COST SUMMARY WORK

Task desci	iption:	Cost Summary				
Site: Tucson	South Resourc	e Per	rmit Action:	AM01_Nov2019	Permit/Job	#: <u>M2004044</u>
PROJECT Task #:	<u>r identific</u> 000	ATION State:	Colorado		Abbreviation:	None
Date: User:	11/15/2019	County:	Adams		Filename:	M044-000

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill remaining East Cell mining face and side slopes	LOADER	2	78.41	\$49,073
002	Rough grade disturbed area in East Cell (85' x 2300')	GRADER	1	1.95	\$404
003	Replace topsoil on backfilled mining cell area above HWL	SCRAPER1	1	45.69	\$63,272
004	Final grade East Cell (85' x 2300') + (800'+100')	GRADER	1	2.76	\$571
005	Excavate, haul and backfill material for South Mine Area	TRUCK1	1	1,582.44	\$2,285,607
006	Replace topsoil, South Cell	SCRAPER1] 1	8.91	\$12,338
007	Replace topsoil on internal haul roads and main site ent.	SCRAPER1	1	1.82	\$2,518
008	Replace topsoil on conveyor route	SCRAPER1	1	3.10	\$4,288
009	Replace topsoil on stockpile areas	SCRAPER1] 1	3.03	\$4,196
010	Scarify internal haul roads and conveyor route	GRADER] 1	3.62	\$748
011	Final grade all miscellaneous areas (8.3 acres x .5')	GRADER] 1	3.62	\$734
012	Revegetation of Affected Land	REVEGE	1	103.00	\$112,332
013	Mobilization	MOBILIZE] 1	8.76	\$32,278
014	East Cell Slurry Wall, Contingency	NA	1	0.00	\$145,800
		1847.11	\$2,714,159		

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$54,826
Performance bond:	1.05	Total =	\$28,499
Job superintendent:	923.55	Total =	\$64,085
Profit:	10.00	Total =	\$271,416
		TOTAL O & P =	\$418,826
		CONTRACT AMOUNT (direct + O & P) = $($	\$3,132,985
Profit:	10.00	TOTAL O & P =	\$418,826

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$133,152
Reclamation management and/or administration:	5.00		\$156,649

TOTAL Proposed	<u>\$3,505,000</u>		
TOTAL BO	\$3,504,711		
	TOTAL INDIRECT	COST =	\$790,552
CONTINGENCY:	3.00	Total =	\$81,425

WHEEL LOADER - LOAD AND CARRY WORK

Task description:	Backfill remaining East Co	ell mining face and side sloj	pes	
: Tucson South Resource	Permit Action	a: <u>AM01_Nov2019</u>	Permit/Jol	b#: <u>M2004044</u>
PROJECT IDENTIFICA	TION			
Task #: 001	State: Colorado	`	Abbreviation:	None
Date: $11/14/2019$	County: Adams		Filename:	M044-001
User: JLE	County. <u>Auanis</u>		Filename.	W1044-001
Agency or organiza	tion name: DRMS			
HOURLY EQUIPMENT	COST			
	AT 990H	Horsepow	er:	621
	DPS Cab	Shift Bas		ber day
		Data Source		CRG)
Cost Breakdown:				
CON DICARUOWII.		Utilization %		
Ownership Cost/Hou	r: \$141.85	NA		
Operating Cost/Hou		100		
Operator Cost/Hou		NA		
Total Unit Cost/Hou				
Total Fleet Cost/Hou	ır: \$625.78			
MATERIAL QUANTITI	ES			
Initial volume: 93,15	50 CCY	Swell factor: 1.00	0	
Loose volume:	93,150 LCY		0	
		×		
Source of es Source of estima	timated volume: Exhibit ted swell factor: Cat Har			
Source of estima	Led swell factor. Cat Har	IUDOOK		
HOURLY PRODUCTIO	N			
Loader Cycle Time:	Unadjusted Basic	Cycle Time (load, dump,	0.600	minutes
Cuele Time Festers	1	maneuver):		Source
Cycle Time Factors Material:	Mixed material 0.02		actor (min.) 0.020	Source (Cat HB)
Stockpile:	Conveyor or dozer piled 1	10 ft high and up		
stockpile.	0.00	to n. mgn und up	0.000	(Cat HB)
Truck Ownership:	Common ownership of tru	ucks and loaders -	0.040	(Cat IID)
1	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 Cv	cle Time Adjustment:	-0.060	minutes
		ed Basic Cycle Time:	0.540	minutes

