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

July 5, 2012

Tim Pierce Consultant Alan and Wesley Chiles Rimrock Exploration and Development, Inc. P.O. Box 430 Nucla, Colorado 81424



John W. Hickenlooper Governor

Mike King Executive Director

Loretta Piñeda Director

RE: Prince Albert Mine, 110d Designated Mining Operation Permit Application, No. M-2011-040, Reclamation Liability Estimate.

Dear Mr. Pierce and Chiles,

The Division of Reclamation, Mining, and Safety (Division) is completing the review process of the above referenced 110d application. Based on the application's mine and reclamation plans, corrections, and clarifications staff has estimated the initial reclamation liability to reclaim the site. (Copy Enclosed). The initial reclamation liability is estimated to be \$46,130.00.

A copy of the estimate has been forwarded to the Bureau of Land Management (BLM). Per the Memo of Understanding the BLM must concur on the amount for the bond. However, BLM has elected not initiated its review process concurrently to the Division's. Therefore, the Division will request BLM concur in writing on the current estimate with the understanding that once their Plan of Operation review is completed adjustments may be made at that time if necessary.

Currently the decision date is set for July 13, 2012. Please note that the 365 day limit for this application is July 25, 2012.

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, by telephone at 970.241.1117, or by e-mail at russ.means@state.co.us.

Sincerely,

burell Means

G. Russell Means Senior Environmental Protection Specialist Grand Junction / Durango Field Office Supervisor

EC: Rob Ernst, BLM Uncompanyer Field Office, Montrose, CO

Enclosed: Initial Reclamation Liability Estimate

COST SUMMARY WORK

Permit Action:	Initial Reclamation
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Site: Prince Albert Mine

Liability Estimate -2012

Permit/Job#: M2011040

PROJECT IDENTIFICATION

Task #:	000	State:	Colorado	Abbreviation:	None
Date:	7/5/2012	County:	Montrose	Filename:	M040-000
User:	GRM	_			

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	
145K	Description	Used	Size	Hours	Cost
001	ore pad wash down	MISCTRUK	1	16.00	\$1,104.00
002	remove sediments from ore pad to portal, misc.	LOADER	1	4.65	\$400.00
	earthwork				
003	cap ore stockpile area	DOZER] 1	11.74	\$1,493.07
004	demo fans, remove mine support structures	DEMOLISH	1	16.00	\$2,951.88
005	seal portal and vent shaft	MINESEAL	1	20.00	\$4,037.00
006	seal monitor well and utility drop	BOREHOLE] 1	8.00	\$415.39
007	grade out stormwater structures	DOZER] 1	26.64	\$3,497.83
008	grade out 3:1 slopes on primary waste pile	DOZER] 1	14.12	\$1,854.44
009	rip access roads, utility, and waste pile compacted	RIPPER] 1	4.33	\$575.00
	areas				
010	spread topsoil over site	LOADER] 1	27.45	\$2,360.00
011	grade out 3:1 slopes on secondary waste pile	DOZER] 1	6.81	\$894.14
012	spread topsoil secondary waste pile	DOZER	1	5.32	\$698.29
013	Revegetation of 5 acres of disturbed lands	REVEGE] 1	24.00	\$9,718.35
014	mobilization ot site	MOBILIZE	1	3.80	\$2,656.82
		SUBTO	TALS:	188.86	\$ \$32,656.21

INDIRECT COSTS

OVERHEAD AND PROFIT:

Performance bond: 1.05 Total = \$342.89 Job superintendent: 94.43 Total = \$5,599.70 Profit: 10.00 Total = \$3,265.62 TOTAL O & P = \$9,867.87 CONTRACT AMOUNT (direct + O & P) = \$42,524.08	Liability insurance:	2.02	Total =	\$659.66
Profit:10.00Total =\$3,265.62TOTAL O & P =\$9,867.87	Performance bond:	1.05	Total =	\$342.89
TOTAL O & P = \$9,867.87	Job superintendent:	94.43	Total =	\$5,599.70
	Profit:	10.00	Total =	\$3,265.62
CONTRACT AMOUNT (direct + $O \& P$) = \$42,524.08			TOTAL O & P =	\$9,867.87
			CONTRACT AMOUNT (direct + O & P) =	\$42,524.08

Task # 000

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			\$2,126.20
CONTINGENCY:	3.00		Total =	\$979.69
		TOTAL IND	IRECT COST =	\$13,473.76
TOTAL BO	OND AN	10UNT (dire	ect + indirect) =	\$46,130.00

