

1313 Sherman Street, Room 215 Denver, CO 80203

January 6, 2015

Mr. Todd Fisher LBCR, LLC 1440 Blue Sage Ct. Boulder, CO 80305

Re: Ignacio Pit, Permit No. M-1992-054, Technical Revision Approval, Revision No. TR-3

Dear Mr. Fisher,

On January 5, 2015 the Division of Reclamation, Mining and Safety approved the Technical Revision application submitted to the Division on December 22, 2014, addressing the following:

Increase disturbance from 20 acres to 40 acres.

The terms of the Technical Revision No. 3 approved by the Division are hereby incorporated into this permit. All other conditions and requirements of Permit No. M-1992-054 remain in full force and effect.

The updated reclamation cost summary, enclosed herewith for your review, indicates that the required bond amount has increased. A copy has been sent to Mr. Jay Nielson at Crossfire Aggregate Services.

The updated estimated liability amount of \$117,893.26 exceeds the \$81,126.00 performance bond currently held. If you have not already done so, please submit additional bond in the amount of \$36,767.26. The revision will not be final until the bond is approved by the Division.

If you have any questions about the updated cost figures, I may be reached by phone at 970-247-5193, or by email at: <u>bob.oswald@state.co.us</u>. For all questions related to the bond itself, please contact Ms. Barbara Coria at the Division's Denver office: 303-866-3567 x 8148.

Sincerely,

Bob Oswald

Environmental Protection Specialist

Cc: Jay Nielson, Crossfire Aggregates Services, LLC, 820 Airport Road, Durango, CO 81303

Ec: Russ Means, DRMS, Grand Junction Barbara Coria, DRMS, Denver

(c:\15-01 docs\M1992054 TR-03 Appr/rco)



COST SUMMARY WORK

Task description: Cost summary

Site: Ignacio Pit Permit Action: TR-03 Permit/Job#: M1992054

PROJECT IDENTIFICATION

Task #: 100 State: Colorado Abbreviation: None

Date: 1/5/2015 County: La Plata Filename: M054-100

User: RCO

Agency or organization name: _DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
101	Reduce interior highwalls to 3:1	DOZER	1	2.55	\$669.00
102	Push overburden over graded areas	DOZER] 1	73.68	\$19,323.00
103	Carry overburden to graded areas to spread	SCRAPER1] 1	44.04	\$25,121.00
104	Spread topsoil over graded areas	DOZER	1	30.20	\$7,921.00
105	Rip compacted areas	RIPPER	1	41.01	\$11,122.00
106	Carry topsoil to graded areas to spread	SCRAPER1	1	24.83	\$14,163.00
107	Noxious weed control on 5 acres	REVEGE	1	10.00	\$1,452.00
108	Revegetate 40 acres of disturbance	REVEGE	1	30.00	\$10,540.00
109	Haul reclamation equipment to and from site	MOBILIZE] 1	4.66	\$5,112.00
		SUBTO	OTALS:	260.97	\$95,423

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02% Total = \$1,927.54

Performance bond: 1.05% Total = \$1,001.94

TOTAL O & P = \$16,380.10

CONTRACT AMOUNT (direct + O & P) = $\boxed{\$111,803.10}$

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% \$5,590.16

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$22,470.26

TOTAL BOND AMOUNT (direct + indirect) = \$117,893.26

Visibility:

Job efficiency:

1.000

0.830

(AVG.)

