November 25, 2015

Carbondale, CO 81623

Western Slope Aggregated, Inc.

Sean Mallow

P.O. Box 1319

COLORADO Division of Reclamation, Mining and Safety

Department of Natural Resources

1313 Sherman Street, Room 215 Denver, CO 80203

RE: Blue Pit, Permit No. M-1981-207, Estimated Reclamation Costs Update

Dear Mr. Mallow:

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

Division calculations estimate the cost to reclaim the above referenced site to be <u>\$3,355,657</u>. This is an increase of <u>\$2,466,051</u> over the <u>\$889,606</u> currently held by the Division. This estimate is based on conditions observed during the October 28, 2015 inspection and documents submitted during the 2014 amendment, AM-01. Staff used tasks and volumes provided by the operator and methods outlined in Exhibits E and L.

The Division acknowledges that this is a substantial increase and encourages exploring potential revisions to the mining and reclamation plans or on site work that may decrease overall liability. Please review the enclosed figures as soon as possible and contact our office if any calculation errors are noted.

If no comments are received by **Monday, January 11, 2016** than it is the Divisions understanding that the operator has no objections to the bond calculated on November 25, 2015 for the amount of \$3,335,657 according the <u>current</u> permit conditions. At that time a Notice for Surety Increase will be issued for the above amount as required by the Act and Rules.

If you require additional information, or have questions or concerns, please feel free to contact me. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 970-254-8511 or via email at amy.yeldell@ state.co.us

Sincerely,

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

Ec: Russ Means, Senior EPS / Field Office Supervisor, Grand Junction DRMS Enc: Financial Warranty Cost Estimate



COST SUMMARY WORK

Task descript	ption:	2015 Recalc Pe	rmit Action:	2015-10 Inspection	Permit/Job	#: M1981207
	IDENTIFIC					
Task #: Date:	000 11/13/2015	State: County:	Colorado Garfield		Abbreviation: _ Filename:	None M207-000

TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	
	Description	Used	Size	Hours	Cost
01a	Demo on-site structures	DEMOLISH	1	80.00	\$58,195.24
02a	Transport backfill material to mining area 1	TRUCK1] 2	258.11	\$557,287.00
02Ь	Transport backfill material to mining area 2	TRUCK1	2	98.94	\$203,458.00
03a	Placement of backfill material in mining area 1	DOZER	4	630.62	\$667,160.00
03b	Placement of backfill material in mining area 2	DOZER	4	443.66	\$469,366.00
04a	Rip pit floor/compacted areas	RIPPER] 1	30.28	\$6,746.00
05a	install grouted channels	POSTMINING	1	159.96	\$41,285.00
05b	Catchment benches	GRADER	1	4.44	\$606.00
05c	Energy Dissipation Rocks	TRUCK1	2	0.07	\$99.00
06a	Transport topsoil to pit floor	TRUCK1	2	116.50	\$239,560.00
07a	Placement of topsoil on sloped areas	DOZER	4	218.12	\$221,377.00
07b	Placement of topsoil on open pit areas	DOZER	4	36.54	\$37,090.00
08a	Reveg Rangeland	REVEGE	1	100.00	\$137,808.00
08b	Reveg Irrigated Pastureland	REVEGE	1	25.00	\$31,347.00
09a	Initial mobilize reclamation crew/equipment	MOBILIZE	1 1	3.33	\$11,869.00
09b	Secondary mobilize reclamation crew/equipment	MOBILIZE	1	0.66	\$97.00
		<u>SUBTO</u>	TALS:	2206.23	\$2,683,350

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02		Total =	\$54,203.67
Performance bond:	1.05		Total =	\$28,175.18
Job superintendent:	500.00		Total =	\$37,580.00
Profit:	10.00		Total =	\$268,335.00
			TOTAL O & $P =$	\$388,293.85
	CONT	RACT AMOUNT	(direct + O & P) =	\$3,071,643.85
LEGAL - ENGINEERING - PRO	DJECT MANAGEMENT	:		
Financial warranty processi	ng (legal/related costs):	500.00	Total =	500.00
Engineering work and/or c		5.23	Total =	\$160,646.97
Reclamation managemen	t and/or administration:	4.00		\$122,865.75
	CONTINGENCY:	0.00	Total =	\$0.00
		TOTAL IN	DIRECT COST =	\$672,306.58
	TOTAL BO	ND AMOUNT (di	rect + indirect) =	\$3,355,656.58

DEMOLITION WORK

	Task description:	Demo on-si	te structures				
Site:	Blue Pit		Permit Action:	2015-10 Inspection	Permit/.	Job#:	M1981207
<u>PROJE</u>	CT IDENTIFICATION	I					
Task #	: 01A	State:	Colorado		Abbreviation:	Non	e
Date	: 11/13/2015	County:	Garfield		Filename:	M20)7-01a
User	: ACY						

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 102.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Uni t	Unit Cost	Total Cost	
Fuel containment	40'W x 30'L x 6'H	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	2,040.00	SF	\$2.33	\$4,753.20	
Retaining wall	110'L x 8'H	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 50 ft. push	880.00	SF	\$3.74	\$3,292.96	
Power line and poles	800'	Powerline or telephone line, overhead, wood - Single pole	800.00	LF	\$2.67	\$2,136.00	
Mechanic Shop building	40'W x 60'L x 20'H	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	48,000.00	CF	\$0.21	\$10,272.00	
Office/scale house	30'W x 100'L x 10'H	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	30,000.00	CF	\$0.19	\$5,670.00	
Shop/office/apron slab(s)	9140 sq. ft.	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	9,140.00	SF	\$2.91	\$26,597.40	
Misc. shed/outbuildings	1600 sf x 8' H	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	12,800.00	CF	\$0.17	\$2,227.20	
Scale	12'W x 70'L	Loading and 5 mile haul, salvage allowed - Steel frame structures	15.50	CY	\$9.48	\$146.94	
Scale foundation	12'W x 90'L	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 200 ft. push	1,080.00	SF	\$1.71	\$1,846.80	

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	80.00	(unadjusted):	\$56,942.50	location):	\$58,195.24

TRUCK/LOADER TEAM WORK

Site: Blue Pit		Permit	Actio	n: 2015-10 Ins	pection	Permit/Job#:	M1981207
PROJECT IDEN	TIFICATION	1					
Task #: 02A		State: C	Colorad	do	A	Abbreviation:	None
	/2015	County: C	Garfiel	d		Filename:	M207-02a
User: ACY							
Agency or	organization nat	me: DRM	S				
HOURLY EQUI	PMENT COS	<u>Γ</u>			Shift b	asis: <u>1 per day</u>	
			E	quipment Descri	ption		
]	Fruck Loader Tea	m -Truck:	Cat 7				
		-Loader:		'990H			
Supp	ort Equipment -I			D8T - 8SU			
Dood M	-D aintenance –Mot	ump Area:		08T - 8SU ' 14M			
Kudu Ivi		ater Truck:		er Tanker, 7,000	Gal		
		nor Huck.	Watt	1 Tulker, 7,000	<u> </u>		
Cost Breakdown:	Truck/Lo	ader Team		Support I	Equipment	Maint	enance Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grad	
%Utilization-machine:	100	100		100	100	50	50
Ownership cost/hour:	\$65.23	\$129.39)	\$62.67	\$62.67	\$42.03	\$32.60
Operating cost/hour:	\$124.51	\$166.71	1	\$108.22	\$108.22	\$34.94	\$42.80
Ripper op. cost/hour:	NA	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$27.80	\$37.13		\$38.01	\$38.01	\$24.47	\$27.88
Unit Subtotals:	\$217.54	\$333.22	2	\$208.90	\$208.90	\$101.43	\$103.29
Number of Units:	4	2		, 1	1	1	1
	Work:	\$1,536.60		Support:	\$417.80	Mai	nt: \$204.72

MATERIAL QUANTITIES

Initial volume:	359,647	CCY	Swell factor:	1.060
Loose volume:	381,226	LCY		
Sour	ce of estimated volume:	Division of	Reclamation, Mini	ng & Safety
Source of	f estimated swell factor:	Exhibit E &	έL	
	Material Purchase Cost:			
	Total Cost:	\$0.00		