Rolling Resistance - Road Conditions

Haul:Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Return:Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res.	Travel Time (minutes)	Source		
Haul Route:	300	0.00	5.00	5.00	0.2493	(Cat HB)		
Return Route:	300	0.00	5.00	5.00	0.2483	(Cat HB)		
Load Bucket Capacity	minutes minutes							
Rated Capa	city: 11	.25 LCY	(heaped)					
Bucket Fill Fac	· · · · · · · · · · · · · · · · · · ·		er - rock/dirt mi	xtures (100-1	20%) 1.100			
Adjusted Capa		.38 LCY						
Job Condition Correction Site Altitude: <u>4960</u> feet								
		Sc	ource					
Altitude Adj	: 1.00	(CA	T HB)					
Job Efficiency	: 0.83	(1 sh	ift/day)					
Net Correction	: 0.83	mult	iplier					
U		rly Unit Product			/Hour			
		rly Unit Product			/Hour			
	Adjusted Hour	ly Fleet Product	tion: 1,18 7	1.80 LUY	/Hour			
JOB TIME AND COST								
Fleet size:	2 L	oader(s)	Total job	time:	78.42	Hours		
Unit cost:	\$0.527 /I	LCY	Total job	cost:	\$49,073	-		

MOTOR GRADER WORK

: Tucson South Resourc			Last et (6	5' x 2300')	
. I ueson South Resource	e Permit	Action: A	M01_Nov2	019 P	ermit/Job#: <u>M2004044</u>
PROJECT IDENTIFIC	CATION				
Task #: 002	State: Co	lorado		Abbrev	viation: None
Date: 11/14/2019		ams		File	ename: M044-002
User: JLE					
Agency or organiz	zation name: DRMS				
HOURLY EQUIPMEN	T COST				
Basic Machine:	CAT 16M			Horsepower:	297
Ripper Attachment:	Multi-Shank Ripper			Shift Basis:	1 per day
				Data Source:	(CRG)
Cost Breakdown:			1		
Auporo	hip Cost/Hour:		\$82.71	Utilization % NA	
	ing Cost/Hour:		\$70.09	100	
Ripper Owners	hip Cost/Hour:		\$4.44	NA	
	ing Cost/Hour:		\$3.92	100	
-	tor Cost/Hour:		\$45.39	NA	
Total U	Init Cost/Hour:		\$206.54		
Total Fl	eet Cost/Hour:	\$206.54			
	be graded or ripped:	4.48 Exhibit L			acres
	_	Exhibit E			
HOURLY PRODUCTI	<u>UN</u>				
	Average Grader Speed:		1.50	mph	
1	Average Grader Speed: Selected Application:		1.50 Ripp	mph ing (0-3 mph) - 1	.50
	Average Grader Speed: Selected Application: Selected Blade Angle:		Ripp 0	mph ing (0-3 mph) - 1 degrees	.50
Е	Selected Application: Selected Blade Angle: Effective Blade Length:		Ripp 0 16.00	degrees feet	.50
E Width of	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass:		Ripp 0 16.00 2.00	ing (0-3 mph) - 1 degrees feet feet	.50
E Width of Net grading or :	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass:		Ripp 0 16.00 2.00 14.00	ing (0-3 mph) - 1 degrees feet feet feet feet	
E Width of Net grading or Unadjusted H	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: lourly Unit Production:		Ripp 0 16.00 2.00 14.00 2.5455	ing (0-3 mph) - 1 degrees feet feet feet acres/hou	r
E Width of Net grading or :	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: lourly Unit Production:	Source	Ripp 0 16.00 2.00 14.00 2.5455	ing (0-3 mph) - 1 degrees feet feet feet feet	r
E Width of Net grading or Unadjusted H	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: lourly Unit Production: actors	Source CAT HB)	Ripp 0 16.00 2.00 14.00 2.5455	ing (0-3 mph) - 1 degrees feet feet feet acres/hou	r
E Width of Net grading or Unadjusted H Job Condition Correction Fa	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: lourly Unit Production: actors 1.00 (0		Ripp 0 16.00 2.00 14.00 2.5455	ing (0-3 mph) - 1 degrees feet feet feet acres/hou	r
E Width of Net grading or Unadjusted H Job Condition Correction Fa Altitude Adj:	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: tourly Unit Production: actors 1.00 (0 0.90 (1)	CAT HB)	Ripp 0 16.00 2.00 14.00 2.5455	ing (0-3 mph) - 1 degrees feet feet feet acres/hou	r
E Width of Net grading or Unadjusted H Job Condition Correction Fa Altitude Adj: Job Efficiency: Net Correction:	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: tourly Unit Production: actors 1.00 (0 0.90 (1 0.9000 m usted Hourly Unit Production	CAT HB) sh/d, fav.) ultiplier uction:	Ripp 0 16.00 2.00 14.00 2.5455 Sit 2.2909	ing (0-3 mph) - 1 degrees feet feet feet acres/hou e Altitude: <u>4960</u>	r
E Width of Net grading or Unadjusted H Job Condition Correction Fa Altitude Adj: Job Efficiency: Net Correction: Adju Adju	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: lourly Unit Production: actors 1.00 (0 0.900 (1 0.9000 m usted Hourly Unit Production	CAT HB) sh/d, fav.) ultiplier uction:	Ripp 0 16.00 2.00 14.00 2.5455 Sit	ing (0-3 mph) - 1 degrees feet feet feet acres/hou e Altitude: <u>4960</u>	r
E Width of Net grading or Unadjusted H Job Condition Correction Fa Altitude Adj: Job Efficiency: Net Correction: Adju Adju	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: lourly Unit Production: actors 1.00 (0 0.90 (1 0.9000 m usted Hourly Unit Production:	CAT HB) sh/d, fav.) ultiplier uction:	Ripp 0 16.00 2.00 14.00 2.5455 Sit 2.2909 2.2909 2.2909	ing (0-3 mph) - 1 degrees feet feet feet acres/hou acres/Hour acres/Hour	r feet
E Width of Net grading or Unadjusted H Job Condition Correction Fa Altitude Adj: Job Efficiency: Net Correction: Adju Adju	Selected Application: Selected Blade Angle: Effective Blade Length: blade overlap per pass: ripping width per pass: lourly Unit Production: actors 1.00 (0 0.900 (1 0.9000 m usted Hourly Unit Production	CAT HB) sh/d, fav.) ultiplier uction:	Ripp 0 16.00 2.00 14.00 2.5455 Sit 2.2909	ing (0-3 mph) - 1 degrees feet feet feet acres/hou e Altitude: <u>4960</u>	r