MISCELLANEOUS TRUCK WORK

Task description: Ore	pad wash down			
ite: Prince Albert Mine	Permit Action:	Initial Reclamation Liability Estimate - 2012		M2011040
PROJECT IDENTIFICA	TION			
Task #: 001 Date: 7/3/2012 User: GRM	State: Colorado County: Montros		Abbreviation: Filename:	None M040-001
Agency or organization	name: DRMS			
HOURLY EQUIPMENT	<u>COST</u>			
Make and Model:Wate Attachment 1: Attachment 2:	er Tanker, 3,500 Gal.		Horsepow Shift Bas Weig	is: 1 per day
Labor Unit 1: Spec Labor Unit 2:	ialty Truck Driver			(US Tons)
Cost Breakdown:				
Ownership Cost/Hour:	\$10.97	Utilization % NA		
Operating Cost/Hour:	\$35.80	100		
Operator Cost/Hour:	\$22.23	NA		
Total Unit Cost/Hour:	\$68.99			
Total Fleet Cost/Hour:	\$68.99			
JOB TIME AND COST				
Fleet size:1	Truck(s)	Total job time	16.00	Hours
Unit cost:\$68.99	/Hour	Total job cost	\$1,104.0	0

WHEEL LOADER - LOAD AND CARRY WORK

ROJECT IDENTIFICATION Task #: 002 State: Colorado A Date: 7/3/2012 County: Montrose A User: GRM Agency or organization name: DRMS OURLY EQUIPMENT COST Basic Machine: CAT 446D Horsepowr	Abbreviation: Filename:	None M040-002
Date: 7/3/2012 County: Montrose User: GRM Agency or organization name: DRMS OURLY EQUIPMENT COST		
User: GRM Agency or organization name: DRMS OURLY EQUIPMENT COST	Filename:	M040-002
Agency or organization name: DRMS OURLY EQUIPMENT COST		
OURLY EQUIPMENT COST		
Basic Machine: CAT 446D Horsepow		
	/er:	101
Attachment 1: ROPS Cab Shift Bas		per day
Data Source	rce: ()	CRG)
st Breakdown:		
Utilization %		
Ownership Cost/Hour: \$17.87 NA		
Operating Cost/Hour: \$29.61 100		
Operator Cost/Hour: \$38.49 NA		
Total Unit Cost/Hour: \$85.97		
Total Fleet Cost/Hour: \$85.97		
ATERIAL QUANTITIES		
Initial volume: 500 CCY Swell factor: 1.000	0	
Loose volume: 500 LCY		
Source of estimated volume: Division of Reclamation, Mining & S	Safety	
Source of estimated swell factor: Cat Handbook		
OURLY PRODUCTION		
ader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver):	0.475	minutes
Cycle Time Factors Fac	Cactor (min.) 0.020	Source (Cat HB)
Stockpile: No adjustment - factor not applicable 0.00	0.020	(Cat HB)
storighter i to aujustitent installing applicable 0.00	0.000	(Cat HB)
Truck Ownership: No adjustment - factor not applicable 0.00	0.040	(Cat HB)
Truck Ownership: No adjustment - factor not applicable 0.00 Operation: Inconsistent operation 0.04	0.040	
	0.040	(Cat HB)
Operation: Inconsistent operation 0.04		(Cat HB) minutes
Operation: Inconsistent operation 0.04 Dump Target: Small target 0.04	0.040	· · · · · · · · · · · · · · · · · · ·

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
 Haul Route:	150	2.00	4.00	6.00	0.1164	(Cat HB)

Loader Worksheet Cont'd	1	Task #	002		Page 2 of 2
Return Route:	150 -2	2.00 4	4.00 2	2.00 0.0740	(Cat HB)
Load Bucket Capacity			Total Travel T Total Cycle T		minutes minutes
Rated Capacity Bucket Fill Factor Adjusted Capacity Job Condition Correction Site Altitude: <u>5900</u> feet	:: 1.100 :: 1.65	LCY (heap Other - roc LCY	oed) k/dirt mixtures	(100-120%) 1.100	
А	1.00 0.83 0.83 djusted Hourly Un djusted Hourly Un	it Production:		LCY/Hour LCY/Hour LCY/Hour	
JOB TIME AND COS Fleet size:	ST Loader(s)	Total job time:	4.66	Hours
Unit cost:\$0.3	801 /LCY		Total job cost:	\$400.00	