HOURLY PRODUCTION

<u>Truck Capacity:</u>		
Truck Payload (weight) Bas	is:	
Material weight:	2,900	Pounds/LCY
Description:	Sand and gravel - Dry	
Rated Payload:	122,520	Pounds
Payload Capacity:	42.25	LCY

Truck	Bed	(volume) Basis:	
	~		

35.00	LCY
46.50	LCY
40.75	LCY
42.25	LCY
	46.50 40.75

Final Truck Volume Based on Number of Loader Passes: 32.91 LCY

Loading Tool Capacity

		Bucket Size Class:	NA
Rated Capacity:	11.250	LCY (heaped)	
Bucket Fill Factor:	0.975	Sand and gravel (95% - 100%) 0.975	
Adjusted Capacity:	10.969	LCY	

Job Condition Corrections:

Site Altitude (ft.): 7000 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 3 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA Selected Value within this Basic Rating: NA _____

Track Loaders – Material Description:

Cycle Time Elements (min.):

Load: NA Maneuver: NA Du	mp: 0.100
--------------------------	-----------

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.080	minutes
	Adjusted Loader Cycle Time:	0.520	minutes
	Net Load Time per Truck:	1.140	minutes

Truck Cycle Time:

	Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
	Truck Load Time:	1.140	Minutes	Adjusted for site altitude:	1.140	Minutes
Truck M	Ianeuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	Minutes

Truck Travel (H	<u>ul &</u>	Return)	Time:
penetration 5.0			

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

	Haul Rou	te:							
	Seg #	Haul I (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
	1	1000.	00	3.00	5.00	8.00	1023	1.034	
						Haul Time:	1.034	minutes	
	Return Ro	oute:				-			
[Seg #	Haul l	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
_		(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	1000.	00	-3.00	5.00	2.00	3569	0.464	
						Return Time:	0.464	minute	
					Total True	ck Cycle Time:	4.438	minute	S
		uction	1,073.03	LCY/Hour		Adjusted for j	ob efficiency:	890.61	LCY/Hour
Truck	Unit Produ	uction -	444.88	LCY/Hour		Adjusted for j	ob efficiency:	369.25	LCY/Hour
Optima	al No. of Ti	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
						k team production			/Hour
						r team production			/Hour
				Adjusted multip	le truck/loade	r team production	on: 1,47 7	7.00 LCY	/Hour
	JOB TI	ME AN	D COST						
	Fleet	size: _	2	Team(s)	Т	fotal job time:	258.1	1 Ho	ours
	Unit	cost:	\$1.462	/LCY	-	Fotal job cost:	\$557,2	.87	

TRUCK/LOADER TEAM WORK

Ta	sk description:	Transp	ort backfill n	nateri	ial to mining ar	ea 2			
Site:	Blue Pit		Permit	Actio	n: 2015-10 Ins	pection	Permit/Job#:	M198	1207
PF	ROJECT IDE	NTIFICATION	<u>1</u>						
	Task #: _02B			olorad			Abbreviation:	None	
	Date: <u>11/1</u> User: <u>ACY</u>	6/2015 (County: _G	arfiel	d		Filename:	M207-	02b
	Agency of	or organization na	me: DRMS	5					
HO	OURLY EQU	IPMENT COS	<u>T</u>			Shift	basis: <u>1 per day</u>		
				E	quipment Descri	ption			
		Truck Loader Tea	am -Truck:	Cat 7	73F				
			-Loader:		990H				
	Sup	port Equipment -I	-		D8T - 8SU				
<u> </u>	Deedl				08T - 8SU				
	Road N	Maintenance – Mot	ater Truck:		14M r Tanker, 7,000	Cal			
	× · · · · · · · · · · · · · · · · · · ·	- •••	atel TTUCK.	wate	a Taliker, 7,000	Gal.			
<u>Co</u>	st Breakdown:	Truck/Lo	ader Team		Support 1	Equipment	Maint	enance I	Equipment
		Truck	Loader		Load Area	Dump Area	Motor Grad	ier W	ater Truck
%Utiliza	tion-machine:	100	100		100	5	50		50
Owners	ship cost/hour:	\$65.23	\$129.39		\$62.67	\$62.67	\$42.03		\$32.60
Operat	ting cost/hour:	\$124.51	\$166.71		\$108.22	\$5.41	\$34.94		\$42.80
Ripper	op. cost/hour:	NA	\$0.00		\$0.00	\$0.00	\$0.00		\$0.00
Opera	ator cost/hour:	\$27.80	\$37.13		\$38.01	\$38.01	\$24.47		\$27.88
τ	Jnit Subtotals:	\$217.54	\$333.22		\$208.90	\$106.09	\$101.43		\$103.29
Nur	mber of Units:	4	2		1	1	1		1
Gro	oup Subtotals:	Work:	\$1,536.60		Support:	\$314.99	Mai	nt: \$2	204.72

Total work team cost/hour: \$2,056.31

MATERIAL QUANTITIES

Initial volume:	137,867	CCY	Swell factor:	1.060
Loose volume:	146,139	LCY		
Sour	ce of estimated volume:	Division of Re	clamation, Mini	ng & Safety
Source of	f estimated swell factor:	Exhibit E & L		
]	Material Purchase Cost:	\$0.00		
	Total Cost:	\$0.00		

HOURLY PRODUCTION

<u>Truck Capacity:</u>		
Truck Payload (weight) Bas	<u>is:</u>	
Material weight:	2,900	Pounds/LCY
Description:	Sand and gravel - Dry	_
Rated Payload:	122,520	Pounds
Payload Capacity:	42.25	