(1 SHIFT/DAY)

BULLDOZER WORK

: _ Ignacio Pit	Permit Action:	TR-03	Permit/Job#:	M199205
PROJECT IDENTIFICA	TION			
Task #: 101	State: Colorado		Abbreviation:	None
Date: 1/5/2015	County: La Plata		Filename:	M054-101
User: RCO			_	11105-1-101
Agency or organizat	tion name: DRMS			
HOURLY EQUIPMENT	COST			
Basic Machine: Cat D9	Γ - 9S U			
Horsepower: 405	·			
<u> </u>	niversal			
Attachment: 3-shank	ripper			
Shift Basis: 1 per da				
Data Source: (CRG)		_ _		
Cost Breakdown:		T 1411141 07		
O	001 10	Utilization %		
Ownership Cost/Hour:	\$81.10 \$143.16	NA 100	_ _	
Operating Cost/Hour: Ripper op. Cost/Hour:	\$0.00	100		
<u>—</u>		0		
Operator Cost/Hour:	\$38.01	NA		
Total Fleet Cost/Hour: \$2	262.26 262.26 ES			
	62.26			
Total Fleet Cost/Hour: \$2 MATERIAL QUANTITI Initial Volume: 2,400	ES			
Total Fleet Cost/Hour: \$2 MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume:	ES	highwall, 15 ft avg ht, fr	om TR map	
Total Fleet Cost/Hour: \$2 MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330	ES DRMS, 1200 LF vert Cat Handbook	highwall, 15 ft avg ht, fr	om TR map	
Total Fleet Cost/Hour: \$2 MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell fact HOURLY PRODUCTION	DRMS, 1200 LF vert Cor: Cat Handbook	highwall, 15 ft avg ht, fr	om TR map	
Total Fleet Cost/Hour: \$2 MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell fact HOURLY PRODUCTION Average push distance:	ES DRMS, 1200 LF vert Cat Handbook So feet	highwall, 15 ft avg ht, fr	om TR map	
Total Fleet Cost/Hour: \$2 MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell factors	DRMS, 1200 LF vert		om TR map	
MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell fact HOURLY PRODUCTION Average push distance: Unadjusted hourly production Materials consistency description	DRMS, 1200 LF vert		om TR map	
MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell fact HOURLY PRODUCTIO Average push distance: Unadjusted hourly production Materials consistency descript Average push gradient: -2	DRMS, 1200 LF vert Cat Handbook So feet 2,110.5 LCY/hr tion: Compacted fill or en		om TR map	
MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell fact HOURLY PRODUCTION Average push distance: Unadjusted hourly production Materials consistency descript Average push gradient: -2: Average site altitude: 6,2	DRMS, 1200 LF vert		om TR map	
MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell fact HOURLY PRODUCTION Average push distance: Unadjusted hourly production Materials consistency descript Average push gradient: -2: Average site altitude: 6,2 Material weight: 2,9	DRMS, 1200 LF vert	mbankment 0.9	om TR map	
MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell factor HOURLY PRODUCTIO Average push distance: Unadjusted hourly production Materials consistency descript Average push gradient: -2: Average site altitude: 6,2 Material weight: 2,9 Weight description: Description	DRMS, 1200 LF vert	mbankment 0.9 50% Earth Source	om TR map	
MATERIAL QUANTITI Initial Volume: 2,400 Swell factor: 1.330 Loose volume: 3,192 LC Source of estimated volume: Source of estimated swell fact HOURLY PRODUCTION Average push distance: Unadjusted hourly production Materials consistency descript Average push gradient: -2: Average site altitude: 6,2 Material weight: 2,5 Weight description: De	DRMS, 1200 LF vert Cor: Cat Handbook N 50 feet 2,110.5 LCY/hr cion: Compacted fill or en 5 % 240 feet 200 lbs/LCY composed rock - 50% Rock, cor 0.750	mbankment 0.9	om TR map	

Spoil pile:	0.800	(FND-RF)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5927

Adjusted unit production: 1,250.89 LCY/hr
Adjusted fleet production: 1250.89 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.210/LCY

Total job time: 2.55 Hours
Total job cost: \$669

Visibility:

Job efficiency:

1.000

0.830

(AVG.)