BULLDOZER WORK

	Cap ore stockpile				2
: Prince Albert Mine	Perm	nit Action:	Initial Reclamation Liability Estimate - 2012	Permit/Job#:	M2011040
PROJECT IDENTIF	ICATION				
Task #: 003 Date: 7/3/2012 User: GRM	State: County:	Colorado Montrose		Abbreviation: Filename:	None M040-003
Agency or orga	nization name: DR	MS			
HOURLY EQUIPME					
	t D6T				
Horsepower: 18					
	mi-Universal				
Attachment: NA	1				
	er day				
Data Source: (Cl	RG)				
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour:	\$31.46		NA		
Operating Cost/Hour:	\$57.18		100		
Ripper op. Cost/Hour:	\$0.00		0		
Operator Cost/Hour:	\$38.49		NA		
Total Fleet Cost/Hour: MATERIAL QUANT					
Initial Volume: Swell factor:					
Looso volumes 1.00	00 LCY				
Loose volume: 1,00					
Source of estimated volu Source of estimated swel	me: Division o		ion, Mining & Safety		
Source of estimated volu	me: Division of Cat Hand		ion, Mining & Safety		
Source of estimated volu Source of estimated swel	me: Division of Cat Handl	book	ion, Mining & Safety		
Source of estimated volu Source of estimated swel HOURLY PRODUCT Average push distance:	me: Division of Cat Handle Cat Handle Division of Cat Handle Cat Handle Division of Cat Han	book	ion, Mining & Safety		
Source of estimated volu Source of estimated swel HOURLY PRODUC Average push distance: Unadjusted hourly produ	me: Division of Cat Handle Cat Handle Division of Cat Handle Cat Handle Division of Cat Han	book			
Source of estimated volu Source of estimated swel HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient:	me: Division of Cat Handl TION action: 150 feet 212.5 LCY/ scription: Rock, v -5 %	book			
Source of estimated volu Source of estimated swell HOURLY PRODUC Average push distance: Unadjusted hourly produ Materials consistency de Average push gradient: Average site altitude:	me: Division of Cat Handl TION action: 150 feet 212.5 LCY/ scription: Rock, v -5 % 5,900 feet	book			

Material consistency:	0.800	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4007

Adjusted unit production:	85.15 LCY/hr
Adjusted fleet production:	85.15 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$1.493/LCY

Total job time:	11.74 Hours
Total job cost:	\$1,493.07

SAFEGUARDING UNDERGROUND OPENINGS

Site:	Prince Albert Mine		Permit Action:	Initial Reclamation Liability Estimate - 2012	Permit/.	Job#: <u>M2011040</u>
<u>ROJEC</u>	T IDENTIFICATIO	<u>DN</u>				
	005	State:	Colorado		Abbreviation:	None
Task #:	005				1011	1010 005
Task #: Date:	7/3/2012	County:	Montrose		Filename:	M040-005

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
main portal	10 X 10	Adit closure - backfilling (per opening)	1.00	EA	\$1,852.00	\$1,852.00
main vent shaft	48" dia	Shaft closure - polyurethane foam plug (per cu. yd.)	9.50	CY	\$230.00	\$2,185.00

Job Hours: _____ 20.00

Total Cost: \$4,037.00

DEMOLITION WORK

Task description	n: Dem	o fans, remove mine supp	ort structures			
Site: Prince Alber	t Mine	L	nitial Reclamation iability Estimate - 012	P	Permit/Job#:	M2011040
PROJECT IDENTI	FICATION					
Task #: 004 Date: 7/3/2012 User: GRM Agency	c c	State: Colorado ounty: Montrose me: DRMS		Abbrevia Filen	ation: None aame: M040	-004
UNIT COSTS				Locatio	n adjustment:	96.90 %
Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
misc work	5 X 5	CAT 446D	16.00	1	\$85.97	\$1,375.52
misc lifting / loading	n/a	Grove GMK3055, 141 54.4MT	', 8.00	EA	\$200.07	\$1,600.56
misc storage units, etc	n/a	Loading and 5 mile has salvage allowed - Steel frame structures		СҮ	\$8.78	\$70.24
Job Hours:	16.00	Subtotal (unadjusted):	\$3,046.32	(ad	Fotal Cost justed for location):	\$2,951.88

BOREHOLE SEALING WORK

Site	Prince Albert Mine		Permit Action:	Initial Reclamation Liability Estimate - 2012	Permit/.	Job#: M2011040
0100.	r intee moert frine			2012		
ROJEC Task #:	CT IDENTIFICATIO	<u>DN</u> State:	Colorado		Abbreviation:	None
			Colorado Montrose		Abbreviation: Filename:	None M040-006

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
monitor well	Bentonite seal - 6 in. (labor, equip, materials)	6	435	1.00	EA	\$181.28	\$181.28
cement plug	Portland cement grout - 6 in. (labor, equip, materials)	6	6	6.00	LF	\$10.69	\$64.14
utility drop plug	Portland cement grout - 6 in. (labor, equip, materials)	6	6	6.00	LF	\$10.69	\$64.14
utlility drop - backfill	General laborer - Colorado (total incl. fringes, empl. burden)	6	20	4.00	HR	\$26.46	\$105.84