Struck Volume:	35.00	LCY				
Heaped Volume:	46.50					
Average Volume:	40.75	LCY				
Adjusted Volume:	42.25	LCY				
Fi	nal Truck Volun	ne Based on Numbe	er of Loader Passes:	32.91	LCY	
			Buc	ket Size Class: N	JA	
Rated Capacity	: 11.250	LCY (heape			V 2 L	_
Bucket Fill Factor	And the second sec		avel (95% - 100%)	075		_
Adjusted Capacity			aver (9570 - 10070)	J.91J		-
Aujusted Capacity	. 10.909					
Job Condition Correction	ons:		Site Altitude (ft.):			
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT H	the second se		
Job Efficiency:	0.830	0.830	(CAT H	B)		
Net Correction:	0.830	0.830				
Loading Tool Cycle Tin Excavators and Front She Machine Cycle Tim Selected Val	ovels:				<u> 3 </u>	oasses
Excavators and Front She Machine Cycle Tim Selected Val	ovels: ne vs. Job Condit ne within this Ba s – Material Des	ion Rating: NA asic Rating: NA		Dump: 0.10	r	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi	ovels: be vs. Job Condit ue within this Ba s – Material Des n.):	tion Rating: NA asic Rating: NA ecription: Maneuver: NA		Dump: 0.10	r	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): 	tion Rating: NA asic Rating: NA scription: NA Maneuver: NA Basic Loader Cycle	Time (load, dump,	Dump: 0.10	0	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): 	tion Rating: NA asic Rating: NA ecription: Maneuver: NA	Time (load, dump,	Dump: 0.10 maneuver): 0	0 min	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil	ovels: povels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs – Unadjusted I rs – us – Material 1/ e: Dumped by	tion Rating: NA asic Rating: NA scription: Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02	-0.02	Dump: 0.10 maneuver): (Factor (min.)	0).600 mini Source	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs – Unadjusted I rs – ul: Material 1/ e: Dumped by p: Common o	tion Rating: NA asic Rating: NA scription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks	-0.02	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 0.020 -0.040	0 .600 minu Source (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs - Unadjusted I rs - urs - Unadjusted I rs - unadjusted I rs - Unadjusted I rs - Unadjusted I rs - Common o n: Constant o	tion Rating: NA asic Rating: NA scription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04	-0.02	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 0.020 -0.040 -0.040	0 .600 mint Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs - Unadjusted I rs - urs - Unadjusted I rs - unadjusted I rs - Unadjusted I rs - Unadjusted I rs - Common o n: Constant o	tion Rating: NA asic Rating: NA scription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04 rget 0.00	Time (load, dump, -0.02 and loaders -0.04	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 -0.040 -0.040 0.000	0 .600 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs - Unadjusted I rs - urs - Unadjusted I rs - unadjusted I rs - Unadjusted I rs - Unadjusted I rs - Common o n: Constant o	tion Rating: NA asic Rating: NA scription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04 rget 0.00 Net Cycle	Time (load, dump, -0.02 and loaders -0.04 Time Adjustment:	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080	0 .600 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs - Unadjusted I rs - urs - Unadjusted I rs - unadjusted I rs - Unadjusted I rs - Common o n: Constant o	tion Rating: NA asic Rating: NA ecription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04 rget 0.00 Net Cycle Adjusted L	Time (load, dump, -0.02 and loaders -0.04 Time Adjustment: oader Cycle Time:	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 0.520	0 .600 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs - Unadjusted I rs - urs - Unadjusted I rs - unadjusted I rs - Unadjusted I rs - Common o n: Constant o	tion Rating: NA asic Rating: NA ecription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04 rget 0.00 Net Cycle Adjusted L	Time (load, dump, -0.02 and loaders -0.04 Time Adjustment:	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080	0 .600 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi Operatio	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs - Unadjusted I rs - urs - Unadjusted I rs - unadjusted I rs - Unadjusted I rs - Common o n: Constant o	tion Rating: NA asic Rating: NA ecription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04 rget 0.00 Net Cycle Adjusted L	Time (load, dump, -0.02 and loaders -0.04 Time Adjustment: oader Cycle Time:	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 0.520	0 .600 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi Operatio Dump Targe	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): ors - Unadjusted I rs – u: Material 1// e: Dumped by p: Common o n: Constant oj ot: Nominal ta	tion Rating: NA asic Rating: NA ecription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04 rget 0.00 Net Cycle Adjusted L	Time (load, dump, -0.02 and loaders -0.04 Time Adjustment: oader Cycle Time: d Time per Truck:	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 0.520	0 .600 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi Operatio Dump Targe	ovels: ovels: ue vs. Job Condit ue within this Ba s – Material Des n.): rs – Unadjusted I rs – urs – Unadjusted I rs – Unadjusted I rs – Oumped by rs – Nominal ta	tion Rating: NA asic Rating: NA scription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04 rget 0.00 Net Cycle Adjusted Ly Net Loa Minutes	Time (load, dump, -0.02 and loaders -0.04 Time Adjustment: oader Cycle Time: d Time per Truck: Adjusted	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 0.520 1.140	0 .600 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	Ites
Excavators and Front She Machine Cycle Tim Selected Val Track Loader Cycle Time Elements (mi Load: NA Wheel and Track Loade Cycle Time Facto Materia Stockpil Truck Ownershi Operatio Dump Targe	ovels: ovels: ue within this Ba ue within this Ba us – Material Des n.): urs – Material I// urs – Unadjusted I rrs ul: Material 1// e: Dumped by p: Common o n: Constant o ot: Nominal ta ume: 0.70 ume: 1.140	tion Rating: NA asic Rating: NA scription: NA Maneuver: NA Basic Loader Cycle 8" to 3/4" diameter y truck 0.02 wnership of trucks peration -0.04 rget 0.00 Net Cycle Adjusted Ly Net Loa Minutes	Time (load, dump, -0.02 and loaders -0.04 Time Adjustment: oader Cycle Time: d Time per Truck: Adjusted Adjusted	Dump: 0.10 maneuver): 0 Factor (min.) -0.020 -0.040 -0.040 -0.040 0.000 -0.080 0.520 1.140	0 0.600 minutes (Cat HB) (Cat HB)	

Task # 02B

penetration 5.0

Haul Rou								
Seg #	Haul Dis (Ft)	stance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time	
1	1000.00		3.00	5.00	8.00	1023	(min) 1.034	
					Haul Time:	1.034	minutes	
Return Ro	oute:				1	75%		
Seg #	Haul Dis	stance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	1000.00		-3.00	5.00	2.00	3569	0.464	
					Return Time:	0.464	minutes	
				Total Truc	k Cycle Time:	4.438	minutes	
	uction	1,073.03	LCY/Hour		Adjusted for j	ob efficiency:	890.61	LCY/Hour
Truck Unit Produ	uction	444.88	LCY/Hour		Adjusted for j	ob efficiency:	369.25	LCY/Hour
Optimal No. of Tr	ucks:	2	Truck(s)		Selected Numb	per of Trucks:	2	_ Truck(s)
			Adjuste	d hourly truck	team production	on: 738.	50 LCY/F	Hour
					r team production		50 LCY/I	Hour
			Adjusted multip	le truck/loade	r team productio	on:1,477	2.00 LCY/H	Hour
JOB TIN	ME AND	COST						
Fleet	size:	2	Team(s)	Т	otal job time:	98.94	Hou	rs
Unit	cost:	\$1.392	/LCY	Т	Cotal job cost: _	\$203,4	58	