Site: <u>Tucson South Res</u>	source	Permit Action	: <u>AM01_Nov20</u>) <u>19</u> F	Permit/Job#: <u>M2</u>	2004044
PROJECT IDENT	IFICATION					
Task #: 003	S	State: Colorado		Abbrev	viation: None	
Date: 11/14/2	2019 Cou	unty: Adams		Fil	ename: M044-	003
User: JLE						
Agency or of	rganization name:	DRMS				
HOURLY EQUIPM	<u>MENT</u>		COSTS	hift basis: <u>1 per</u>	<u>day</u>	
		· · ·	ent Description			
			7G w/push-pull			
Support	- t Equipment -Load		T - 9SU			
Support		p Area: NA				
Road Mair	ntenance – Motor (
. <u> </u>	-Water	Truck: Water	Tanker, 10,000 Ga	al.		
Cost Breakdown:	Scraper Wor	·k Team	Support Equi	nment	Maintenanc	e Equipment
<u>Cost Dicakdown</u> .	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water True
%Utilization-machine:	100	100	NA	NA	25	
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	\$68.
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$17.52	\$25.
%Utilization-ripper:	NA	0	NA	NA	0	Ν
Ripper own. cost/hour:	NA	\$13.94	NA	NA	\$4.44	\$0.
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	\$38.
Unit Subtotals:	\$409.98	\$281.24	NA	NA	\$150.05	\$133.
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work:	\$1,101.20	Support:	\$0.00	Maint:	\$283.69
Total work team cost/h MATERIAL QUA Initial volume:		ССҮ	Swell facto	or: 1.000		
Loose volume:	49,610	LCY	5 wen laek	1.000		
Sour	ce of estimated vo	lume: Exhibit l	r			
	f estimated swell f					
HOURLY PRODU	CTION					
			Scraper B	owl (volume) Ba	asis:	
Material weight:	1,600 lbs/LCY		Struck V	Volume: 24.00) L	.CY
Material description:	Top Soil		Heaped V	Volume: 34.00) L	.CY
D 1D 1 1	81,600 pounds	_	Average V	Volume: 29.00) <u> </u>	.CY
Rated Payload: Payload Capacity:	51.00 LCY		Adjusted C			ĊY

<u>1.00</u> Minutes

0.60 Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 4960 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2800	0.57

Haul Time: **0.57** minutes Return Route: **Travel Time** Haul Distance (Ft) Velocity Seg # Grade Roll. Res **Total Res** (min) (%) (%) (%) (fpm) 1000.00 0.00 3.00 3.00 2949 0.49 1 Return Time: 0.49 minutes

	Total Scrape	r team cycle time:	2.66	minutes		
	Adjusted for job conditions:					
	Selected Number of Scrapers:					
Adjusted single scraper	Adjusted single scraper team (unit) hourly production:					
Adjusted multiple scraper	Adjusted multiple scraper team (fleet) hourly production:					
Unadjusted unit production/hour: Optimal Number of Scrapers per push dozer:	1,308.27	LCY/Hour				

