# STATE OF COLORADO

#### DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

1313 Sherman St., Room 215 Denver, Colorado 80203 Phone: (303) 866-3567 FAX: (303) 832-8106



John W. Hickenlooper Governor

Mike King Executive Director

Loretta E. Piñeda Director

March 28, 2014

Mr. Shad Peabody Skanska USA Civil West Rocky Mountain District Inc. 22419 CR G P.O. Box 1660 Cortez, CO 81321

Re: Craig Pit, Permit No. M-1976-027, Financial Warranty Increase, Revision No. SI-2

Dear Mr. Peabody:

On March 28, 2014 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$158,692.74, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$53,882.74.

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 me such that I may send you the applicable form.

If you have any questions, please contact me at (970) 259-5861.

Sincerely,

Kate A. Pickford

**Environmental Protection Specialist** 

#### **COST SUMMARY WORK**

Task description: 2014 Inspection
-----------------------------------

Site: Craig Pit Permit Action: 2014 Inspection Permit/Job#: M1976027

#### **PROJECT IDENTIFICATION**

Task #: 000 State: Colorado Abbreviation: None

Date: 3/28/2014 County: La Plata Filename: M027-000
User: KAP

Agency or organization name: DRMS

#### TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	
	Description	Used	Size	Hours	Cost
001	Backfill North Highwall	SCRAPER1	1	48.85	\$35,732.59
002	East highwall reduction, cut and fill	DOZER	1	50.73	\$10,454.28
003	Backfill South Phase 1 Highwall	SCRAPER1	1	40.86	\$29,885.45
004	West highwall reduction, Phase 1, cut and fill	DOZER	1	1.48	\$304.02
005	Haul and Place West OVB Stockpile Along West Berm	SCRAPER1	] 1	1.01	\$735.93
006	Rip and Grade 15.4 acres prior to topsoil replacement	DOZER	111	37.54	\$7,920.03
007	Haul and Place West OVB Stockpile Along West Berm	SCRAPER1	1	10.37	\$7,584.34
008	Revegetation 9.8 acres of mild slope areas	REVEGE	1	10.00	\$12,592.02
009	Revegetation 5.2 acres of 2H:1V slopes	REVEGE	7 1	10.00	\$9,691.31
010	Mobilize	MOBILIZE	1	4.53	\$5,058.09
		SUBTO	TALS:	215.37	\$119,958.06

#### **INDIRECT COSTS**

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

Liability insurance: 0.00% Total =  $\begin{array}{c} 0.00\% \\ \text{Performance bond:} \\ \text{Job superintendent:} \\ 107.68 \text{ hrs} \\ \end{array}$  Total =  $\begin{array}{c} 0.00 \\ \text{$0.00$} \\ \text{$0.00$} \\ \end{array}$ 

TOTAL O & P =  $\frac{\$19,039.16}{\$138,997.22}$ 

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00 Total = 500.00

Engineering work and/or contract/bid preparation: 8.00% Total = \$11,119.78

Reclamation management and/or administration: 5.81% \$8,075.74

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$38,734.68

TOTAL BOND AMOUNT (direct + indirect) = \$158,692.74

# **SCRAPER TEAM WORK**

m l l i i i		-				
Task description: Site: Craig Pit	<u>Backfill N</u>	Orth Highwall Permit Action:	2014 Inspection	n Per	mit/Job#: M19	76027
PROJECT IDEN	TIFICATION				Walter State of the State of th	
Task #: 001		State: Colorado	ı	Abbre	viation: None	
Date: 3/28/2	014 Co	ounty: La Plata			lename: M027	-001
User: KAP						
Agency or	organization name	DRMS				
HOIDI V FOIII	ነ <i>ኪ ያቸ</i> ው እንም		00000	1 * 4		
HOURLY EQUIF	MENI		COSTS	hift basis: 1 per c	lay	
		Equipm	ent Description			
VALUE   100	-	Scraper: Cat 63	7G w/push-pull			
		-Dozer: NA				
Suppo	rt Equipment -Los	nd Area: NA				
Road Ma	intenance – Motor					<del></del>
	-Wate	r Truck: NA				
	_					
Cost Breakdown:	Scraper Wo	Y	Support Equi		Maintenance	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$100.38	NA	NA	NA	NA	NA
Operating cost/hour:	\$235.35	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$365.75	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$731.50	Support:	\$0.00	Maint:	\$0.00
Total work team cost						
Initial volume:	48,889	CCY	Swell fact	1 110		
Loose volume:	54,267	LCY	Swen lact	or: 1.110	·····	
		······································	60 1 d			
	ce of estimated vor f estimated swell:		of Reclamation, I dbook	Mining & Safety		
HOURLY PRODU	JCTION					
			Scraper Bo	owl (volume) Basi	i <u>s:</u>	
Material weight:	2,800 lbs/LCY		Struck \	Volume: 24.00	L	CY
Material description:	Clay - Natural be	ed .	Heaped '	***************************************		CY
Rated Payload:	81,600 pounds		Average \	Volume: 29.00	L	CY
Payload Capacity:	29.14 LCY		Adjusted C	apacity: <b>29.00</b>	L	CY