BULLDOZER WORK

Task descri	ption:	Pla	cement of bac	лип шатегі	al in mining area 1		
Blue Pit			Peri	mit Action:	2015-10 Inspection	Permit/Job#:	M1981207
PROJECT	<u>r iden</u>	TIFICAT	ION				
Task #:	03A		State:	Colorado		Abbreviation:	None
Date:	11/16/	2015	County:	Garfield		Filename:	M207-03a
User:	ACY						
Ag	gency or	organizatio	n name:DR	RMS			
HOURLY	EQUI	MENT C	COST				
Basic Ma		Cat D9T -	- 9SU				
	power:	405					
	Type: hment:	Semi-Uni					
	Basis:	3-shank ri 1 per day					
	ource:	(CRG)					
	12						
Cost Breake	<u>lown</u> :			4			
0	0		***		Utilization %		
()wnorchir	Oost/Ho	our:	\$81.10		NA		
			The second se				
Operating	, Cost/Ho	our:	\$143.16		100		
Operating Ripper op	g Cost/Ho . Cost/Ho	our:	\$143.16 \$2.23		25		
Operating	g Cost/Ho . Cost/Ho	our:	\$143.16		the second s		
Operating Ripper op	g Cost/Ho . Cost/Ho Cost/Ho	our:	\$143.16 \$2.23 \$38.01		25		
Operating Ripper op Operator Total unit C Total Fleet O MATERIA	g Cost/Ho . Cost/Ho Cost/Hour Cost/Hour Cost/Hou	our:	\$143.16 \$2.23 \$38.01 4.49 5 7.95		25		
Operating Ripper op Operator Total unit C Total Fleet 0	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour AL QUA actor: lume:	our: our: : <u>\$264</u> : \$1,0 ANTITIE 359,647 1.124 404,099 L	\$143.16 \$2.23 \$38.01 4.49 57.95 S		25		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol	cost/Ho Cost/Hour Cost/Hour Cost/Hour AL QUA lume: lume: stimated	our: our: our: : \$264 sr: \$1,0 ANTITIE 359,647 1.124 404,099 LO volume:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY Exhibit E	 & L	25		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es	cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: lume: stimated stimated	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY Exhibit E	 & L	25		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es	cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: lume: stimated stimated	our: our: our: : \$264 r: \$1,0 ANTITIE 359,647 1.124 404,099 LO volume: swell factor UCTION	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY CY Exhibit E Cat Hand	 & L	25		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus	cost/Hour Cost/Hour Cost/Hour Cost/Hour AL OUA lume: actor: lume: stimated stimated stimated stimated	our: our: our: : \$264 ir: \$1,0 ANTITIE: 359,647 1.124 404,099 L0 volume: swell factor UCTION ce:	\$143.16 \$2.23 \$38.01 4.49 57.95 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	& L book	25		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es	cost/Hour Cost/Hour Cost/Hour Cost/Hour AL OUA lume: actor: lume: stimated stimated stimated stimated	our: our: our: : \$264 ir: \$1,0 ANTITIE: 359,647 1.124 404,099 L0 volume: swell factor UCTION ce:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY CY Exhibit E Cat Hand	& L book	25		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: lume: stimated stimated continuated cont	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY :: Exhibit E CY :: Cat Hand 375 feet 327.8 LCY/	& L book	25		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es <u>HOURLY</u> Average pus Unadjusted	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour AL OUA actor: lume: stimated stimated stimated PROD sh distand hourly prosistency	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY Exhibit E C2Y C2Y C2Y C2Y C2Y C2Y C2Y C2Y	& L book	25 NA		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus Unadjusted Materials co	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: actor: lume: stimated stimated stimated stimated bh distant hourly pro- onsistenc sh gradie e altitude	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY Exhibit E CY Cat Hand 375 feet 327.8 LCY/ on: Partly c	& L book	25 NA		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus Unadjusted Materials co Average pus	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: lume: lume: stimated stimated consistency sh gradie e altitude ight:	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY CY Exhibit E Cat Hand 375 feet 327.8 LCY/ on: Partly c	& L book	25 NA		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus Unadjusted Materials co Average pus Average site	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: actor: lume: stimated stimated stimated stimated for content consistency sh gradie e altitude ight: cription: con Correct	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY Exhibit E Cat Hand <u>375 feet</u> 327.8 LCY/ on: Partly c 0 feet 0 lbs/LCY d and gravel - I	& L book	25 NA		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus Average pus Average pus Average pus Average site Material we Weight desc Job Conditie	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: lume: lume: stimated stimated consistency sh distant hourly pro- onsistency sh gradie e altitude ight: cription: <u>Oper</u>	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY Exhibit E CY CY Exhibit E CAT Hand 375 feet 327.8 LCY/ on: Partly c 0 feet 0 lbs/LCY d and gravel - I C 0.	& L book hr consolidated Dry 750	25 NA		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus Unadjusted Materials co Average pus Average pus Average site Material we Weight desc Job Conditie	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: lume: lume: stimated stimated stimated consistence sh distant hourly pro- onsistence sh gradie e altitude ight: cription: <u>Oper</u> aterial co	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY Exhibit E CAT Hand 375 feet 327.8 LCY/ on: Partly c 0 feet 0 lbs/LCY d and gravel - 1 0.1	kr consolidated Dry 750 100	25 NA 		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus Unadjusted Materials co Average pus Average pus Average site Material we Weight desc Job Conditie	cost/Ho Cost/Ho Cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA lume: lume: lume: stimated stimated costimated cost/Hour ALOUA actor: lume: lume: stimated stimated stimated cost/Hour Cost/H	pur:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY Exhibit E Cat Hand 375 feet 327.8 LCY/ on: Partly c 0 feet 0 lbs/LCY d and gravel - I 0.1 1.1	& L book hr consolidated Dry 750 100 000	25 NA 		
Operating Ripper op Operator Total unit C Total Fleet O <u>MATERIA</u> Initial Vol Swell fa Loose vol Source of es Source of es <u>HOURLY</u> Average pus Unadjusted Materials co Average pus Average pus Average site Material we Weight desc Job Conditie	cost/Hour Cost/Hour Cost/Hour Cost/Hour Cost/Hour ALOUA actor: lume: stimated stimated consistence sh distant hourly pionsistence sh gradie e altitude ight: cription: <u>Oper</u> terial co Dozin	our:	\$143.16 \$2.23 \$38.01 4.49 57.95 S CY CY CY Cat Hand 375 feet 327.8 LCY/ on: Partly c 00 feet 00 lbs/LCY d and gravel - I C 0.1 1.1 1.1	kr consolidated Dry 750 100	25 NA 		

Task # 03A

Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4887

Adjusted unit production:	160.20 LCY/hr	
Adjusted fleet production:	640.8 LCY/hr	

JOB TIME AND COST

Fleet size:	4 Dozer(s)
Unit cost:	\$1.651/LCY

Total job time:	630.62 Hours
Total job cost:	\$667,160

BULLDOZER WORK

: Blue Pit		ment of Dackini mater	al in mining area 2		
		Permit Action:	2015-10 Inspection	Permit/Job#:	M1981207
PROJECT IDEN	TIFICATIO	<u>DN</u>			
Task #: 03B		State: Colorado		Abbreviation:	None
Date: 11/16/	2015	County: Garfield		Filename:	M207-03b
User: ACY					
Agency or	organization i	name: DRMS			
HOURLY EQUI	PMENT CO	ST			
Basic Machine:	Cat D9T - 9	SU			
Horsepower:	405				
Blade Type: Attachment:	Semi-Unive				
Shift Basis:	3-shank ripp 1 per day	er			
Data Source:	(CRG)				
2- 2-	(/				
Cost Breakdown:			Utilization %		
Ownership Cost/Ho	our:	\$81.10	NA		
Operating Cost/Ho		\$143.16	100		
Ripper op. Cost/Ho	our:	\$2.23	25		
Operator Cost/He	our:	\$38.01	NA		
Total unit Cost/Hour	: \$264.4	0			
Total Fleet Cost/Hou MATERIAL QUA		.95			
MATERIAL QUA	ANTITIES	.95			
		.95			
MATERIAL OUA	ANTITIES 137,867				
MATERIAL OUA Initial Volume: Swell factor: Loose volume:	ANTITIES 137,867 1.124 154,907 LCY				
MATERIAL QUA Initial Volume: Swell factor:	ANTITIES 137,867 1.124 154,907 LCY volume:				
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated	ANTITIES 137,867 1.124 154,907 LCY volume:	Exhibit E & L			
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor:	Exhibit E & L			
MATERIAL QUA Initial Volume:	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce:	Exhibit E & L Cat Handbook			
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce:	Exhibit E & L Cat Handbook			
MATERIAL QUA Initial Volume:	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction:	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr	stockpile 1.1		
MATERIAL OUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly prod	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description:	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr	stockpile 1.1		
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly pub Materials consistence	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description: nt: 20 %	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr Partly consolidated	stockpile 1.1		
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly push Materials consistence	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description: ant: 20 % : 7,000	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr Partly consolidated	stockpile 1.1		
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly pr Materials consistenc Average push gradie Average site altitude	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description: ant: 20 % : 7,000 2,900	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr Partly consolidated feet	stockpile 1.1		
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly pr Materials consistenc Average push gradie Average site altitude Material weight: Weight description: Job Condition Correct	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description: mt: 20 % 7,000 2,900 Sand a ction Factor	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr Partly consolidated feet bs/LCY nd gravel - Dry	Source		
MATERIAL OUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly pr Materials consistenc Average push gradie Average site altitude Material weight: Weight description: Job Condition Corrector Oper	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description: ant: 20 % 2,900 Sand a ction Factor ator Skill:	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr Partly consolidated feet bs/LCY nd gravel - Dry 0.750	Source (AVG.)		
MATERIAL OUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly pr Materials consistence Average push gradie Average site altitude Material weight: Weight description: Job Condition Corree Oper Material co	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description: att: 20 % 2,900 Sand atterned ction Factor ator Skill: nsistency:	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr Partly consolidated feet bs/LCY nd gravel - Dry 0.750 1.100	Source (AVG.) (CAT HB)		
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly pr Materials consistence Average push gradie Average site altitude Material weight: Weight description: Job Condition Correct Oper Material co Dozin	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description: nt: 20 % : 7,000 2,900 Sand a ction Factor ator Skill: nsistency: g method:	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr Partly consolidated feet bs/LCY nd gravel - Dry 0.750 1.100 1.000	Source (AVG.) (CAT HB) (GEN.)		
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROD Average push distand Unadjusted hourly pr Materials consistenc Average push gradie Average site altitude Material weight: Weight description: Job Condition Corree Oper Material co Dozin	ANTITIES 137,867 1.124 154,907 LCY volume: swell factor: UCTION ce: roduction: y description: att: 20 % 2,900 Sand atterned ction Factor ator Skill: nsistency:	Exhibit E & L Cat Handbook 375 feet 327.8 LCY/hr Partly consolidated feet bs/LCY nd gravel - Dry 0.750 1.100	Source (AVG.) (CAT HB)		

Task # 03B

Spoil pile:	0.900	(SSD-FC)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2663