 Job Hours:
 8.00
 Total Cost:
 \$415.40

Page 1 of 2

BULLDOZER WORK

10	sk description:	Grade	out storm	water struc	tures		
:	Prince Albert Mine		Perr	nit Action:	Initial Reclamation Liability Estimate - 2012	Permit/Job#:	M2011040
PI	ROJECT IDENTI	FICATIO	N				
	Task #: 007		State:	Colorado		Abbreviation:	None
	Date: $7/3/2012$		County:	Montrose		Filename:	M040-007
	User: GRM						
	Agency or org	ganization na	ime: DR	MS			
H	OURLY EQUIPM	<u>IENT COS</u>	<u>5T</u>				
	Basic Machine:	Cat D6T					
	A	85					
		Semi-Univers					
		shank rippe	r				
		per day					
		CRG)					
<u>Cc</u>	ost Breakdown:				· · · · · · · · · · · · · · · · · · ·		
			<u> </u>		<u>Utilization %</u>		
	Ownership Cost/Hour		\$34.23		NA		
	Ripper op. Cost/Hour	ating Cost/Hour: \$57.18 100	50				
1	Operator Cost/Hour		\$1.40 \$38.49		NA		
M	ATERIAL QUAN	NTITIES					
1	Initial Volume: 1,0	000					
		125					
	Loose volume: 1,	125 LCY					
	ource of estimated vo ource of estimated sw		Division Cat Hand	and the second sec	ion, Mining & Safety		
		CTION					
H	OURLY PRODU	CHUN					
A١	OURLY PRODUCE verage push distance: nadjusted hourly proc	: 2	50 feet 19.6 LCY/	'hr			
Av Ur	verage push distance:	: _2 duction: _1	19.6 LCY/	'hr idated stockj	pile 1.0		
Av Ur M	verage push distance: nadjusted hourly proc aterials consistency o	: 2 duction: 1 description:	19.6 LCY/		pile 1.0		
Av Ur M	verage push distance: nadjusted hourly proc	: 2 duction: 1 description:	19.6 LCY/ Consol		pile 1.0		
Av Ur M Av	verage push distances nadjusted hourly proc aterials consistency c verage push gradients	:2 duction: description: :10 %	19.6 LCY/ Consol		pile 1.0		
Av Ur M Av Av	verage push distances nadjusted hourly prod aterials consistency overage push gradients verage site altitude:	: <u>2</u> duction: <u>1</u> description: : <u>10 %</u> <u>5,900 fe</u> <u>2,550 lb</u>	19.6 LCY/ Consol	idated stockj	pile 1.0		

Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production:	42.23 LCY/hr	
Adjusted fleet production:	42.23 LCY/hr	

Fleet size:	1 Dozer(s)	
Unit cost:	\$3.109/LCY	

Total job time:	26.64 Hours
Total job cost:	\$3,497.83

Page 1 of 2

BULLDOZER WORK

	Task description: Grade out 3:1 slopes on primary waste pile				
: Prince Albert Mine	Perr	nit Action:	Initial Reclamation Liability Estimate - 2012	Permit/Job#:	M2011040
PROJECT IDENTII	FICATION				
Task #: 008	State:	Colorado		Abbreviation:	None
Date: 7/3/2012	County:	Montrose		Filename:	M040-008
User: GRM					
Agency or orga	anization name:DR	LMS			
HOURLY EQUIPM	ENT COST				
	at D6T				
Horsepower: 18					
J 1	emi-Universal				
	shank ripper				
	per day CRG)				
Cost Breakdown:		23	T.111 .1 0/		
Our anthin Coat/I laur	£24.22		Utilization %		
Ownership Cost/Hour: Operating Cost/Hour:			NA 100		
Ripper op. Cost/Hour:			50		
•• •	the second se		50		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour:	\$38.49 \$131.30 \$131.30		NA		
Total unit Cost/Hour:	\$131.30 \$131.30		NA		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: <u>1,0</u>	\$131.30 \$131.30 TITIES 37		NA		
Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: <u>1,0</u> Swell factor: <u>1.3</u>	\$131.30 \$131.30 TITIES 37		NA		
Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: <u>1,0</u> Swell factor: <u>1.3</u>	\$131.30 \$131.30 TITIES 37 35 84 LCY ume: Division 6		ion, Mining & Safety		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1,0 Swell factor: 1.3 Loose volume: 1,3 Source of estimated volume	\$131.30 \$131.30 TITIES 37 35 84 LCY ume: Division of cat Hand				
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1,0 Swell factor: 1.3 Loose volume: 1,3 Source of estimated volu Source of estimated swell	\$131.30 \$131.30 TITIES 37 35 84 LCY ume: Division of cat Hand CTION 60 feet	book			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1,0 Swell factor: 1.3 Loose volume: 1,3 Source of estimated volu Source of estimated volu Source of estimated swee HOURLY PRODUC Average push distance:	\$131.30 \$131.30 TITIES 37 35 84 LCY ume: Division of cat Hand CTION uction: 60 feet 409.6 LCY/	book /hr			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1,0 Swell factor: 1.3 Loose volume: 1,3 Source of estimated volt 5000000000000000000000000000000000000	\$131.30 \$131.30 TITIES 37 35 84 LCY ume: Division of cat Hand CTION uction: 60 feet 409.6 LCY/	book /hr	ion, Mining & Safety		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1,0 Swell factor: 1.3 Loose volume: 1,3 Source of estimated volt Source of estimated volt Source of estimated swee HOURLY PRODUC Average push distance: Unadjusted hourly produced	\$131.30 \$131.30 \$131.30 TITIES 37 35 84 LCY ume: Division of Cat Hand 2TION auction: 60 feet 409.6 LCY/ escription: Rock, v	book /hr	ion, Mining & Safety		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1,0 Swell factor: 1.3 Loose volume: 1,3 Source of estimated volt Source of estimated volt Source of estimated swee HOURLY PRODUC Average push distance: Unadjusted hourly produced Materials consistency do Average push gradient:	\$131.30 \$131.30 TITIES 37 35 84 LCY ume: Division of ell factor: Cat Hand CTION uction: 60 feet 409.6 LCY/ escription: Rock, v 15 %	book /hr	ion, Mining & Safety		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 1,0 Swell factor: 1.3 Loose volume: 1,3 Source of estimated volu Source of estimated volu Source of estimated sweet HOURLY PRODUC Average push distance: Unadjusted hourly produced Materials consistency de Average push gradient: Average site altitude:	\$131.30 \$131.30 TITIES 37 35 84 LCY ume: Division (211 factor: Cat Hand CTION uction: 60 feet 409.6 LCY/ escription: Rock, v 15 % 5,900 feet	book /hr	ion, Mining & Safety		