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: 1.00 Minutes 0.60 Minutes

Job Condition Correction:

Site Altitude: 6720 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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	-10.00	8.00	-2.00	2972	0.26

Haul Time: 0.26 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res	Velocity (fpm)	Travel Time (min)
1	600.00	10.00	8.00	18.00	832	0.74

Return Time: 0.74 minutes

Total Scraper team cycle time: 2.60 minutes

Adjusted for job conditions: 1,110.92 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)

Adjusted single scraper team (unit) hourly production: 1,110.92 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: 1,110.92 LCY/Hour

Unadjusted unit production/hour: 1,338.46 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

 Fleet size:
 1
 Team(s)
 Total job time:
 48.85
 Hours

 Unit cost:
 \$0.658
 /LCY
 Total job cost:
 \$35,732.59

# **BULLDOZER WORK**

Task description:	East highwall reduction, cu	t and fill		
e: Craig Pit	Permit Action:	2014 Inspection	Permit/Job#:	M1976027
PROJECT IDENTIF	<u>ICATION</u>			
Task #: 002	State: Colorado		Abbreviation:	None
Date: 3/24/2014	County: La Plata		Filename:	M027-002
User: KAP				
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	ENT COST			
Basic Machine: Cat	: D8T - 8SU			
Horsepower: 310				
	ni-Universal	······		
W Z	hank ripper			
	er day			
Data Source: (CF		<del></del>		
Cost Breakdown:		<del></del>		
COSt DIVARGOWII.		Utilization %		
Ownership Cost/Hour:	\$63.00	NA NA		
Operating Cost/Hour:	\$104.03	100	***************************************	
Ripper op. Cost/Hour:	\$1.63	25	<del></del>	
Operator Cost/Hour:	\$37.41	NA		
•		1 TAT	<del></del>	
Total unit Cost/Hour:	\$206.08			
Total Fleet Cost/Hour:	\$206.08			
Initial Volume: 35,7' Swell factor: 1.090 Loose volume: 38,99	78 0 98 LCY	ion Mining & Safety		
Source of estimated swell		Ton, Winning & Dalety		
HOURLY PRODUCT	TON			
Average push distance:	80 feet	APPARENT LEVANA AAAA		
Unadjusted hourly produc	tion: 984.2 LCY/hr	S S S S S S S S S S S S S S S S S S S		
Materials consistency des	cription: Compacted fill or e	mbankment 0.9		
Average push gradient:	-25 %			
Average site altitude:	6,720 feet			
Material weight:	2,400 lbs/LCY			
Weight description:	Clay and gravel - Dry			
Job Condition Correction		Source		
Operator S		(AVG.)		
Material consiste		(CAT HB))		
Dozina met	hod: 1 200	(CLOT)		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7811

Adjusted unit production:

768.76 LCY/hr

768.76 LCY/hr Adjusted fleet production:

### JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.268/LCY

Total job time:

**50.73** Hours

Total job cost: \$10,454.28

# SCRAPER TEAM WORK

Site: Craig Pit		Permit	Action:	2014 Inspection	n Per	rmit/Job#:	M197602	27
PROJECT IDEN	TIFICATION							
Task #: 003	Ş	State: C	Colorado		Abbre	eviation:	None	
Date: 3/28/20	014 Co	unty: L	a Plata			ilename:	M027-003	}
User: KAP								
Agency or o	organization name:	DRMS	3					
HOIDI V FOIII	A FERRIT			COSTS	Lia landa da d	4		
HOURLY EQUIP	WIENI			COSTS	hift basis: 1 per	day		
				nt Description				
		craper:	Cat 637 NA	G w/push-pull	·			
Suppo	rt Equipment -Loa	Dozer: d Area:	NA NA					······
	-Dum	p Area:	NA				***************************************	
Road Ma	intenance – Motor	j	NA					
	-Water	Truck:	NA				**************************************	
Cost Breakdown:	Scraper Wor	rk Team		Support Equi	pment	Main	tenance Eq	uipment
	Scraper	Doz	er	Load Area	Dump Area	Motor (	Grader	Water Trucl
%Utilization-machine:	100	NA	<b>X</b>	NA	NA	N/	4	NA
Ownership cost/hour:	\$100.38	NA		NA	NA	N/	4	NA
Operating cost/hour:	\$235.35	NA		NA	NA	N/	4	NA
Ripper op, cost/hour;	NA	NA		NA	NA	N.	4	NA
Operator cost/hour:	\$30.02	NA	k.	NA	NA	N/	4	NA
Unit Subtotals:	\$365.75	NA	<b>.</b>	NA	NA	N/	4	NA
Number of Units:	2	0		0	0	0		0
Group Subtotals:	Work:	\$731.	.50	Support:	\$0.00		Maint:	\$0.00
Total work team cost	/hour: <u>\$731.50</u>							
MATERIAL QUA	NTITIES							
Initial volume:	40,889		CCY	Swell fact	or: 1.110			
Loose volume:	45,387	]	LCY					
	rce of estimated vo		D	crs t d s	Mining & Safety			

Material weight:	2,800 lbs/LCY	Struck Volume:	24.00	LCY
Material description:	Clay - Natural bed	Heaped Volume:	34.00	LCY
Rated Payload:	81,600 pounds	Average Volume:	29.00	LCY
Payload Capacity:	29.14 LCY	Adjusted Capacity:	29.00	LCY

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: 1.00 Minutes 0.60 Minutes

Job Condition Correction:

Site Altitude: 6720 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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res	Velocity (fpm)	Travel Time (min)
1	600.00	-10.00	8.00	-2.00	2972	0.26

Haul Time: 0.26 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res	Velocity (fpm)	Travel Time (min)
1	600.00	10.00	8.00	18.00	832	0.74

Return Time: 0.74 minutes

Total Scraper team cycle time: 2.60 minutes

Adjusted for job conditions: 1,110.92 LCY/Hour Selected Number of Scrapers: 2 Scraper(s)

Adjusted single scraper team (unit) hourly production: 1,110.92 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,110.92 LCY/Hour

Unadjusted unit production/hour: 1,338.46 LCY/Hour Optimal Number of Scrapers per push dozer:

**JOB TIME AND COST** 

 Fleet size:
 1
 Team(s)
 Total job time:
 40.86
 Hours

 Unit cost:
 \$0.658
 /LCY
 Total job cost:
 \$29,885.45

# **BULLDOZER WORK**

Task description:		West highwall reduction	ı, Phas	e 1, cut and fill	,.	
e: Craig Pit	<del></del>	Permit Acti	on: _2	014 Inspection	Permit/Job#:	M1976027
PROJECT IDEN	TIFIC	CATION				
Task #: 004		State: Color	ađo		Abbreviation:	None
Date: 3/24/2	2014	County: La Pla			Filename:	M027-004
User: KAP				***************************************	~ =====================================	1.11
A		DDMC				
Agency or	organiz	zation name: <u>DRMS</u>	**************************************			
HOURLY EQUI	<u>PMEN</u>	IT COST				
Basic Machine:	Cat D	98T - 8SU				
Horsepower:	310					
Blade Type:	Semi-	-Universal				
Attachment:	3-sha	nk ripper				
Shift Basis:	1 per	day				
Data Source:	(CRG	i)				
Cost Breakdown:						
				Utilization %		
Ownership Cost/He		\$63.00		NA		
Operating Cost/He		\$104.03		100		
Ripper op. Cost/He	our: _	\$1.63		25		
Operator Cost/He	our:	\$37.41		NA		
Total unit Cost/Hou	r:	\$206.08				
Total Fleet Cost/Hou	******	\$206.08				
	******					
MATERIAL QUA	<u>ANTIJ</u>	<u> </u>				
To it is I Walson	1 400					
Initial Volume:  Swell factor:	1,480 1.090					
		CV				
Loose volume.	1,613 I	<u>.CI</u>				
Source of estimated			mation,	Mining & Safety		
Source of estimated	swell fa	actor: Cat Handbook		***************************************		
HOURLY PROD	<u>UCTI</u>	<u>ON</u>				
Average push distant	ce:	50 feet				
Unadjusted hourly p	roductio	on: 1,400.0 LCY/hr		<del></del>		
				AAAAAAAAA		
Materials consistency	y descri	iption: Compacted fill	or emb	ankment 0.9		
Average push gradie	nt: ·	-25 %				
Average site altitude	:	6,720 feet				
Material weight:		2,400 lbs/LCY			<u></u>	
Weight description:		Clay and gravel - Dry				
Job Condition Correct	ction Fa	actor		Source		
	ator Ski		!	(AVG.)		
Material co				(CAT HB))		
	g metho			(SLOT)	· · · · · · · · · · · · · · · · · · ·	