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	45.69	Hours
Unit cost:	\$1.275	/LCY	Total job cost:	\$63,272	

MOTOR GRADER WORK

Task description:	Final grade East Cell (85' x 2300') + (800'+	100')		
te: Tucson South Resour	ce Permit Ac	tion: <u>AM01_Nov20</u>	19 Per	mit/Job#: <u>M2004</u>	044
PROJECT IDENTIFIC	CATION				
Task #: 004	State: Color	ado	Abbrevia	tion: None	
Date: 11/14/2019	County: Adan	ıs	Filen	ame: M044-004	
User: JLE					
Agency or organi	zation name: DRMS				_
HOURLY EQUIPMEN	NT COST				
Basic Machine:	CAT 16M		Horsepower:	297	
Ripper Attachment:	Multi-Shank Ripper		Shift Basis:	1 per day	_
		-	Data Source:	(CRG)	_
Cost Breakdown:					
			Jtilization %		
	ship Cost/Hour:	\$82.71	NA		
	ting Cost/Hour:	\$70.09	100		
	ship Cost/Hour: ting Cost/Hour:	\$4.44 \$3.92	<u>NA</u> 100		
	ator Cost/Hour:	\$3.92	<u> </u>		
	Unit Cost/Hour:	\$206.54	1171		
	fleet Cost/Hour:	\$206.54			
Total I		φ200.34			
MATERIAL QUANTI	TIES				
		33		acres	
Source	of estimated acreage: E	xhibit L			_
HOURLY PRODUCT	ION				
	Average Grader Speed:	1.50	mph		
	Selected Application:		$\frac{1}{100} \frac{1}{100} \frac{1}$	0	
	Selected Blade Angle:	0	degrees		
	Effective Blade Length:	16.00	feet		
	blade overlap per pass:	2.00	feet		
	ripping width per pass:	14.00	feet		
	Hourly Unit Production:	2.5455	acres/hour		
Job Condition Correction H			Altitude: <u>4960</u> fee	et	
Altituda Adi		ource			
Altitude Adj: Job Efficiency:		T HB) (d, fav.)			
Net Correction:	0.900 (1sh/ 0.9000 mult				
—		-	~~		
	justed Hourly Unit Product		acres/Hour		
Adj	usted Hourly Fleet Product	ion: 2.2909	acres/Hour		
JOB TIME AND COS	<u>r</u>				
Fleet size: 1	Grader(s)	Total job time:	2.76	Hours	
Unit cost: \$90.	16 per acre	Total job cost:	\$571		
φγο.	per dere	1000 00000	ψυ / Ι		

TRUCK/LOADER TEAM WORK

Task description:	Excavat	e, haul and bac	kfill material for	· South Mine Are	ea	
Site: Tucson South Re	esource	Permit Act	tion: <u>AM01_No</u>	ov2019	Permit/Job#:	M2004044
PROJECT IDENT	TIFICATION					
Task #: 005 Date: 11/15/ User: JLE	/2019 (State: <u>Color</u> County: <u>Adam</u>			Filename: MO	ne 44-005
Agency or o	organization nam	ne: DRMS				
HOURLY EQUIP	MENT COST	-			sis: <u>1 per day</u>	
	uck Loader Tear		Equipment Descr 740	iption		
Ir	uck Loader Tear		740 T 990H high lift			
Suppor	rt Equipment -Lo	oad Area: NA	-			
Dood Ma	-Du Intenance –Moto	1	D9T - 9SU T 16M			
Koau Mai			ter Tanker, 10,00	0 Gal.		
		I				
<u>Cost Breakdown</u> :	Truck/Loa Truck	der Team Loader	Support Load Area	Equipment	Maintena Motor	ance Equipment Water Truck
	TTUCK	Loader	Load Alea	Dump Area	Grader	water fruck
%Utilization-machine:	100	100	NA	75	25	25
Ownership cost/hour:	\$68.27	\$141.85	NA	\$121.49	\$82.71	\$68.95
Operating cost/hour:	\$59.78	\$135.12	NA	\$79.38	\$17.52	\$25.83
%Utilization-riper: Ripper own.	NA	0	NA	0	NA	NA
cost/hour:	NA	\$0.00	NA	\$13.94	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$24.79	\$35.93	NA	\$39.98	\$45.39	\$38.86
Unit Subtotals:	\$152.84	\$312.89	NA	\$240.85	\$145.62	\$133.64
Number of Units:	4	1	0	1	1	1
Group Subtotals:	Work:	\$924.25	Support:	\$240.85	Maint:	\$279.26
Total work team cost/ MATERIAL QUA		6				
Initial volume:	1,506,997	CCY	Swell	factor: 1.000		
Loose volume:	1,506,9					
Source of	rce of estimated of estimated swel Material Purcha To	Il factor: Cat I	Handbook)	ons, (929 lbs/yard	of dirt and sand)	