(1 SHIFT/DAY)

BULLDOZER WORK

Task description: Pu	sh overburden over grade	ed areas		
e: Ignacio Pit	Permit Action:	TR-03	Permit/Job#:	M199205
PROJECT IDENTIFICAT	CION			
Task #: 102	State: Colorado		Abbreviation:	None
Date: 1/5/2015	County: La Plata		Filename:	M054-102
User: RCO			Thename.	101054-102
Agency or organization	n name: DRMS			
HOURLY EQUIPMENT (COST			
Basic Machine: Cat D9T				
Horsepower: 405		_		
Blade Type: Semi-Uni	versal	_		
Attachment: 3-shank r				
Shift Basis: 1 per day				
Data Source: (CRG)				
Cost Breakdown:		Utilization %		
Ownership Cost/Hour:	\$81.10	NA		
Operating Cost/Hour:	\$143.16	100		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$38.01	NA		
Initial Volume: 48,400 Swell factor: 1.000				
Loose volume: 48,400 LC	Y			
Source of estimated volume: Source of estimated swell factor	DRMS, TR map, pit f	loors only, 1.5 ft deep		
	. Cat Handbook			
HOURLY PRODUCTION				
Average push distance: Unadjusted hourly production:	100 feet 1,243.2 LCY/hr			
Materials consistency description	n: Loose stockpile 1.2	~		
Average push gradient: -5 % Average site altitude: -5,24	0 feet			
Material weight: 2,90	0 lbs/LCY		-	
Weight description: Decc	omposed rock - 50% Rock,	50% Earth		
Job Condition Correction Factor	 -	Source		
Operator Skill:	0.750	(AVG.)	_	
Material consistency:	1.200	(CAT HB)		
Dozing method:	1.000	(GEN.)		
Vicibility	1 000	(A37CL)		

Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0,5284

Adjusted unit production: 656.91 LCY/hr

Adjusted fleet production: 656.91 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.399/LCY

Total job time: 73.68 Hours
Total job cost: \$19,323

SCRAPER TEAM WORK

: Ignacio Pit		Permit Action: TR-03		Permit/Job#:	M1992054
PROJECT IDENT	<u>IFICATION</u>				
Task #: 103	State:	Colorado		Abbreviation:	None
Date: 1/5/201:	County:	La Plata		Filename:	M054-103
User: RCO				·	
HOURLY EQUIP	<u>MENT</u>	Equipment Des	COSTShift basis:	1 per day	
	-Scraper:	, <u> </u>	cription		
	-Dozer:	NA NA			
Support	Equipment -Load Area:				
**	-Dump Area:				
Road Mair	tenance - Motor Grader:	NA			
	-Water Truck:	NA			

Cost Breakdown:	Scraper Work Team		Support Equip	oment	Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$80.91	NA	NA	NA	NA	NA
Operating cost/hour:	\$170.75	NA	NA	NA	NA	NA NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$33.56	NA	NA	NA	NA	NA
Unit Subtotals:	\$285.22	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$570.44	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$570.44

MATERIAL QUANTITIES

Initial volume: 48,400 CCY Swell factor: 1.000
Loose volume: 48,400 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: 2,900 lbs/LCY Struck Volume: 24.00 LCY
Material description: Decomposed rock - 50% Rock, Heaped Volume: 34.00 LCY

50% Earth

Rated Payload: 81,600 pounds Average Volume: 29.00 LCY
Payload Capacity: 28.14 LCY Adjusted Capacity: 28.14 LCY

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: <u>0.80</u> Minutes <u>0.70</u> Minutes

Job Condition Correction:

Site A	ltitude:	6240	feet
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	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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	4.00	5.00	9.00	733	0.71

Haul Time: 0.71 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-4.00	5.00	1.00	2937	0.34

Return Time: 0.34 minutes

Total Scraper team cycle time: 2.55 minute

Total Scraper team cycle time: 2.55 minutes
Adjusted for job conditions: 549.52 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)

Adjusted single scraper team (unit) hourly production: 1,099.03 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,099.03 LCY/Hour