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7811

Adjusted unit production: 1,093.54 LCY/hr
Adjusted fleet production: 1093.54 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.188/LCY

Total job time: 1.48 Hours
Total job cost: \$304.02

#### SCRAPER TEAM WORK

Task description: Haul and Place West OVB Stockpile Along West Berm Site: Craig Pit Permit Action: 2014 Inspection Permit/Job#: M1976027 PROJECT IDENTIFICATION Task #: 005 State: Colorado Abbreviation: None 3/28/2014 Date: County: La Plata Filename: M027-005 User: KAP Agency or organization name: DRMS HOURLY EQUIPMENT COSTShift basis: 1 per day Equipment Description -Scraper: Cat 637G w/push-pull -Dozer: NA Support Equipment -Load Area: NA -Dump Area: NA Road Maintenance - Motor Grader: NA -Water Truck: NA Cost Breakdown: Scraper Work Team Support Equipment Maintenance Equipment Scraper Dozer Load Area Water Truck Dump Area Motor Grader %Utilization-machine: 100 NA NA NA NA NA Ownership cost/hour: \$100.38 NA NA NA NA NA Operating cost/hour: \$235.35 NA NA NA NA NA Ripper op. cost/hour: NA NA NA NA NA NA Operator cost/hour: \$30.02 NA NA NA NA NA Unit Subtotals: \$365.75 NA NA NA NA NA Number of Units: 2 0 0 0 0 0 Group Subtotals: Work: \$731.50 Support: \$0.00 Maint: \$0.00 Total work team cost/hour: \$731.50 **MATERIAL QUANTITIES** Initial volume: 1,296 **CCY** Swell factor: 1.110 Loose volume: 1,439 LCY Source of estimated volume: Division of Reclamation, Mining & Safety Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION Scraper Bowl (volume) Basis: Material weight: 2,800 lbs/LCY Struck Volume: 24.00 LCY Material description: Clay - Natural bed Heaped Volume: 34.00 LCY Average Volume: Rated Payload: 81,600 pounds 29.00 LCY

Payload Capacity: 29.14 LCY

LCY

Adjusted Capacity: 29.00

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: 1.00 Minutes 0.60 Minutes

Job Condition Correction:

Site Altitude: 6720 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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res	Velocity (fpm)	Travel Time (min)
1	200.00	0.00	8.00	8.00	1131	0.23

Haul Time: 0.23 minutes

Return Route:

Seg	# Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res	Velocity (fpm)	Travel Time (min)
1	200.00	0.00	8.00	8.00	1931	0.19

Return Time: 0.19 minutes Total Scraper team cycle time: 2.02 minutes Adjusted for job conditions: 1,429.90 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,429.90 LCY/Hour LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,429.90 LCY/Hour

Unadjusted unit production/hour: 1,722.77 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 1.01 Hours Unit cost: \$0.512 /LCY