HOURLY PRODUCTION

 Truck Capacity:

 Truck Payload (weight) Basis:

 Material weight:
 2,900

 Pounds/LCY

Description:	Sand and grave	l - Dry				
Rated Payload:	87,000	Pounds				
Payload Capacity:	30.00	LCY				
<u>Fruck Bed (volume) Basis:</u> Struck Volume:	24.20 I	.CY				
Heaped Volume:		.CY				
Average Volume:		ĊY				
Adjusted Volume:		.CY				
Final	Fruck Volume Ba	ased on Number of Lo	ader Passes:	24.75	LCY	
Loading Tool Capacity						
	11.050		Bucke	et Size Class: <u>N</u>	IA	
Rated Capacity:	11.250	LCY (heaped)		1200/) 1 100		-
Bucket Fill Factor:	1.100	Other - rock/dirt n	instures (100	-120%) 1.100		-
Adjusted Capacity:	12.375	LCY				
Job Condition Corrections:	_	Site	Altitude (ft.):	<u>1960</u> 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:	Νι	umber of Loading Too	l Passes Requi	red to Fill	2	passes
Excavators and Front Shovel	<u>s:</u>			Truck:	2	
Machine Cycle Time vs Selected Value v						
Track Loaders –						
Cycle Time Elements (min.):						
Load: NA	Ma	neuver: NA		Dump: 0.10	0	
Wheel and Track	c Loaders - Unad	justed Basic Loader C		ad, dump, aneuver):	0.600 min	utes
Cycle Time Factors				Factor (min.)	Source	
Material:	Material up to	1/8" diameter 0.02		0.020	(Cat HB)	_
Stockpile:	0.00	ozer piled 10 ft. high	_	0.000	(Cat HB)	
Truck Ownership:	Common own 0.04	ership of trucks and lo	oaders -	-0.040	(Cat HB)	
Operation:	Constant oper	ation -0.04		-0.040	(Cat HB)	
Dump Target:	Nominal targe			0.000	(Cat HB)	
		Net Cycle Time A		-0.060	minutes	-
		Adjusted Loader C Net Load Time	•	0.540 0.640	minutes minutes	
<u> Truck Cycle Time:</u>						
Truck Exchange Time	: 0.60	Minutes	Adjusted f	or site altitude:	0.600	Minute
Truck Load Time		Minutes	•	or site altitude:	0.640	Minute

]	Loader Worksheet Cont'd			Task #	001]	Page 11 of 27	
	Truck M	aneuver and Dump Time:	1.00	Minutes	Adju	sted for site al	titude:	1.000	Minutes
	Truck Trav maintained	<u>el (Haul & Return) T</u> 2.0	<u>`ime:</u>	Road Conditi	on: <u>Hard, smoo</u>	th, stabilized,	surfaced, wat	ered,	
]	Haul Route	:							
	Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
-	1	3500.00	0.00	2.00	2.00	3005	1.627	-	
1	Return Rou	ite:			Haul Time:	1.627	minut	æs	
	Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)		
	1	3500.00	0.00	2.00	2.00	3005	1.310		
T		1		Total Tru	Return Time: ack Cycle Time:				
	oading Too Produ Unit Produ	iction 1,197.58	LCY/Hour		Adjusted for j	ob efficiency:	993.99	LCY/H	lour
		286.85	LCY/Hour		Adjusted for je	ob efficiency:	238.08	LCY/H	lour
Optima	al No. of Tr	ucks: 4	Truck(s)		Selected Numb	per of Trucks:	4	Truck(s)
		A	Adjusted single	e truck/loader	team productio team productio team productio	on: 952.	33 LC	Y/Hour Y/Hour Y/Hour	
<u>.</u>	JOB TIM	E AND COST							
	Fleet	size: 1	Team(s)	Т	otal job time:	1,582.	44 H	Iours	
	Unit c	cost:\$1.517	/LCY	1	Total job cost:	\$2,285,	607		