Unadjusted unit production/hour: 662.07 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 44.04 Hours

Unit cost: \$0.519 /LCY Total job cost: \$25,121

BULLDOZER WORK

Task description:	Sprea	d topsoil over graded			
e: Ignacio Pit		Permit Action:	TR-03	Permit/Job#:	M1992054
PROJECT IDE	NTIFICATIO	<u>DN</u>			
Task #:104		State: Colorado		Abbreviation:	None
	2015	County: La Plata		Filename:	M054-104
User: RCC)				
Agency	or organization i	name: DRMS			
HOURLY EQU	IPMENT CO	<u>ST</u>			
Basic Machine:	Cat D9T - 9	SU			
Horsepower:					
Blade Type:		rsal	<u> </u>		
Attachment:	3-shank ripp	er			
Shift Basis:	1 per day		_		
Data Source:	(CRG)				
Cost Breakdown:		•			
COST DI QUALO III.			Utilization %		
Ownership Cost/	Hour:	\$81.10	NA		
Operating Cost/		\$143.16	100		
Ripper op. Cost/		\$0.00	0		
Operator Cost/		\$38.01	NA NA		
MATERIAL OI Initial Volume: Swell factor:	28,233 1.000				
Loose volume:	28,233 LCY				
Source of estimate	d volume:	DRMS TR man 30 a	ores 7 inch denth		
Source of estimate		DRMS, TR map, 30 a	acres, 7 inch depth		
Source of estimate	d swell factor:	DRMS, TR map, 30 a Cat Handbook	acres, 7 inch depth		
Source of estimated HOURLY PRO	d swell factor:	Cat Handbook	acres, 7 inch depth		
HOURLY PRO Average push dista	d swell factor: DUCTION nce:	Cat Handbook	acres, 7 inch depth		
Source of estimated HOURLY PRO	d swell factor: DUCTION nce:	Cat Handbook	acres, 7 inch depth	<u> </u>	
HOURLY PRO Average push dista	d swell factor: DUCTION nce: production:	Cat Handbook			
HOURLY PRO Average push dista Unadjusted hourly Materials consistent Average push grad	DUCTION nce: production: ncy description: ient: 0 %	Cat Handbook 100 feet 1,243.2 LCY/hr Loose stockpile 1.2			
HOURLY PRO Average push dista Unadjusted hourly Materials consisten	DUCTION nce: production: ncy description: ient: 0 %	Cat Handbook 100 feet 1,243.2 LCY/hr Loose stockpile 1.2			
HOURLY PRO Average push dista Unadjusted hourly Materials consistent Average push grad	DUCTION nce: production: ccy description: ient: de: 0 % 6,240 f	Cat Handbook 100 feet 1,243.2 LCY/hr Loose stockpile 1.2			
HOURLY PRO Average push dista Unadjusted hourly Materials consisten Average push grad Average site altitud	DUCTION Ince: production: acy description: ient: 6,240 f 1,600 f	Cat Handbook 100 feet 1,243.2 LCY/hr Loose stockpile 1.2 eet			
HOURLY PRO Average push dista Unadjusted hourly Materials consisten Average push grad Average site altitud Material weight:	DUCTION nnce: production: ncy description: ient: de: 1,600 I Top So	Cat Handbook 100 feet 1,243.2 LCY/hr Loose stockpile 1.2 eet			
HOURLY PRO Average push dista Unadjusted hourly Materials consisten Average push grad Average site altitud Material weight: Weight description Job Condition Corr	DUCTION nnce: production: ncy description: ient: de: 1,600 I Top So	Cat Handbook 100 feet 1,243.2 LCY/hr Loose stockpile 1.2 eet			
HOURLY PRO Average push dista Unadjusted hourly Materials consisten Average push grad Average site altitud Material weight: Weight description Job Condition Corr Ope Material c	DUCTION Ince: production: acy description: ient: 6,240 f 1,600 l Top So ection Factor erator Skill: onsistency:	Cat Handbook 100 feet 1,243.2 LCY/hr Loose stockpile 1.2 eet bs/LCY	Source		
HOURLY PRO Average push dista Unadjusted hourly Materials consisten Average push grad Average site altitud Material weight: Weight description Job Condition Corr Ope Material c	DUCTION Ince: production: acy description: ient: 6,240 f 1,600 f Top So ection Factor erator Skill:	Cat Handbook 100 feet 1,243.2 LCY/hr Loose stockpile 1.2 eet bs/LCY ii	Source (AVG.)		