Material consistency:	0.800	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:98.02 LCY/hrAdjusted fleet production:98.02 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$1.340/LCY

Total job time:	14.12 Hours
Total job cost:	\$1,854.44

Highwall reduction - cut and fill

Highwall Height (ft.)	20	
Length of Highwall (Ift.)	560	
Initial Slope	2	H:1V
Desired Slope	3	H:1V
Volume of material to be moved (ft. ³)	28,000	
Volume of material to be moved (yd. ³)	1,037	

All dimensions measured in feet Drawing not to scale



PRIMARY WASTEPile Slope Reduction

BULLDOZER RIPPING WORK

-	Task description:	Rip access roads, utility	and waste pile	compacted a	reas		_
Site:	Prince Albert Mine	Permit Acti	on: Initial Rec Liability E 2012		Permit/Job#:	M2011040	
1	PROJECT IDENTIFI	CATION			70		
1			- 1 -			News	
	Task #: 009 Date: 7/3/2012	State: Color County: Mont			Abbreviation: Filename:	None M040-009	,
	User: GRM		030		T nenume.		
	Agency or organ	ization name: DRMS					
]	HOURLY EQUIPME						
	Basic Machine:	Cat D6T		Horsep	ower:	185	
	Ripper Attachment:					per day	
				Data Se	ource: (CRG)	
9	<u>Cost Breakdown:</u>			-			
	0		* 24.22	Utilizati			
		ship Cost/Hour: ting Cost/Hour:	\$34.23 \$57.18	NA 100			
		ting Cost/Hour:	\$2.81	100			
	Oper	ator Cost/Hour:	\$38.49	NA	L		
	Total	Unit Cost/Hour:	\$132.71				
	Total I	fleet Cost/Hour:	\$132.71				
	MATERIAL QUANT	ITIES	Selected estimation	ting method:	Area		
-	Alternate Methods:						
Seismic:	NA	Bank Volur	ne: NA	BC	CY	NA	
Area:	2.50 acr	es Rip Depth (t): 1.00	Volu	me: 4,033	BC	CY or CCY
	Source	of estimated quantity: R	eclamation maps	and plans			
	HOURLY PRODUCT	ION					
1	<u>Seismic:</u>	Seismic Velocity:	NA		feet/second		
	A				leeu beechtu		
:	<u>Area:</u>	Average Ripping Depth:	1.64		mph		
		Average Ripping Width:	6.58		degrees		
	A	verage Ripping Length:	150.00		feet		
		Average Dozer Speed:	88.00		feet		
		verage Maneuver Time: _ Production per unit area:	0.25		feet acres/hour		
	Job Condition Correction		0.070				
		Hourly Unit Production:	0.696		Acres/hr		
	-	Site Altitude:	5,900	14 14 E.S. E.E.S 16	feet		
		Altitude Adj:	1.00		(CAT HB)		
		Job Efficiency:	0.83		(1 shift/day)		
		Net Correction:	0.83		multiplier		
		ljusted Hourly Unit Produc justed Hourly Fleet Produc			es/hr es/hr		
:	JOB TIME AND COS	T					
	Fleet size: 1	Grader(s)	Total jol	o time:	4.33	Hours	
	Unit cost: \$229.	Per acre	Total jo	b cost:	\$575.00		