Site: Tucson South Re	source	Permit A	Action:	Replace Tops Cell		Permit/Job#: <u>M2</u>	2004044
PROJECT IDENT	IFICATION						
		ltata Cal	1		A b b m = c	vietiene Neme	
Task #: 006 Date: 11/15/		State: Col unty: Ada	orado		Abbrev	viation: None ename: M044-	006
User: JLE	2017 000	<u> 1 Iu</u>					000
Agency or o	rganization name:	DRMS					
HOURLY EQUIP	MENT			COSTS	bift basis: 1 por	day	
HOUKLI EQUIF	<u>VILIN I</u>	_			Shift basis: <u>1 per</u>	<u>uay</u>	
	C			t Description			
			at 0570	<u>5 w/push-pull</u> - 9SU			
Suppor	t Equipment -Load		IA	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
			IA				
Road Mai	ntenance –Motor (-Water		CAT 16	<u>M</u> anker, 10,000 G	o1		
	- water	TTUCK.		alikel, 10,000 G	al.		
Cost Breakdown:	Scraper Wor	k Team		Support Equi	pment	Maintenand	
	Scraper	Dozer		Load Area	Dump Area	Motor Grader	Wate
%Utilization-machine:	100		100	NA	NA	25	
Ownership cost/hour:	\$174.06	\$121	.49	NA	NA	\$82.71	
Operating cost/hour:	\$190.35	\$105	.84	NA	NA	\$17.52	
%Utilization-ripper:	NA		0	NA	NA	0	
Ripper own. cost/hour:	NA	\$13	.94	NA	NA	\$4.44	
Ripper op. cost/hour:	NA	\$0	.00	NA	NA	\$0.00	
Operator cost/hour:	\$45.58	\$39	.98	NA	NA	\$45.39	
Unit Subtotals:	\$409.98	\$281	.24	NA	NA	\$150.05	:
Number of Units:	2		1	0	0	1	
Group Subtotals:	Work:	\$1,101.2	0	Support:	\$0.00	Maint:	\$28
Total work team cost/	hour: <u>\$1,384.89</u>						
MATERIAL QUA	NTITIES						
Initial volume:	11,858	CO	CY	Swell fact	or: 1.000		
Loose volume:	11,858	LC	CY				
Sour	ce of estimated vo	lume: Ex	hibit L				
Source o	f estimated swell f	factor: Ca	ıt Handl	oook			
HOURLY PRODU	UCTION						
				Scraper B	lowl (volume) Ba	sis:	
Material weight:	1,600 lbs/LCY				Volume: 24.00		.CY
Material description:	Top Soil			Heaped	Volume: 34.00	I	.CY
Rated Payload:	81,600 pounds			Average	Volume: 29.00	-	CY

<u>1.00</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 4960 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2800	0.32

Haul Time: 0.32 minutes **Return Route: Travel Time** Seg # Haul Distance (Ft) Grade **Roll. Res Total Res** Velocity (min) (%) (%) (%) (fpm) 3.00 300.00 0.00 3.00 0.25 2949 1 **Return Time:** 0.25 minutes Total Scraper team cycle time: minutes 2.17 Adjusted for job conditions: 1,331.06 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 1,331.06 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,331.06 LCY/Hour Unadjusted unit production/hour: 1,603.69 LCY/Hour

Optimal Number of Scrapers per push

dozer:

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	8.91	Hours
Unit cost:	\$1.040	/LCY	Total job cost:	\$12,338	

Site: <u>Tucson South Res</u> PROJECT IDENT		ermit Actior	a: <u>AM01_Nov2</u>	<u>019</u> F	Permit/Job#: <u>N</u>	12004044
Task #: 007	State:	Colorado		Abbrey	viation: None	
Date: $11/15/2$		Adams	,		ename: M044	-007
User: JLE						
Agency or of	ganization name: D	RMS				
	<u></u>					
HOURLY EQUIPM	<u>AENT</u>		COSTS	Shift basis: <u>1 per</u>	day	
			ent Description			
	-Scrape -Doze		7G w/push-pull T - 9SU			
Support	Equipment -Load Are		950			
oupport.	-Dump Are	a: NA				
Road Mair	tenance – Motor Grade					
	-Water Truc	k: Water	Tanker, 10,000 G	al.		
Cost Breakdown:	Scraper Work Tea	am	Support Equi	ipment	Maintenar	nce Equipment
	•	Dozer	Load Area	Dump Area	Motor Grader	Water Truc
%Utilization-machine:	100	100	NA	NA	25	2
Ownership cost/hour:	\$174.06	\$121.49	NA	NA	\$82.71	\$68.9
Operating cost/hour:	\$190.35	\$105.84	NA	NA	\$17.52	\$25.8
%Utilization-ripper:	NA	0	NA	NA	0	N
Ripper own. cost/hour:	NA	\$13.94	NA	NA	\$4.44	\$0.0
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.0
Operator cost/hour:	\$45.58	\$39.98	NA	NA	\$45.39	\$38.5
Unit Subtotals:	\$409.98	\$281.24	NA	NA	\$150.05	\$133.0
Number of Units:	2	1	0	0	1	
Group Subtotals:	Work: \$1	,101.20	Support:	\$0.00	Maint:	\$283.69
Total work team cost/h MATERIAL QUA Initial volume: Loose volume:		_ CCY _ LCY	Swell fact	tor: <u>1.000</u>		
Source	e of estimated volume	: Exhibit	L			
	estimated swell factor					
HOURLY PRODU	<u>CTION</u>					
			Scraper B	Bowl (volume) Ba	asis:	
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00)	LCY
Material description:	Top Soil			Volume: 34.00		LCY
Rated Payload:	81,600 pounds		Average			LCY
Payload Capacity:	51.00 LCY		Adjusted C	Capacity: 29.00		LCY