Total job cost: \$735.93

# **BULLDOZER WORK**

: Craig Pit		Per	mit Action:	2014 Inspection	Permit/Job#:	M1976027
PROJECT IDEN	<b>FIFICATION</b>	[				
Task #: 006		State:	Colorado		Abbreviation:	None
Date: 3/24/20	014	County:	La Plata		Filename:	M027-006
User: KAP	VX	Country.	Lat I I I I I I		r nename.	141027-000
***************************************			22.60			
Agency or o	organization nan	ne: Di	RMS	- 1-A-1-A-1-A-1-A-1-A-1-A-1-A-1-A-1-A-1-		
HOURLY EQUIP	MENT COST	<u>T</u>				
Basic Machine:	Cat D8T - 8SU	ſ				
Horsepower:	310					
Blade Type:	Semi-Universa	Ī	·	<del></del>		
Attachment:	3-shank ripper			<del></del>		
Shift Basis:	1 per day		***************************************	<del></del>		
Data Source:	(CRG)			·······		
Cost Breakdown:				<del></del>		
				Utilization %		
Ownership Cost/Ho		\$63.00		NA		
Operating Cost/Ho		\$104.03		100		
Ripper op. Cost/Ho	ur:	\$6.53		100		
Operator Cost/Ho	ur:	\$37.41		NA	<del></del>	
77 ( 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	001000			The state of the s		
Total unit Cost/Hour:	\$210.98					
	~~~~~					
Total Fleet Cost/Hour	r: <b>\$210.98</b>					
Total Fleet Cost/Hour			-1200	Accordance to the second secon		
				***************************************		
Total Fleet Cost/Hour	NTITIES			***************************************		
MATERIAL QUA Initial Volume: 2	NTITIES 24,845					
MATERIAL QUA  Initial Volume: 2  Swell factor: 1	NTITIES 24,845 1.090					
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2	24,845 1.090 27,081 LCY					
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v	24,845 1.090 27,081 LCY			on, Mining & Safety		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2	24,845 1.090 27,081 LCY	Division ( Cat Hand		on, Mining & Safety		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v	24,845 1.090 27,081 LCY			on, Mining & Safety		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v	24,845 1.090 27,081 LCY colume: I well factor:			on, Mining & Safety		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU	24,845 1.090 27,081 LCY rolume: I well factor: G	Cat Hand		on, Mining & Safety		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU	24,845 1.090 27,081 LCY rolume: I well factor: C UCTION e: 50	Cat Hand feet	book	on, Mining & Safety		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU	24,845 1.090 27,081 LCY rolume: I well factor: C UCTION e: 50	Cat Hand	book	on, Mining & Safety		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU  Average push distance Unadjusted hourly pro	24,845 1.090 27,081 LCY rolume: I well factor: C  UCTION e: 50 oduction: 1,4	Cat Hand feet 00.0 LC	book Y/hr			
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU	24,845 1.090 27,081 LCY rolume: I well factor: C  UCTION e: 50 oduction: 1,4	Cat Hand feet 00.0 LC	book Y/hr	on, Mining & Safety		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU  Average push distance Unadjusted hourly pro	24,845 1,090 27,081 LCY rolume: I well factor: C	Cat Hand feet 00.0 LC	book Y/hr			
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU  Average push distance Unadjusted hourly pro  Materials consistency  Average push gradien	24,845 1.090 27,081 LCY rolume: I well factor: C  UCTION e: 50 oduction: 1,4 description:	Cat Hand feet 00.0 LCY	book Y/hr			
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU  Average push distance Unadjusted hourly pro	24,845 1,090 27,081 LCY rolume: I well factor: C	Cat Hand feet 00.0 LCY	book Y/hr			
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU  Average push distance Unadjusted hourly pro  Materials consistency  Average push gradien	24,845 1.090 27,081 LCY rolume: I well factor: C  UCTION e: 50 oduction: 1,4 description:	feet 00.0 LCY	book Y/hr			
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU  Average push distance Unadjusted hourly pro  Materials consistency  Average push gradien Average site altitude:  Material weight:	24,845 1.090 27,081 LCY rolume: I well factor: C  UCTION  e: 50 oduction: 1,4 description: t: 0 % 6,720 feet 2,400 lbs/	feet 00.0 LCY Compac	book Y/hr cted fill or er			