CIRCES Cost Estimating Software

WHEEL LOADER - LOAD AND CARRY WORK

Task description:	Spread topsoil over site			
Prince Albert Mine	Permit Action:	Initial Reclamation Liability Estimate - 2012	Permit/Job#:	M2011040
PROJECT IDENTIFIC	ATION			
Task #: 010	State: Colorado		Abbreviation:	None
Date: 7/3/2012	County: Montrose		Filename:	M040-010
User: GRM				
Agency or organize	ation name: DRMS			
HOURLY EQUIPMEN	<u>r cost</u>			
Basic Machine: C.	AT 446D	Horsep	oower:	101
	OPS Cab			er day
·		Data S		CRG)
Cost Breakdown:				
Cost Dicardowii.	I.	Utilization %		
Ownership Cost/Hou	ır: \$17.87	NA		
Operating Cost/Hou		100		
Operator Cost/Hou		NA		
Total Unit Cost/Hou				
Total Fleet Cost/Ho	ur: \$85.97			
MATERIAL QUANTIT	TIES			
Initial volume: 2,50		Swell factor: 1	.000	
Loose volume:	2,500 LCY		.000	
	ated swell factor: Cat Hand	of Reclamation, Mining . lbook	& Safety	
Loader Cycle Time:	Unadjusted Basic Cycle Time	(load, dump, maneuver):	0.475	minutes
Cycle Time Factors			Factor (min.)	Source
Material:	Mixed material 0.02		0.020	(Cat HB)
Stockpile:	No adjustment - factor not		0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not		0.000	(Cat HB)
Operation:	Inconsistent operation 0.04		0.040	(Cat HB)
Dump Target:	Fragile target 0.05		0.050	(Cat HB)
				• •
	Net Cy	cle Time Adjustment:	0.110	minutes

Rolling Resistance – Road Conditions

	Rutted dirt, little maintenance, no water, 1" tire penetration 4.0
Return:	Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	250	0.00	4.00	4.00	0.1587	(Cat HB)

Loader Worksheet Cont'd

Return Route:	250	0.00	4.00 4	.00 0.1587	(Cat HB)
			Total Travel T Total Cycle T		minutes minutes
Load Bucket Capacity					
Rated Capac Bucket Fill Fact Adjusted Capac	tor: 1.10	00 Other	(heaped) - rock/dirt mixtures	(100-120%) 1.100	
Job Condition Correction Site Altitude: <u>5900</u> feet					
Altitude Adj: Job Efficiency: Net Correction:	1.00 0.83 0.83	Sou (CAT (1 shift multip	HB) t/day)		
	Adjusted Hour	ly Unit Productic ly Unit Productic y Fleet Productic	on: 91.06	LCY/Hour LCY/Hour LCY/Hour	
JOB TIME AND CO	<u>OST</u>				
Fleet size:	1 Lo	ader(s)	Total job time:	27.45	Hours
Unit cost:\$	0.944 /L0	CY	Total job cost:	\$2,360.00	

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BULLDOZER WORK

Task description:	Grade out 3:1 slopes on seco	ndary waste pile		
e: Prince Albert Mine	Permit Action:	Initial Reclamation Liability Estimate - 2012	Permit/Job#:	M2011040
PROJECT IDENTIFI	CATION			
Task #: 011			A h h	News
Date: $7/5/2012$	State: Colorado County: Montrose		Abbreviation: Filename:	None M040-011
User: GRM	County. Montrose		Thendine.	101040-011
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	NT COST			
Basic Machine: Cat	D6T			
Horsepower: 185				
Blade Type: Sen	ni-Universal			
Attachment: 3-sl	nank ripper			
	er day			
Data Source: (CR	(G)			
Cost Breakdown:				
		<u>Utilization %</u>		
Ownership Cost/Hour:	\$34.23	NA		
Operating Cost/Hour:	\$57.18	100		
Ripper op. Cost/Hour:	\$1.40	50		
Operator Cost/Hour:	\$38.49	NA		
Total unit Cost/Hour: Total Fleet Cost/Hour:	\$131.30 \$131.30			
MATERIAL QUANT	ITIES			
Initial Volume: 500				
Swell factor: 1.33	5			
Loose volume: 668	LCY			
Source of estimated volur Source of estimated swell		ion, Mining & Safety		
HOURLY PRODUCT	TION			
Average push distance: Unadjusted hourly produc	60 feet ction: 409.6 LCY/hr			
Materials consistency des	cription:Rock, well ripped of	or blasted 0.8		
Average push gradient:	15 %			
Average site altitude:	5,900 feet			
Material weight:	2,550 lbs/LCY			
Weight description:	Sandstone			
Job Condition Correction		Source		
Operator	Skill: 0.750	(AVG.)		