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: <u>1.00</u> Minutes <u>0.60</u> Minutes

Job Condition Correction:

Site Altitude: 4960 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2800	0.32

Haul Time: **0.32** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2949	0.25
				Return Time:	0.25	minutes
			Total Scraper	team cycle time:	2.17	minutes
			Adjusted for	or job conditions:	1,331.06	LCY/Hour
		2	Scraper(s)			
	Adjusted s	ingle scrape	er team (unit) h	ourly production:	1,331.06	LCY/Hour
	Adjusted mul	tiple scrape	r team (fleet) he	ourly production:	1,331.06	LCY/Hour
0	Unadjusted unit prod ptimal Number of Scrap			LCY/Hour		
OB TIN	ME AND COST					
Fleet	t size: 1	Team(s)	То	otal job time:	1.82	Hours
Unit	cost: \$1.040	/LCY	Т	otal job cost:	\$2,518	

Site: Tucson Sou	th Resource	Pern	nit Action:	AM01_Nov2	019 F	ermit/Job#: <u>M2</u>	2004044
PROJECT ID	ENTIFICATIO	N					
Task #: 0	08	State:	Colorado		Abbrev	viation: None	
Date: 1	1/15/2019		Adams		File	ename: M044-	008
User: J	LE						
Agenc	y or organization na	ame: DRN	ЛS				
HOURLY EQ	TIDMENT			COSTS	hift basis 1 pag	dari	
<u>HOUKLI EQ</u>				COSTS	Shift basis: <u>1 per</u>	<u>uay</u>	
		Company		nt Description G w/push-pull			
		-Scraper: -Dozer:	Cat 637 Cat D97				
S	upport Equipment -	Load Area:	NA				
		Dump Area:	NA GAT 14				
Road	l Maintenance –Mo	ater Truck:	CAT 16 Water 7	M anker, 10,000 G	al		
			Water 1	uniter, 10,000 C	ui.		
<u>Cost Breakdow</u>		Work Team		Support Equi			e Equipment
	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Water Truc
%Utilization-mach	ine: 10	00	100	NA	NA	25	, ,
Ownership cost/h	our: \$174.0	06 \$	5121.49	NA	NA	\$82.71	\$68.
Operating cost/h	our: \$190.	35 \$	5105.84	NA	NA	\$17.52	\$25.8
%Utilization-rip	-	A	0	NA	NA	0	N
Ripper own. cost/h			\$13.94	NA	NA	\$4.44	\$0.0
Ripper op. cost/h		A	\$0.00	NA	NA	\$0.00	\$0.0
Operator cost/h			\$39.98	NA	NA	\$45.39	\$38.
Unit Subto			5281.24	NA	NA	\$150.05	\$133.
Number of Un		2	1	0	0	1	\$202.50
Group Subto	tals: Wor	k: \$1,10	01.20	Support:	\$0.00	Maint:	\$283.69
		62	CCY LCY Exhibit I	Swell fact	or: <u>1.000</u>		
	rce of estimated sw	-	Cat Hand				
HOURLY PR	ODUCTION			C			
					Bowl (volume) Ba		
Material we	-	CY			Volume: 24.00		.CY .CY
Material descrip		1			Volume: 34.00		
Rated Payl	oad: 81,600 pour	nds		Average	Volume: 29.00		CY

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: <u>1.00</u> Minutes <u>0.60</u> Minutes

Job Condition Correction:

Site Altitude: 4960 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2800	0.93

Haul Time: **0.93** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2949	0.83
				Return Time:	0.83	minutes
			Total Scraper	team cycle time:	3.36	minutes
			Adjusted for	or job conditions:	859.64	LCY/Hour
		2	Scraper(s)			
	Adjusted s	859.64	LCY/Hour			
	Adjusted mul	tiple scrape	r team (fleet) ho	ourly production:	859.64	LCY/Hour
0	Unadjusted unit production of Scrap		l	LCY/Hour		
OB TIN	AE AND COST					
Fleet	size: 1	Team(s)	То	otal job time:	3.10	Hours
Unit	cost: \$1.611	/LCY	Te	otal job cost:	\$4,288	

