPMENT T	RANSPOR	T RIG COST						
					Shift ba		per day	
					Cost Data Sou	rce: <u>C</u>	RG Dat	a
Truck	Tractor Desc	ription: GENE	ERIC ON-HIG	HWAY TR	UCK TRACTO	DR, 6X4, D	IESEL	POWERED,
				400 HF	(2ND HALF,	2006)		
Truck	Trailer Desc	ription: GENE	<b>RIC FOLDIN</b>	G GOOSEN	IECK, DROP I	DECK EQU	IPMEN	<b>IT TRAILER</b>
		(25T, 50T, AND 100T)						
Cost Breakdown:								
		0-25 Tons	26-50 Ton	E1				
Available Rig Cap Ownership		\$16.63	\$18.37		+ Tons 22.33			
Operating	Cost/Hour	\$44.38	\$46.13	1	50.07			
	Cost/Hour:	\$27.66	\$27.66		27.66			
	Cost/Hour:	\$0.00	\$25.39		25.39			
Total Unit		\$88.67	\$117.55		125.45			
	ooburiouii	\$00.07		Ψ	20.10			
NON ROADAB		MENT:						
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return T		DOT Permi
Description	Unit	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr/	fleet	Cost/ fleet
-	(TONS)				fleet			
	53.08	\$69.05	\$125.45	2	\$388.99	\$250.90		\$500.00
Cat D8T - 8SU		070 (0	\$117.55	2	\$380.33	\$235.10		\$500.00
Cat 627G w/push- pull	43.48	\$72.62	<i><b></b></i>					
Cat 627G w/push-		\$72.62 \$39.59 \$7.03	\$88.67	I	\$128.26	\$88.67		\$250.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$15.25	3	\$45.75	\$45.75
		Subtotals:	\$45.75	\$45.75

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

Nearest Major City or Town within project area region:	<b>GRAND JUNCTION</b>	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$5,722.84	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$20.33	_

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable 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: \_\_\_\_\_\$5,743\_\_\_\_\_