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU  Average push distance Unadjusted hourly pro  Materials consistency  Average push gradien Average site altitude:  Material weight:  Weight description:	24,845 1,090 27,081 LCY rolume: I well factor: C  UCTION e: 50 oduction: 1,4 description: t: 0 % 6,720 feet 2,400 lbs/	feet 00.0 LCY Compac	book Y/hr cted fill or er	nbankment 0.9		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average site altitude: Material weight: Weight description: Job Condition Correct	24,845 1,090 27,081 LCY rolume: I well factor: C  UCTION e: 50 oduction: 1,4 description: at: 0 % 6,720 feet 2,400 lbs/ Clay and s tion Factor	feet 00.0 LCY Compac	book  Y/hr  cted fill or er	nbankment 0.9		
MATERIAL QUA  Initial Volume: 2 Swell factor: 1 Loose volume: 2 Source of estimated v Source of estimated s  HOURLY PRODU Average push distance Unadjusted hourly pro Materials consistency Average push gradien Average site altitude: Material weight: Weight description: Job Condition Correct	24,845 1.090 27,081 LCY rolume: I well factor: C  UCTION e: 50 oduction: 1,4 description: t: 0 % 6,720 feet 2,400 lbs/ Clay and s tion Factor tor Skill:	feet 00.0 LCY Compac	book Y/hr cted fill or er	nbankment 0.9		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5153

Adjusted unit production: 721.42 LCY/hr
Adjusted fleet production: 721.42 LCY/hr

### JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.292/LCY

Total job time: 37.54 Hours
Total job cost: \$7,920.03

# SCRAPER TEAM WORK

Task description:	Haul and	Place West OVB	Stockpile Along	West Berm		
Site: Craig Pit		Permit Action	: 2014 Inspection	n Pei	rmit/Job#: M197	6027
PROJECT IDEN	<u> </u>				***************************************	
Task #: 007		State: Colorado	)	Abbre	eviation: None	
Date: 3/28/20	014 Co	ounty: La Plata		<del>,,,,,</del>	lename: M027-	007
User: KAP	<del></del>					
Agency or o	organization name	: DRMS				
HOURLY EQUIP	MENT		COSTS	hift basis: 1 per o	day	
		Equipn	ent Description			
***************************************	-2		7G w/push-pull			<del> </del>
		-Dozer: NA				
Suppo	rt Equipment -Loa	nd Area: NA up Area: NA	······································			
Road Mai	intenance – Motor			······································		COTTO CONTRACTOR AND ADMINISTRATION OF THE PROPERTY OF THE PRO
- 11 - 11 - 11 - 11 - 11 - 11 - 11 - 1	-Water	r Truck: NA				
Court Down to the		1 70				
Cost Breakdown:	Scraper Wo Scraper	Dozer Dozer	Support Equi Load Area	pment Dump Area	Maintenance Motor Grader	Equipment Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$100.38	NA	NA	NA	NA	NA
Operating cost/hour:	\$235.35	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$365.75	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$731.50	Support:	\$0.00	Maint:	\$0.00
Total work team cost/						
Initial volume: Loose volume:	12,100 13,613	CCY LCY	Swell fact	or: 1.125		
	ce of estimated vo	<del></del>	of Reclamation, I	Mining & Safat		
	f estimated swell t	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		wining & Salety		
HOURLY PRODU	CTION					
			Scraper Bo	owl (volume) Bas	<u>is:</u>	
Material weight:	2,550 lbs/LCY		Struck '	Volume: 24.00	L	CY
Material description:	Earth - Dry packs	ed	Heaped '	Volume: 34.00	L	CY
Rated Payload:	81,600 pounds		Average \			CY
Payload Capacity:	32.00 LCY		Adjusted C	apacity: <b>29.00</b>	LO	CY

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: 1.00 Minutes 0.60 Minutes

Job Condition Correction:

Site Altitude: 6720 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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res	Velocity (fpm)	Travel Time (min)
1	350.00	-10.00	8.00	-2.00	2972	0.16

Haul Time: 0.16 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res	Velocity (fpm)	Travel Time (min)
1	350.00	10.00	8.00	18.00	832	0.44

Return Time: 0.44 minutes Total Scraper team cycle time: 2.20 minutes Adjusted for job conditions: 1,312.91 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 1,312.91 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,312.91 LCY/Hour

Unadjusted unit production/hour:	1,581.82	LCY/Hou
Optimal Number of Scrapers per push dozer:		

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	10.37	Hours
Unit cost:	\$0.557	/LCY	Total job cost:	\$7,584.34	

# **REVEGETATION WORK**

Task description:

Revegetation 9.8 acres of mild slope areas

Site: Craig Pit

Permit Action: 2014 Inspection

Permit/Job#: M1976027

#### **PROJECT IDENTIFICATION**

Task #:

008

State:

Colorado

Abbreviation:

None

Date: User:

3/24/2014 KAP

County:

La Plata

Filename:

M027-008

Agency or organization name: DRMS

#### **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.33	\$65.40
			Total Fertilizer Materials	