Adjusted unit production:	87.29 LCY/hr	
Adjusted fleet production:	349.16 LCY/hr	

JOB TIME AND COST

Fleet size:	4 Dozer(s)	
Unit cost:	\$3.030/LCY	
otal ich time:	113 66 Hours	

 Total job time:
 443.66 Hours

 Total job cost:
 \$469,366

BULLDOZER RIPPING WORK

Task description:	Rip pit floor/compacted are	eas		
Site: Blue Pit	Permit Action:	2015-10 Inspectio	on Permit/Job#:	M1981207
PROJECT IDEN	TIFICATION			
Task #: 04A Date: 11/16 User: ACY	/2015 State: Colorado County: Garfield		Abbreviation: Filename:	None M207-04a
Agency or	organization name: DRMS			
HOURLY EQUI	PMENT COST			
Basic Ma		ł	Horsepower:	310
Ripper Attack	hment: 3-Shank Ripper		Shift Basis: 1 p	er day
		I	Data Source: (C	CRG)
Cost Breakdown:		U	tilization %	
		9.05	NA	
Dinner		08.22 7.46	100	
Кірреі		8.01	100 NA	
		22.73		
	Total Fleet Cost/Hour: \$22	22.73		
MATERIAL QU	ANTITIES Se	lected estimating me	ethod: Area	
Alternate Methods:				
smic: NA	Bank Volume:	NA	BCY	NA
Area: 20.10	acres Rip Depth (ft):	2.50	Volume: 81,070	BCY or C
S	ource of estimated quantity: Exhib	it E & L		
HOURLY PROD	DUCTION			
Seismic:	2			
	Seismic Velocity:	NA	feet/second	
Area:				
	Average Ripping Depth:	2.56	mph	
	Average Ripping Width:	7.08	degrees	
	Average Ripping Length:	300.00	feet	
	Average Dozer Speed:	88.00	feet	
	Average Maneuver Time: Production per unit area:	0.25	feet acres/hour	
Job Condition Corre		0.800		
	justed Hourly Unit Production:	0.800	Acres/hr	
Ollad				
	Site Altitude:	7,000	feet	
	Altitude Adj: Job Efficiency:	<u> </u>	(CAT HB)	
	Net Correction:	0.83	(1 shift/day) multiplier	
	Adjusted Hourly Unit Production: Adjusted Hourly Fleet Production:		Acres/hr Acres/hr	
JOB TIME AND	COST			
Fleet size:	1 Grader(s)	Total job time:	30.29	Hours
Unit cost:	\$335.626 Per acre	Total job cost:	\$6,746	

Post-Mining Drainage Channel Construction (Ditches)

Blue Pit		Permit Action: 2015-10 Inspection			Permit/Jo	b#: <u>M1981207</u>	
PROJECT	<u>IDENTIFIC</u>	CATION					
Task #: Date:	05A 11/16/2015	Stat				Abbreviatio Filenam	
User:	ACY						
Ag	ency or organi	zation name:	DRMS				
Channel	L	D	W (bot)	Slopes	W (top)	V/LF	V tot
Grouted	(ft) 3,417	(ft) 1.50	(ft) 2.00	(X:1) 2.00	(ft) 8.00	(CY) 0.2778	(CY) 949
Channel							
BCPD-S: Totals:	CBCSLf 3,417	CBCSD	CBCSW	CBCSSx	CBCSTO	CBCSVL	CBCSVT 949
Riprap	Slope L	Surface Area	Din	rap V			
Riprap	(ft)	(ft)	· ·	(ft)			
BCPD-M:	36,028.86	36,029		67			
BCPD-S:	CBCSLS	CBCSSA		CSRV			
Totals:	1	36,029	6	67			
Materials Ne	eded:						
	otextile (SY):	4,003					
	Riprap (CY):	667					
Exca	avation (CY):	949					
Material Cos	<u>ts:</u>						
Means Refe	Geotexti rence 02340 3		25				
Means Refe	rence 02370 4	50 0100 ^{\$45}	.10				
Means Refe	Excavatio rence 02315 6		71				
<u>Totals:</u>							
Geo	otextile (SY):	\$9,007.22					
	Riprap (CY):	\$28,756.37				1	
Exca	avation (CY):	\$3,521.41					
Hours:							
Geo	otextile (SY): 87.5 SY/HR	45.75					
	Riprap (CY): 7.75 CY/HR	86.09					
	1.15 CI/IIIN						

MOTOR GRADER WORK

Task description:	Catchment bench	les				
ite: Blue Pit	Pern	nit Action:	2015-10 Inspe	ection P	ermit/Job#:	M1981207
PROJECT IDENTIF	ICATION					
Task #: 05B Date: 11/19/2015 User: ACY		Colorado Garfield			reviation: Filename:	None M207-05b
Agency or organ		MS				
HOURLY EQUIPME						
Basic Machine Ripper Attachment			_1 _1	Horsepower: Shift Basis: Data Source:	1 p	259 er day CRG)
Cost Breakdown:						
Oper Ripper Oper Ope	rship Cost/Hour: ating Cost/Hour: ating Cost/Hour: rator Cost/Hour: Unit Cost/Hour:	\$42.0 \$69.8 \$0.0 \$24.4 \$136.	38 0 7	Utilization % NA 100 NA	-	
	Fleet Cost/Hour:	\$136.				
Source	to be graded or ripped e of estimated acreage		x 35,399' L			acres
HOURLY PRODUCT						
Net grading of	Average Grader Spe Selected Applicati Selected Blade An Effective Blade Leng of blade overlap per por ripping width per por Hourly Unit Producti Factors	ion: gle: gth: ass: ass:	45 9.90 2.00 7.90 1.6758	mph ing/cleaning (0-3 degrees feet feet feet feet acres/ho te Altitude: 7000	our	5
		Source				
Altitude Adj: Job Efficiency: Net Correction:	1.00 0.90 0.9000	(CAT HB) (1sh/d, fav.) multiplier				
	djusted Hourly Unit F ljusted Hourly Fleet F	-	1.5082 1.5082	acres/Hour acres/Hour		
JOB TIME AND COS	<u>ST</u>					
Fleet size: 1	Grader(s)		Total job time	: 4.4 4	1	Hours
Unit cost: \$90	42 per acre		Total job cost	: \$60	6	

TRUCK/LOADER TEAM WORK

Task description	: Energy	Dissapation Roc	ks			
Site: Blue Pit		Permit Action	on: 2015-10 Ins	pection	Permit/Job#:	M1981207
PROJECT ID	ENTIFICATION	I				
Task #:05		State: Colora			Abbreviation:	None
	/19/2015	County: Garfie	ld		Filename:	M207-05c
User: <u>A</u>						
Agency	or organization nat	me: DRMS				
HOURLY EQ	UIPMENT COS	<u>r</u>		Shift	basis: <u>1 per day</u>	
			Equipment Descri	ption		
	Truck Loader Tea		773F			
		the second se	Г 990Н			
51	Ipport Equipment -I		D8T - 8SU D8T - 8SU			
Road	Maintenance – Mol		D81 - 850 Г 14М			
Roue			er Tanker, 7,000	Gal.		
Cost Breakdow	n: Truck/Lo	ader Team		Equipment	Maint	enance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grad	ler Water Truck
%Utilization-machine	: 100	100	0	0	0	0
Ownership cost/hour	: \$65.23	\$129.39	\$62.67	\$62.67	\$42.03	\$32.60
Operating cost/hour	: \$124.51	\$166.71	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour	: NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour	: \$27.80	\$37.13	\$38.01	\$38.01	\$24.47	\$27.88
Unit Subtotals	: \$217.54	\$333.22	\$100.68	\$100.68	\$66.49	\$60.48
Number of Units	: 2	2	1	1	1	1
Group Subtotals	: Work:	\$1,101.52	Support:	\$201.36	Mai	int: \$126.97

Total work team cost/hour: \$1,429.85

MATERIAL QUANTITIES

Initial volume:	40	CCY	Swell factor:	1.000	
Loose volume:	40	LCY			
Sour	ce of estimated volume:	Division of R	Reclamation, Mini	ng & Safety	
Source of	f estimated swell factor:	Exhibit E & I	L		
•	Material Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