0.830

(1 SHIFT/DAY)

Job efficiency:

Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7519

Adjusted unit production: 934.76 LCY/hr

Adjusted fleet production: 934.76 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.281/LCY

Total job time: 30.20 Hours

Total job cost: \$7,921

Note: Assumes that limited amount of concurrent reclamation has occurred, including 10 acres of the 40-acre disturbed area already has topsoil spread on it.

BULLDOZER RIPPING WORK

	Task description	Rip compacted a	areas				
Site	e: Ignacio Pit	Per	mit Action:	TR-03	Perm	nit/Job#: <u>M1</u>	992054
	PROJECT ID	ENTIFICATION					
	Task #: 10	State:	Colorado		Abbrev	iation: Non	e
		7/2015 County:	La Plata				54-105
	User: RC	20	-				
	Agency	or organization name: DI	RMS				
	HOURLY EQ	UIPMENT COST					
	Rasic	Machine: Cat D9T - 9SU			Uorganoway	405	
	Ripper Att				Horsepower: Shift Basis:	405 1 per day	<u> </u>
	Tupper Tale	J SHARL TUPPET			Data Source:	(CRG)	<u>′ </u>
	Cost Breakdown					(CRO)	
	Cost Breakdown	•		l r	Itilization %		
		Ownership Cost/Hour:	\$81		NA		
		Operating Cost/Hour:	\$143		100		
	Ripp	per Operating Cost/Hour:	\$8.		100		
		Operator Cost/Hour:	\$38	.01	NA		
		Total Unit Cost/Hour:	\$27	1.17			
		Total Fleet Cost/Hour:	\$27 1	1.17			
	MATERIAL C	<u>UANTITIES</u>	Sele	ected estimating m	ethod: Area		
	Alternate Method	s:					
	·						
Seismic:	NA 20.00		k Volume:	NA 1.00	BCY	NA NA	
Area:	30.00	acres Rip l	Depth (ft):	1.00	Volume: 48,	100	BCY or CCY
		Source of estimated quantit	y: 30 ac a	rea, TR map and p	olan		
	HOURLY PRO	DUCTION					
	Seismic:						
	Seisinic.	Seismic Velo	city	NA	feet/second	1	
		Soldinie velo	Ony	IVA	TCCD SCCOM	ı	
	Area:	, w	.7	2.62			
		Average Ripping De	epth:	2.63	mph		
		Average Ripping Ware Average Ripping Ler		7.67	degrees feet		
		Average Dozer Sp		88.00	feet		*:
		Average Maneuver T		0.25	feet		
		Production per unit a		0.881	acres/hour		
	Job Condition Co	-					
			.•	4.004			
	Una	djusted Hourly Unit Product		0.881	Acres/hr		
		Site Altit		6,240	feet		
		Altitude		1.00	(CAT HB)		
		Job Efficie	•	0.83	(1 shift/day	•)	
		Net Correct	ion:	0.83	multiplier		
		Adjusted Hourly Unit	Production:	0.73	Acres/hr		
		Adjusted Hourly Fleet		0.73	Acres/hr		
!	JOB TIME AN	D COST			55		
'	Fleet size:	I Grader(s)		Total job time:	41.0	2	Hours
				roam joo mne.		<u> </u>	110012
	Unit cost:	\$370.744 Per acre		Total job cost:	\$11,1	22	