Material consistency:	0.800	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2393

Adjusted unit production:	98.02 LCY/hr	
Adjusted fleet production:	98.02 LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$1.340/LCY

Total job time:	6.81 Hours
Total job cost:	\$894.14

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BULLDOZER WORK

Task descri	ption:	Sprea	d topsoil se	condary wa	ste pile		
	Albert Min		Perr	nit Action:	Initial Reclamation Liability Estimate - 2012	Permit/Job#:	M2011040
: Prince A	Idert with	е			2012	_	
PROJEC	T IDENT	<u>IFICATIO</u>	<u>DN</u>				
Task #:	012		State:	Colorado		Abbreviation:	None
Date:	7/5/201	2	County:	Montrose		Filename:	M040-012
User:	GRM						
А	gency or o	rganization	name: DF	RMS			
HOURLY	Y EQUIP	<u>MENT CO</u>	<u>DST</u>				
Basic M	lachine:	Cat D6T					
	epower:	185					
	е Туре:	Semi-Univ	the second se				
	chment:	3-shank rip	per				
	ft Basis:	1 per day					
Data	Source:	(CRG)					
Cost Break	<u>kdown</u> :				6		
					Utilization %		
	ip Cost/Ho		\$34.23		NA		
	ng Cost/Ho		\$57.18		100		
	p. Cost/Hc		\$1.40				
Operato	or Cost/Ho	our:	\$38.49)	NA		
Total unit	Cost/Hour	: \$131	.30				
Total Flee	t Cost/Hou	r: \$131	.30				
MATER	IAL QUA	NTITIES					
Initial V	'olume'	500					
		1.250					
Loose v		625 LCY					
			D' :-!-		tion, Mining & Safety		
	estimated				ttion, winning & Salety		
Source of	estimated	swell factor		UUUUK			
TOTAL	VDDOD	UCTION					
HOURL	<u>Y PROD</u>	UCTION					
	oush distan		75 feet				
Unadjuste	ed hourly p	roduction:	357.1 LC	r/hr			
	• .	1	D-ut	. aonactidate	d stockpile 1.1		
Materials	consistenc	y descriptio	n: Partly	consolidate			-)
Average *	oush gradie	ent: 15%	/ 0				
	site altitude		0 feet				
A verage s	site annuul						
Material	weight:	2,55	0 lbs/LCY				
	U						
Weight d	escription:	Eart	h - Dry pack	ed			_
Job Cond	lition Corre	ection Facto	r		Source		
<u>300 Colla</u>		rator Skill:	<u> </u>	0.750	(AVG.)		

laterial consistency:	1.100	
Dozing method:		(CAT HB)
	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3291

Adjusted unit production:	Server Sorrin	
Adjusted fleet production:	117.52 LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$1.117/LCY

Total job time:	5.32 Hours
Total job cost:	\$698.29

REVEGETATION WORK

		Per	mit Action:	Initial Reclamation Liability Estimate -		
Prince Al	bert Mine			2012	Permit/Job#:	M2011040
PROJECT	IDENTIF	ICATION				
Task #:	013	State:	Colorado		Abbreviation:	None
			Colorado Montrose		Abbreviation: Filename:	None M040-013

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
None required			\$	\$
			Total Fertilizer Materials Cost/Acre	\$0.00

TILLING

Description		Cost /Acre
Chisel plowing {DMG}		\$86.71
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)		\$92.35
	Total Tilling Cost/Acre	\$179.06

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.60	9.79	\$6.25
Indian Ricegrass - Paloma	2.80	9.06	\$23.88
Crested Wheatgrass - Nordan	2.00	9.18	\$4.56
Pubescent Wheatgrass - Luna	4.00	8.26	\$8.76
Slender Wheatgrass - Pryor	2.60	9.49	\$7.85
Milk Vetch, Cicer - Lutana	0.40	1.33	\$1.99
Western Wheatgrass - Arriba	3.60	9.09	\$12.96
Needle and Thread	3.20	8.45	\$147.20
Flax, Lewis Blue	1.00	6.63	\$16.17
Saltbush, Four Wing	4.00	5.51	\$42.00
Penstemon, Palmer	0.20	4.42	\$6.07
Totals Seed Mix	24.40	81.23	\$277.69