HOURLY PRODUCTION

Truck Capacity: Truck Payload (weight) Basis

Truck Payload (weight) Bas	<u>1S:</u>		
Material weight:	3,000	Pounds/LCY	
Description:	User Provided		
Rated Payload:	122,520	Pounds	
Payload Capacity:	40.84	LCY	

passes

Minutes

Minutes

Minutes

LCY
LCY
p.
P•
minu
Source
(Cat HB)
(Cat HB) (Cat HB)
(Cat HB) (Cat HB) (Cat HB)
(Cat HB) (Cat HB) (Cat HB) (Cat HB)
(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes
(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes
(Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes

penetration 5.0

Truck/Loader Worksheet Cont'd

Haul Rou								
Seg #	Haul D (Ft)		Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
1	1000.0	0	3.00	5.00	8.00	1023	1.034	
					Haul Time:	1.034	minutes	
Return Ro	oute:				-			
Seg #	Haul D	istance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	1000.00)	-3.00	5.00	2.00	3569	0.464	
					Return Time:	0.464	minutes	
				Total Tru	ck Cycle Time:	6.968	minutes	
Loading Too								
Produ		556.06	LCY/Hour		Adjusted for j	ob efficiency:	461.53	_ LCY/Hour
Truck Unit Produ	iction	348.74	LCY/Hour		Adjusted for j	ob efficiency:	289.45	LCY/Hour
Optimal No. of Tr	ucks:	2	Truck(s)		Selected Num	per of Trucks:	1	Truck(s)
					k team productio			
			Adjusted sing Adjusted multip		er team productio			
			Aujusteu mump		a team production	5/0.	.90 LC 1/F	iour
JOB TIN	ME ANI) COST						
Fleet	size:	2	Team(s)	ſ	Fotal job time:	0.07	Hou	rs
Unit	cost:	\$2.470	/LCY	-	Total job cost:	\$99		

TRUCK/LOADER TEAM WORK

Task description:	Transp	ort topsoil to pit	floor			
Site: Blue Pit		Permit Acti	on: 2015-10 Ins	pection	Permit/Job#:	M1981207
PROJECT IDE	NTIFICATION	<u>1</u>				
Task #: _ 06A		State: Color	ado	ł	Abbreviation:	None
Date: 11/16/2015 County: Garfield Filename: User: ACY						M207-06a
Agency	or organization nat	me: DRMS				
HOURLY EQU	IPMENT COS	<u>T</u>		Shift b	asis: <u>1 per day</u>	
			Equipment Descri	ption		
	Truck Loader Tea		773F			
		and the second se	Т 990Н			
Sup	port Equipment -I		D8T - 8SU			
			D8T - 8SU			
Road M	Maintenance – Mot		T 14M			
	-Wa	ater Truck: Wa	ter Tanker, 7,000	Gal.		
Cost Breakdown:	Truck/Lo	ader Team	Support l	Equipment	Maint	enance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grad	ler Water Truck
%Utilization-machine:	100	100	100	5	50	50
Ownership cost/hour:	\$65.23	\$129.39	\$62.67	\$62.67	\$42.03	\$32.60
Operating cost/hour:	\$124.51	\$166.71	\$108.22	\$5.41	\$34.94	\$42.80
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$27.80	\$37.13	\$38.01	\$38.01	\$24.47	\$27.88
Unit Subtotals:	\$217.54	\$333.22	\$208.90	\$106.09	\$101.43	\$103.29
Number of Units:	4	2	1	1	1	1
Group Subtotals:	Work:	\$1,536.60	Support:	\$314.99	Mai	int: \$204.72

Total work team cost/hour: \$2,056.31

MATERIAL QUANTITIES

Initial volume:	161,333	CCY	Swell factor:	1.215
Loose volume:	196,020	LCY		
Source	e of estimated volume:	Division of	Reclamation, Mini	ng & Safety
Source of	estimated swell factor:	Exhibit E &	L	
I	Material Purchase Cost:	\$0.00		
	Total Cost:	\$0.00	1/11/1	

HOURLY PRODUCTION

Truck Capacity:							
Truck Payload (weight) Bas	sis:						
Material weight:	1,600	Pounds/LCY					
Description:	Top Soil						
Rated Payload:	122,520	Pounds					
Payload Capacity:	76.58	LCY					

(Cat HB)

minutes

minutes

minutes

0.700

1.630

1.100

CIRCES Cost Estimating Software

Minutes

Minutes

Minutes

-0.090

0.510

1.630

Adjusted for site altitude:

Adjusted for site altitude:

Adjusted for site altitude:

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

Truck Bed (volume) Basis:

Struck Volume:	35.00
Heaped Volume:	46.50
Average Volume:	40.75
Adjusted Volume:	46.50

Final Truck Volume Based on Number of Loader Passes: 41.63 LCY

Site Altitude (ft.): 7000 feet

Loading Tool Capacity

		Bucket Size Class:	NA
Rated Capacity:	11.250	LCY (heaped)	
Bucket Fill Factor:	0.925	Loose material - 1/8" to 3/8" (90 - 95%) 0.925	
Adjusted Capacity:	10.406	LCY	

Job Condition Corrections:

Truck Cycle Time:

Truck Maneuver and Dump Time:

penetration 5.0

Truck Exchange Time:

Truck Travel (Haul & Return) Time:

Truck Load Time:

0.70

1.630

1.10

Minutes

Minutes

Minutes

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

LCY LCY LCY LCY

Loading Tool Cycle Time:	Fill Truck:		4 passes		
Excavators and Front Shove	<u>ls:</u>				
•	s. Job Condition Rating:	NA			
Selected Value	within this Basic Rating:				
Track Loaders –	Material Description:				
Cycle Time Elements (min.):					
Load: NA	Maneuver:	NA	Dump:	0.100	
Wheel and Track Loaders -	Unadjusted Basic Loader	r Cycle Time (load, dump,	maneuver):	0.6	500 minutes
Cycle Time Factors			Factor (n	1in.)	Source
Material:	Material 1/8" to 3/4" dia	ameter -0.02	-0.020 (Cat		(Cat HB)
Stockpile:	Conveyor or dozer piled	1 10 ft. high or less 0.01	0.010)	(Cat HB)
Truck Ownership:	Common ownership of	-0.040)	(Cat HB)	
Operation:	Constant operation -0.0	4	-0.040)	(Cat HB)
Dump Target:	Nominal target 0.00		0.000		(Cat HB)

Net Cycle Time Adjustment:

Adjusted Loader Cycle Time:

Net Load Time per Truck:

Haul Ro	ute:							
Seg #	Haul 1 (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
1	1000.	00	3.00	5.00	8.00	1023	1.034	
					Haul Time:	1.034	minutes	
Return F	Route:				-			
Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
1	1000.	00	-3.00	5.00	2.00	3569	0.464	
					Return Time:	0.464	minutes	
				Total True	ck Cycle Time:	4.928	minutes	
	luction	1,071.89	LCY/Hour		Adjusted for j	ob efficiency:	889.67	_ LCY/Hour
Truck Unit Proc	luction -	506.80	LCY/Hour		Adjusted for j	ob efficiency:	420.64	_ LCY/Hour
Optimal No. of T	Trucks:	2	Truck(s)		Selected Numb	per of Trucks:	2	Truck(s)
			Adjuste	d hourly trucl	k team productio	on: 841.	.28 LCY/H	Hour
					r team production			
			Adjusted multip	le truck/loade	r team production	on: 1,68 2	2.57 LCY/H	Hour
JOB TI	ME AN	D COST						
Flee	size:	2	Team(s)	Т	Total job time:	116.5	O Hou	rs
Unit	cost:	\$1.222	/LCY]	Fotal job cost: _	\$239,5	60	