		L	Cost/Acre	\$65.40

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
Pubescent Wheatgrass - Luna	6.00	12.40	\$13.44
Streambank Wheatgrass - Sodar	7.00	22.82	\$29.47
Western Wheatgrass - Arriba	6.00	15,15	\$22.08
Totals Seed Mix	19.00	50.37	\$64.99

Application

Description		Cost /Acre
Drill seeding (DRMS Cost Data)		\$88.20
	Total Seed Application Cost/Acre	\$88.20

# **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$1.23	\$1.23
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre			**	\$531.23

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$65.89
Weed spray, truck, non-aquatic area, nox. [DMG]		\$61.49
	Total Mulch Application Cost/Acre	\$127.38

#### **NURSERY STOCK PLANTING**

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

# **JOB TIME AND COST**

No. of Acres: 9.8

Cost /Acre: \$1,027.92 Cost /Acre\*: \$1,027.92

Estimated Failure Rate: 25% Cost /Ac \*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,MU

LCHING

Initial Job Cost: \$10,073.62

Reseeding Job Cost: \$2,518.40

Total Job Cost: \$12,592.02

Job Hours: 10.00

### **REVEGETATION WORK**

Task description:

Revegetation 5.2 acres of 2H:1V slopes

Site: Craig Pit Permit Action: 2014 Inspection Permit/Job#: M1976027

#### PROJECT IDENTIFICATION

Task #: 009 State: Colorado Abbreviation: None

Date: 3/24/2014 County: La Plata Filename: M027-009

User: KAP

Agency or organization name: \_\_DRMS

### **FERTILIZING**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.33	\$65.40
			Total Fertilizer Materials Cost/Acre	\$65.40

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
Chisel plowing {DMG}		\$88.58
	Total Tilling Cost/Acre	\$88.58

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Pubescent Wheatgrass - Luna	12.00	24.79	\$26.88
Streambank Wheatgrass - Sodar	14.00	45.64	\$58.94
Western Wheatgrass - Arriba	12.00	30.30	\$44.16
Totals Seed Mix	38.00	100.73	\$129.98

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$847.24
Total Seed App	lication Cost/Acre \$847.24

#### **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch tackifier, <15 ac. {Materials Only}	1.00	ACRE	\$153.53	\$153.53
Hydromulch, 1 ton/ac. rate {Materials Only}	1.00	ACRE	\$153.53	\$153.53
Total Mulch Materials Cost/Acre				\$307.06

**Application** 

Description		Cost /Acre
		\$
	Fotal Mulch Application Cost/Acre	\$0.00

#### **NURSERY STOCK PLANTING**

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

### **JOB TIME AND COST**

No. of Acres: 5.2

Cost /Acre: \$1,490.97 Cost /Acre\*: \$1,490.97 Estimated Failure Rate: 25%

\*Selected Replanting Work Items: FERTILIZING, TILLING, SEEDING, MU

LCHING

Initial Job Cost: \$7,753.04

Reseeding Job Cost: \$1,938.26

Total Job Cost: \$9,691.31 Job Hours: 10.00

# **EQUIPMENT MOBILIZATION/DEMOBILIZATION**

	Task description:	Mobilize	<del></del>	
~	~	The state of the s		

Site: Craig Pit Permit Action: 2014 Inspection Permit/Job#: M1976027

#### PROJECT IDENTIFICATION

Task #:010State:ColoradoAbbreviation:NoneDate:3/24/2014County:La PlataFilename:M027-010

User: KAP

Agency or organization name: DRMS

#### **EQUIPMENT TRANSPORT RIG COST**

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,

400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER

(25T, 50T, AND 100T)

#### Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$16.63	\$18.37	\$22,33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

#### **NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU Cat 637G w/push- pull	53.08 59.59	\$63.00 \$100.38	\$125.45 \$125.45	2	\$376.91 \$451.67	\$250.90 \$250.90	\$0.00 \$0.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$0.00
Hydroseeder with Tractor	28.00	\$65.89	\$117.55	1	\$183.44	\$117.55	\$0.00

Subtotals: \$1,140.28 \$708.02 \$0.00

#### **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.	\$15.34	1	\$15.34	\$15.34

Subtotals: \$15.34 \$15.34

# **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	DURANGO	
Total one-way travel distance:	6.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *  '* two round trips with haul rig:  Total Roadable Mob/Demob Cost **  ** one round trip, no haul rig:	\$5,054.00 \$4.09	

### Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.13	0.13
Return Time (Hours):	0.13	0.13
Loading Time (Hours):	1.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	2.27	0.27

### **JOB TIME AND COST**

Total job time:	4.53	Hours
Total job cost:	\$5,058.09	