SCRAPER TEAM WORK

Site: Ignacio Pit		Permit Action:	TR-03	Per	mit/Job#: M199	2054
PROJECT IDENT	LIFICATION					
Task #: 106		State: Colorado		Ahhre	viation: None	
Date: 1/5/201		ounty: La Plata			lename: M054-	106
User: RCO		<u> </u>			<u> </u>	
Agency or o	organization name	: _DRMS				
HOURLY EQUIP	MENT		COSTS	hift basis: 1 per o	lay	
			ent Description			
		Scraper: Cat 631	lG			
Suppor	rt Equipment -Loa	-Dozer: NA ad Area: NA				
Suppor		in Area: NA				
Road Mai	intenance – Motor					
	-Water	r Truck: NA				
Cost Breakdown:	Scraper Wo		Support Equi		Maintenance	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Trucl
%Utilization-machine:	100	NA	NA NA	NA	NA	NA
Ownership cost/hour:	\$80.91	NA	NA	NA	NA	NA
Operating cost/hour:	\$170.75	NA NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$33.56	NA	NA	NA	NA	NA
Unit Subtotals:	\$285.22	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$570.44	Support:	\$0.00	Maint:	\$0.00
Total work team cost/	hour: \$570.44					
MATERIAL QUA	<u>NTTTIES</u>					
Initial volume:	28,233	CCY	Swell fact	or: <u>1.000</u>		
Loose volume:	28,233	LCY				
Source	ce of estimated vo	olume: Division	of Reclamation, 1	Mining & Safety		
Source of	f estimated swell i	factor: Cat Hand	lbook			
HOURLY PRODU	<u>ICTION</u>					
			Scraper Bo	owl (volume) Bas	is:	
Material weight:	1,600 lbs/LCY		Struck 3	Volume: 24.00	LC	.Y
	Top Soil		Heaped '	·	LC	
Rated Payload:	81,600 pounds		Average		LC	
Payload Capacity:	51.00 LCY		Adjusted C	apacity: 29.00	LC	

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: 0.80 Minutes 0.70 Minutes

Job Condition Correction:

Site Altitude: 6240 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll, Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	4.00	5.00	9.00	733	0.70

Haul Time: 0.70 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-4.00	5.00	1.00	2937	0.34

Return Time: 0.34 minutes

Total Scraper team cycle time: 2.54 minutes Adjusted for job conditions: 568.58 LCY/Hour

2 Scraper(s)

Selected Number of Scrapers:
Adjusted single scraper team (unit) hourly production: 1,137.17 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,137.17 LCY/Hour

Unadjusted unit production/hour: 685.04 LCY/Hour

Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 24.83 Hours

Unit cost: ____\$0.502 /LCY Total job cost: \$14,163

REVEGETATION WORK

Ignacio Pit	Darmit	Action: TR-)3 ————		Dome HIT. 1	#. N410000C4
Ignacio Fit	Fermit	Action: 1R-	<i>)</i> 3		Permit/Job	#: <u>M1992054</u>
PROJECT IDENTI	FICATION					
Task #: 107		olorado			411	
Date: 1/5/2015		a Plata			Abbreviation: Filename:	
User: RCO		4 1 lata			rnename:	1034-107
	anization name: DRMS					
Agency of org	amzanon name. DRIVIS	<u> </u>				
<u>FERTILIZING</u>						
Materials			+			
Description		Units /			-4 / YT-24	G
Description	<u></u>	Acre	Unit	Co	ost / Unit	Cost /Acre
				\$		\$
					4.15 499	
				10	otal Fertilizer Materials	,
					Cost/Acre	\$0.00
A			<u> </u>		COSUACIC	30.00
Application	·					-
Description						Cost /Acre
						\$
						<u> </u>
		Total	Fertilizar	Annlicati	on Cost/Acre	
		Total	T CX LINESCI	Applicati	- COSUACIE	\$0.00
<u> </u>						
<u> </u>			 .			
Description						Cost /A see
Weed control spraying	(MEANS 31 31 16.13 310	201		.		Cost /Acre
Wood control spraying	(NILE 21 JUL 10.13 JUL					\$145.20
			,	Total Tilli	ng Cost/Acre	_
				TOLAL TIME	ing Cost/Acre	\$145.20
SEEDING						
SEEDING						
0 135				Rate -		-
Seed Mix				PLS	Seeds	Cost /Acre
				LBS/	per SQ. FT	
				Acre		
						\$
		Totals So	eed Mix	0.00	0.00	\$0.00
Application						
						