BULLDOZER WORK

Task descu	ription:		Placer	nent of to	osoil on slop	ed areas			
e: Blue Pi	t			Per	mit Action:	2015-10	Inspection	Permit/Job#	: M1981207
PROJEC	<u>CT IDEN</u>	TIFI	CATIO	N					
Task #: Date: User:	11/16/	2015		State: County:	Colorado Garfield			Abbreviation: Filename:	None M207-07a
A	Agency or	organi	zation n	ame: Dl	RMS				
HOURL	Y EQUI	<u>PME</u>	T CO	<u>5T</u>					
	Iachine:	the second second	09T - 95	U					
	epower:	405							
	le Type:		-Univer	sal					
	chment:	NA							
	ft Basis:	1 per							
Data	Source:	(CRO	(t						
Cost Break	kdown:								
						<u>Ut</u>	<u>ilization %</u>		
	ip Cost/Ho			\$72.57			NA		
	ng Cost/Ho			\$143.16	5		100		
	p. Cost/Ho			\$0.00			25		
Operato	or Cost/He	our:		\$38.01			NA		
Total unit	Cont/Itaua		¢052.7	,					
Total Unit		_	\$253.73 \$1,014.						
Initial Ve Swell Loose ve Source of e	factor: olume:		54 LCY	Exhibit E	······································				
Source of a				Cat Hand					
HOURLY	<u>Y PROD</u>	UCTI	[<u>ON</u>						
Average p	ush distan	ce:		75 feet					
Unadjusted				27.8 LCY	/hr	21			
Materials of	consistenc	y desc	ription:	Loose	stockpile 1.2				
Average pi Average si			15 % 7,000 f	eet					
Material w	eight:	-	1,600 1	os/LCY					
Weight des	scription:		Top So	il					
Job Condit				~	750	1	Source		
		ator Sl			.750		(AVG.)		
N	faterial co				.200		(CAT HB)		
	Dozin	g metr Visibil			.000		(GEN.) (AVG.)		
						,		· · · · · · · · · · · · · · · · · · ·	
	JOD 6	efficier	icy:	0	.830	(1 SHIFT/DAY)	

0.900	(SSD-FC)
0.666	(CAT HB)
1.000	(CAT HB)
1.438	(CAT HB)
1.000	(PAT)
	0.666 1.000 1.438

Net correction: 0.6439

Adjusted unit production:	211.07 LCY/hr	
Adjusted fleet production:	844.28 LCY/hr	

JOB TIME AND COST

Fleet size:	4 Dozer(s)
Unit cost:	\$1.202/LCY
Total job time:	218.12 Hours
Total job cost:	\$221,377

BULLDOZER WORK

Task description:	Placement of topsoil on open	ı pit areas		
: Blue Pit	Permit Action:	2015-10 Inspection	Permit/Job#:	M1981207
PROJECT IDENTIFI	CATION			
Task #: 07B	State: Colorado		Abbreviation:	None
Date: 11/16/2015	County: Garfield		Filename:	M207-07b
User: ACY				
Agency or organ	ization name: DRMS			
HOURLY EQUIPME	NT COST			
	D9T - 9SU	_		
Horsepower: 405		<u></u>		
* L	ni-Universal			
	er day			
Data Source: (CR				
Cost Breakdown:	9			
	A70.57	Utilization %		
Ownership Cost/Hour:	\$72.57	NA		
Operating Cost/Hour: Ripper op. Cost/Hour:	\$143.16 \$0.00	100 25		
Ripper op. Costribui.	\$38.01	NA		
		INA		
Operator Cost/Hour:	450.01			
	\$253.73			
Operator Cost/Hour:	\$253.73 \$1,014.94			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32	\$253.73 \$1,014.94 <u>ITIES</u> 28 27 LCY			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum	\$253.73 \$1,014.94 ITIES 28 27 27 LCY ne: Exhibit E & L			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32	\$253.73 \$1,014.94 ITIES 28 27 27 LCY ne: Exhibit E & L			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL OUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum	\$253.73 \$1,014.94 ITIES 28 27 LCY ne: Exhibit E & L factor: Cat Handbook			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated swell HOURLY PRODUCT	\$253.73 \$1,014.94 ITIES 28 27 LCY ne: Exhibit E & L factor: Cat Handbook			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUANT</u> Initial Volume: <u>32,42</u> Swell factor: <u>1.429</u> Loose volume: <u>46,32</u> Source of estimated volum Source of estimated swell	\$253.73 \$1,014.94 ITIES 28 27 LCY ne: Exhibit E & L factor: Cat Handbook ION 375 feet			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance:	\$253.73 \$1,014.94 ITIES 28 27 27 27 27 27 27 27 27 28 28 28 28 29 27 27 27 27 28 28 29 27 27 27 27 27 27 28 28 29 27 27 27 27 27 27 28 28 29 27 27 27 27 27 27 27 27 27 27			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL OUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc	\$253.73 \$1,014.94 ITIES 28 27 27 27 27 27 27 27 27 28 28 28 28 29 27 27 27 27 28 28 29 27 27 27 27 27 27 28 28 29 27 27 27 27 27 27 28 28 29 27 27 27 27 27 27 27 27 27 27			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency dese Average push gradient:	\$253.73 \$1,014.94 ITIES 28 27 LCY ne: Exhibit E & L factor: Cat Handbook ION 375 feet tion: 327.8 LCY/hr cription: Loose stockpile 1.2 0 %			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly product Materials consistency dest Average push gradient: Average site altitude:	\$253.73 \$1,014.94 ITIES 28 27 LCY ne: Exhibit E & L factor: Cat Handbook TON 375 feet tion: 327.8 LCY/hr cription: Loose stockpile 1.2 0 % 7,000 feet			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL OUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency dese Average push gradient: Average site altitude: Material weight:	\$253.73 \$1,014.94 ITIES 28 27 LCY ne: Exhibit E & L factor: Cat Handbook TON 375 feet 327.8 LCY/hr cription: Loose stockpile 1.2 0 % 7,000 feet 1,600 lbs/LCY Top Soil Factor			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL OUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency dese Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator S	\$253.73 \$1,014.94 ITIES 28 27 LCY ne: Exhibit E & L factor: Cat Handbook TON 375 feet 327.8 LCY/hr cription: Loose stockpile 1.2 0 % 7,000 feet 1,600 lbs/LCY Top Soil Factor Skill: 0.750	<u>Source</u> (AVG.)		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL OUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency dese Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator S Material consistency	\$253.73 \$1,014.94 ITIES 28 28 28 28 28 27 27 27 27 28 28 28 28 28 28 28 28 28 28	<u>Source</u> (AVG.) (CAT HB)		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency dese Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator S Material consistency Dozing met	\$253.73 \$1,014.94 ITIES 28 27 27 27 27 27 27 27 27 28 28 28 28 28 28 28 28 28 28	<u>Source</u> (AVG.) (CAT HB) (GEN.)		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL OUANT Initial Volume: 32,42 Swell factor: 1.429 Loose volume: 46,32 Source of estimated volum Source of estimated volum Source of estimated swell HOURLY PRODUCT Average push distance: Unadjusted hourly produc Materials consistency dese Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator S Material consistency	\$253.73 \$1,014.94 ITIES 28 27 LCY ne: Exhibit E & L factor: Cat Handbook TON 375 feet tion: 327.8 LCY/hr cription: Loose stockpile 1.2 0 % 7,000 feet 1,600 lbs/LCY Top Soil Factor Skill: 0.750 mcy: 1.200 hod: 1.000	<u>Source</u> (AVG.) (CAT HB)		

Task # 07B

Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9668

Adjusted unit production:	316.92 LCY/hr
Adjusted fleet production:	1267.68 LCY/hr

JOB TIME AND COST

Fleet size:	4 Dozer(s)
Unit cost:	\$0.801/LCY
Total ich time.	26 54 11
Total job time:	36.54 Hours
Total job cost:	\$37,090

REVEGETATION WORK

: =	Blue Pit		Pe	rmit Action:	2015-10 Inspection	Permit/Job	#: <u>M1981207</u>
<u>PR</u>	OJECT	IDENTIFIC	ATION				
	Task #:	08A	State:	Colorado		Abbreviation:	None
	Date:	11/16/2015	County:	Garfield		Filename:	M207-08a
	User:	ACY				-	

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
Indian Ricegrass - Native	2.50	8.09	\$16.85
Mountain Brome - Bromar	3.75	6.03	\$12.75
Slender Wheatgrass - Pryor	5.00	18.25	\$15.45
Thickspike Wheatgrass - Critana	5.00	17.68	\$25.85
Rabbitbrush, Rubber	2.00	29.80	\$73.20
Western Wheatgrass - Barton	5.00	12.63	\$18.40
Needlegrass, Green - Lodorm	3.75	15.58	\$20.21
Saltbush, Four Wing	2.00	2.75	\$21.46
		110.81	\$204.17