Application

Description		Cost /Acre
Broadcast seeding [DMG]		\$255.76
	Total Seed Application Cost/Acre	\$255.76

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$15.90	\$15.90
Straw, delivered {MEANS 31 25 14.16 1200}	1.50	TON	\$164.00	\$246.00
Total Mulch Materials Cost/Acre				\$261.90

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$65.89
Power mulcher (MEANS 32 91 13.16 0250)		\$79.71
Weed spray, hand, non-aquatic area, nox. [DMG]		\$175.77
	Total Mulch Application Cost/Acre	\$321.37

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
None required					\$
		Tot	als Nursery Stoc	k Cost / Acre	\$0.00

No. of Acres:	5	Cost /Acre:	\$1,295.78	
Estimated Failure Rate:	50%	Cost /Acre*:	\$1,295.78	
*Selected Replanting Work Items:	TILLING,SEEDIN	G,MULCHING		
Initial Job Cost: \$6.478.90				

minur soo oost.	00,470.70	
Reseeding Job Cost:	\$3,239.45	
Total Job Cost:	\$9,718.35	
Job Hours:	24.00	

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Mo	bilization ot site							
: Prince Albert M	ine	Permit A			eclamatio Estimate	e -	Permit/Job#:	M201	1040
PROJECT IDEN	TIFICAT	ION							
Task #: 014		State: Co	lorado			Ał	breviation:	None	
Date: $7/5/20$	012		ontrose				Filename:	M040-	.014
User: GRM		county	5111030				i nename.	1110-10-	
Agency or	organizatior	n name: DRMS							
EQUIPMENT T	RANSPOR	<u>T RIG COST</u>				Shifi Cost Data S		l per day	
Truck	Tractor Desc	ription: GENE	ERIC ON	I-HIGH	WAY TRU		TOR, 6X4, E		
Truck	Trailer Desc	ription: GENE	RIC FOI	LDING		ECK, DRO , 50T, AND		JIPMEN	NT TRAILER
					(231	, JUI, AND	1001)		
Cost Breakdown:									
Available Rig Cap	acities	0-25 Tons	26-50	Tons	51-	+ Tons			
Ownership (\$16.63		3.37		22.33			
Operating (\$44.38		5.13		50.07			
	Cost/Hour:	\$27.66		7.66		27.66			
	Cost/Hour:	\$0.00		5.39		25.39			
Total Unit (\$88.67		7.55		25.45			
NON ROADABI	LE EQUIP	Owner ship	Haul R	Rig	Fleet	Haul Trip	Return	Ггір	DOT Permit
	Weight/ Unit		Haul R Cost/h		Fleet Size	Haul Trip Cost/hr/ fleet	Return T Cost/hr/	Trip fleet	DOT Permit Cost/ fleet
Machine	Weight/	Owner ship		r/unit		Cost/hr/	Return Cost/hr/	Trip fleet	
Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Cost/h	r/unit	Size	Cost/hr/ fleet	Cost/hr/	Frip fleet	Cost/ fleet
Machine Description CAT 246C	Weight/ Unit (TONS) 3.58	Owner ship Cost/hr/ unit \$6.39 \$17.87	Cost/h \$88.67	r/unit	Size	Cost/hr/ fleet \$95.06	\$88.67	Trip fleet	Cost/ fleet
Machine Description CAT 246C CAT 446D	Weight/ Unit (TONS) 3.58 9.80	Owner ship Cost/hr/ unit \$6.39	Cost/h \$88.67 \$88.67	r/unit	Size 1 1	Cost/hr/ fleet \$95.06 \$106.54	Cost/hr/ \$88.67 \$88.67	Frip fleet	Cost/ fleet \$0.00 \$0.00
Machine Description CAT 246C CAT 446D Cat D6T Drill/Broadcast	Weight/ Unit (TONS) 3.58 9.80 25.01	Owner ship Cost/hr/ unit \$6.39 \$17.87 \$34.23	Cost/h \$88.67 \$88.67 \$88.67	r/unit	Size 1 1 1	Cost/hr/ fleet \$95.06 \$106.54 \$122.90	Cost/hr/ \$88.67 \$88.67 \$88.67	Trip fleet	Cost/ fleet \$0.00 \$0.00 \$250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	\$69.00	1	\$69.00	\$69.00
Light Duty Pickup, 4x4, 3/4 T.	\$54.12	1	\$54.12	\$54.12
Flatbed Truck, 4x2, 30K GVW	\$62.73	1	\$62.73	\$62.73
		Subtotals:	\$185.85	\$185.85

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	NUCAL	
Total one-way travel distance:	18.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$2,489.55	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$167.27	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.45	0.45
Return Time (Hours):	0.45	0.45
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.90	0.90

Total job time:	3.80	Hours
Total job cost:	\$2,656.82	