Application Description						Cost /Acre

Total Cond. Application C.	114
Total Seed Application Co	st/Acre
	5411514
· · · · · · · · · · · · · · · · · · ·	

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 5
Estimated Failure Rate: 100%
Selected Replanting Work Items: TILLING Cost /Acre: \$145.20 Cost /Acre: \$145.20

Initial Job Cost: _\$726.00 Reseeding Job Cost: \$726.00 Total Job Cost: \$1,452 Job Hours: 10.00

Note: This assumes costs for 2 sprayings.

REVEGETATION WORK

Task description:

Revegetate 40 acres of disturbance

Site: Ignacio Pit

Permit Action: TR-03

Permit/Job#: M1992054

PROJECT IDENTIFICATION

Task #: 108 Date: 1/5/2015

State: Colorado County: La Plata

Abbreviation:

None

RCO User:

Filename: M054-108

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials	
			Cost/Acre	\$0.00

Application

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

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	
Rye, Annual Tetraploid - Barmultra	0.40	1.74	\$0.59	
Orchardgrass - Paiute	1.60	19.83	\$3.46	
Crested Wheatgrass - Hy-Crest	1.20	5.51	\$2.87	
Smooth Brome - Lincoln	2.00	6.66	\$2.66	
Russian Wildrye - VNS	0.80	3.21	\$2.97	
Pubescent Wheatgrass - VNS	2.00	4.13	\$3.94	
Totals Seed Mix	8.00	41.09	\$16.48	

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
			\$	\$
Total Mulch Materials Cost/Acre			_	\$0.00

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 40 Estimated Failure Rate: 30%

*Selected Replanting Work Items: TILLING, SEEDING

Initial Job Cost: **\$8,107.60**

Reseeding Job Cost: \$2,432.28 Total Job Cost: \$10,540

Job Hours: 30.00

Cost /Acre: \$202.69

Cost /Acre*: \$202.69

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:

Haul reclamation equipment to and from site

Site: Ignacio Pit

Permit Action: TR-03

Permit/Job#: M1992054

Filename:

PROJECT IDENTIFICATION

Task #:

109 1/5/2015 County:

State: Colorado La Plata

Abbreviation:

None M054-109

Date: User: RCO

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	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)				fleet		
Cat D9T - 9SU	66.13	\$81.10	\$125.45	1	\$206.55	\$125.45	\$250.00
Cat 631G	52.50	\$80.91	\$125.45	2	\$412.72	\$250.90	\$500.00
Drill/Broadcast	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$250.00
Seeder with Tractor		<u></u>			i	1	1200.00

Subtotals: \$747.53 \$465.02 \$1,000.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
		Cultotale.	60.00	00.00

Subtotals: |

\$0.00

\$0.00

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

DURANGO
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:

\$5,111.79 \$0.00

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment	
Haul Time (Hours):	0.67	0.67	
Return Time (Hours):	0.67	0.67	
Loading Time (Hours):	0.50	NA	
Unloading Time (Hours):	0.50	NA	
Subtotals:	2.33	1.33	

JOB TIME AND COST

Total job time: 4.67 Hours

Total job cost: _____\$5,112