Totals Seed Mix 29.00

Application

Description		Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)		\$404.00
	Total Seed Application Cost/Acre	\$404.00

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$16.24	\$16.24
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$546.24

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
					\$
		Tot	als Nursery Stoo	k Cost / Acre	\$0.00

JOB TIME AND COST

No. of Acres:	79.9	Cost /Acre:	\$1,379.80	
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,379.80	
*Selected Replanting Work Items:	TILLING, SEEDIN	G,MULCHING		
Initial Job Costs \$110.246.02				

Initial Job Cost:	\$110,246.02
Reseeding Job Cost:	\$27,561.51
Total Job Cost:	\$137,808
Job Hours:	100.00

REVEGETATION WORK

e: Blue Pit		Perm	it Action:	2015-10 Inspection	Permit/Job#	t: M1981207
PROJECT	IDENTIFIC	ATION				
Task #:	08B	State: 0	Colorado		Abbreviation:	None
Date:	11/16/2015	County: C	Garfield		Filename:	M207-08b
Date.	ACY					

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
Meadow Brome - Fleet	7.00	6.43	\$18.41
Orchardgrass - Potomac	8.00	99.17	\$16.16
Alfalfa - Ladak (inoculated)	12.00	57.85	\$37.44
Totals Seed Mix	27.00	163.45	\$72.01

Application

Description	Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)	\$404.00

Total Seed Application Cost/Acre

\$404.00

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$16.24	\$16.24
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$546.24

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
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

JOB TIME AND COST

Entimat	No. of Acres:		\$1,247.64
	ed Failure Rate: ng Work Items:	 TILLING,SEEDIN	 \$1,247.64
Initial Job Cost:	\$25,077.56		
Reseeding Job Cost:	\$6,269.39		
Total Job Cost:	\$31,347		
Job Hours:	25.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Blue Pit		Permit	Action: 2015	-10 Inspe	ction	Permit/Job#: <u>M</u>	1981207
PROJECT IDE	NTIFICATI	ON					
Task #: 09	A	State: Co	olorado		Abbre	eviation: None	
	/16/2015		arfield		and the second sec	ilename: M207	
Agency	or organizatio	n name: DRMS					
EQUIPMENT '	FRANSPOR	<u>T RIG COST</u>					
					Shift ba Cost Data Sour		
True	k Tractor Desc	rintion: CENE	DIC ON UICU			CR, 6X4, DIESEI	
ITue	K Hactor Desc	inpuoli. OENE			P (2ND HALF,		L POWERED,
Truc	k Trailer Desc	ription: G	ENERIC FOLD			ROP DECK EQU	IPMENT
					(25T, 50T, A)		
					<u> </u>		•••••
Cost Breakdown:							
Available Rig C	apacities	0-25 Tons	26-50 Tons	51	+ Tons		
Ownership	o Cost/Hour:	\$16.63	\$18.37	\$	22.33		
Operating	g Cost/Hour:	\$44.38	\$46.13	\$	50.07		
	r Cost/Hour:	\$27.66	\$27.66	\$	27.66		
Helpe	r Cost/Hour:	\$0.00	\$25.39	\$	25.39		
Total Uni	t Cost/Hour:	\$88.67	\$117.55		125.45		
JON ROADAR	LE EQUIPN	AENT:					
	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Machine		0.01	0 .0 1 .	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	Unit (TONS)	Cost/hr/ unit	Cost/hr/uni t	5120			
Machine	Unit (TONS) 66.13	\$81.10		4	fleet \$826.18	\$501.80	\$500.00
Machine Description Cat D9T - 9SU Cat 773F	(TONS)	\$81.10 \$65.23	t \$125.45 \$117.55		fleet \$826.18 \$731.12	\$501.80 \$470.20	\$500.00 \$500.00
Machine Description Cat D9T - 9SU	(TONS) 66.13 49.74 83.34	\$81.10 \$65.23 \$129.39	t \$125.45	4	fleet \$826.18		
Machine Description Cat D9T - 9SU Cat 773F CAT 990H CAT 14M	(TONS) 66.13 49.74 83.34 23.57	\$81.10 \$65.23 \$129.39 \$42.03	t \$125.45 \$117.55 \$125.45 \$88.67	4 4	fleet \$826.18 \$731.12 \$509.67 \$130.70	\$470.20 \$250.90 \$88.67	\$500.00
Machine Description Cat D9T - 9SU Cat 773F CAT 990H CAT 14M Water Tanker, 7,000 Gal.	(TONS) 66.13 49.74 83.34 23.57 29.65	\$81.10 \$65.23 \$129.39	t \$125.45 \$117.55 \$125.45 \$88.67 \$117.55	4 4 2	fleet \$826.18 \$731.12 \$509.67	\$470.20 \$250.90	\$500.00 \$250.00
Machine Description Cat D9T - 9SU Cat 773F CAT 990H CAT 14M Water Tanker,	(TONS) 66.13 49.74 83.34 23.57	\$81.10 \$65.23 \$129.39 \$42.03	t \$125.45 \$117.55 \$125.45 \$88.67	4 4 2 1	fleet \$826.18 \$731.12 \$509.67 \$130.70	\$470.20 \$250.90 \$88.67	\$500.00 \$250.00 \$250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$20.91	1	\$20.91	\$20.91
Drill/Broadcast Seeder with Tractor	\$75.35	1	\$75.35	\$75.35
Power Mulcher (Reinco M90)	\$48.76	1	\$48.76	\$48.76
		Subtotals:	\$145.02	\$145.02

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	GLENWOOD SPRINGS 15.00 45.00	miles mph
Total Non-Roadable Mob/Demob Cost *	\$11,772.55	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$96.68	-

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.33	0.33
Return Time (Hours):	0.33	0.33
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.67	0.67

JOB TIME AND COST

Total job time: **3.33** Hours

Total job cost: \$11,869

2

.

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Sec	ondary mobilize	reclamation cr	ew/equipr	nent		
te: Blue Pit		Permit	Action: 2015	-10 Inspec	tion	Permit/Job#: <u>M</u>	1981207
PROJECT IDE	NTIFICATI	<u>ON</u>	•				
Task #: 09E Date: 11/ User: AC	16/2015	The second se	olorado arfield			eviation: None lename: M207	
Agency	or organizatior	n name: DRMS					
EQUIPMENT 1	RANSPOR	T RIG COST					
Truck	Tractor Desc	ription: GENE	RIC ON-HIGH		Shift ba Cost Data Sour JCK TRACTO		ta
Trucl	k Trailer Desc		ENERIC FOLD	400 HP DING GOC	(2ND HALF,	2006) OP DECK EQU	
Cost Breakdown:		0-25 Tons	26 F0 T	E1.	(T)		
Available Rig Ca	Cost/Hour:	\$16.63	26-50 Tons \$18.37		- Tons 22.33		
	Cost/Hour:	\$44.38	\$46.13		50.07		
	Cost/Hour:	\$27.66	\$27.66		27.66		
	Cost/Hour:	\$0.00	\$25.39		25.39		
	Cost/Hour:	\$88.67	\$117.55		25.45		
NON ROADAB	<u>LE EQUIPN</u>	<u>IENT:</u>					
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit (TONS)	Cost/hr/ unit	Cost/hr/uni t	Size	Cost/hr/ fleet	Cost/hr/ fleet	Cost/ fleet
				Subtotals:	\$0.00	\$0.00	\$0.00
ROADABLE E(UIPMENT	<u>:</u>					
Machine Descrip	tion	Total Cost/hr/	Fleet Siz	ze 🛛	Haul Trip	Return Trip	

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$20.91	1	\$20.91	\$20.91
Drill/Broadcast Seeder with Tractor	\$75.35	1	\$75.35	\$75.35
Power Mulcher (Reinco M90)	\$48.76	1	\$48.76	\$48.76
		Subtotals:	\$145.02	\$145.02

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GLENWOOD SPRINGS	
Total one-way travel distance:	15.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$0.00	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$96.68	

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.33	0.33
Return Time (Hours):	0.33	0.33
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.67	0.67

JOB TIME AND COST

.

Total job time: 0.67 Hours

Total job cost: \$97