Site: Tuc	son South Re	source	Perm	nit Action:	AM01_Nov2	019 I	Permit/Job#:	M200404	14
<u>PROJI</u>	ECT IDENT	IFICATION							
Tas	k#: 009	St	ate:	Colorado		Abbre	viation: No	ne	
	ate: $11/15/$			Adams)44-009	
U	ser: JLE		• _						
	Agency or o	rganization name:	DRM	1S					
HOUR	LY EQUIP	MENT_			COSTS	Shift basis: <u>1 per</u>	<u>day</u>		
					nt Description				
			raper: Dozer:	Cat 637 Cat D97	<u>G w/push-pull</u>				
	Suppor	t Equipment -Load		NA	- 950				
		-Dump	Area:	NA					
	Road Mai	ntenance –Motor G -Water T		CAT 16	M anker, 10,000 G				
		-water 1	ruck:	water 1	anker, 10,000 G	ral.			
<u>Cost Br</u>	eakdown:	Scraper Work	Team		Support Equ	ipment	Mainter	nance Equ	ipment
		Scraper	Do	zer	Load Area	Dump Area	Motor Grad	ler Wa	ter Truc
%Utilizati	on-machine:	100		100	NA	NA	,	25	
Ownershi	p cost/hour:	\$174.06	\$	121.49	NA	NA	\$82.	71	\$68.
Operatin	g cost/hour:	\$190.35	\$	105.84	NA	NA	\$17.	52	\$25.
%Utiliza	ation-ripper:	NA		0	NA	NA		0	N
	n. cost/hour:	NA		\$13.94	NA	NA	\$4.4		\$0.
	p. cost/hour:	NA		\$0.00	NA	NA	\$0.0		\$0.
1	or cost/hour:	\$45.58		\$39.98	NA	NA	\$45.		\$38.
	it Subtotals:	\$409.98	\$2	281.24	NA	NA	\$150.		\$133.
	ber of Units:	2	¢1.10	1	0	0		1	202.60
Grou	p Subtotals:	Work:	\$1,10	01.20	Support:	\$0.00	Man	nt: \$	283.69
Total we	RIAL QUA		\$1,10		Support:	\$0.00	Main	nt: \$	283.6
	iitial volume: pose volume:	4,033 4,033		CCY LCY	Swell fact	tor: <u>1.000</u>			
		ce of estimated volu f estimated swell fa		Exhibit L Cat Hand					
HOUR	<u>LY PRODU</u>	UCTION			~				
						Bowl (volume) Ba			
	erial weight:	1,600 lbs/LCY				Volume: 24.00		_ LCY	
	description: ted Payload:	Top Soil 81,600 pounds			Heaped Average	Volume: <u>34.00</u> Volume: <u>29.00</u>		LCY LCY	
		OLIUUU DUUHUS			Average	v UIUIIIE. 29.00	,	1 A . I	

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time: <u>1.00</u> Minutes <u>0.60</u> Minutes

Job Condition Correction:

Site Altitude: 4960 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2800	0.32

Haul Time: **0.32** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	3.00	3.00	2949	0.25
				Return Time:	0.25	minutes
			Total Scrape	r team cycle time:	2.17	minutes
			Adjusted f	or job conditions:	1,331.06	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjusted s	single scrape	er team (unit) h	ourly production:	1,331.06	LCY/Hour
	Adjusted mul	tiple scrape	er team (fleet) h	ourly production:	1,331.06	LCY/Hour
0	Unadjusted unit prod ptimal Number of Scrap		1	LCY/Hour		
OB TIN	ME AND COST					
Fleet	size: 1	Team(s)	Т	otal job time:	3.03	Hours
Unit	cost: \$1.040	/LCY	Г	Total job cost:	\$4,196	

MOTOR GRADER WORK

Task description:	search moorn		nd conveyor			
: Tucson South Resour	rce	Permit Action:	AM01_Nov	2019	Permit/Jo	b#: <u>M20040</u>
PROJECT IDENTIFI	CATION					
Task #: 010	State	: Colorado		Abl	previation:	None
Date: 11/15/2019					Filename:	M044-010
User: JLE						
Agency or organ	nization name: <u>l</u>	DRMS				
HOURLY EQUIPME	NT COST					
Basic Machine	e: CAT 16M			Horsepower:		297
Ripper Attachment	t: Multi-Shank	Ripper	_	Shift Basis:		per day
				Data Source:	(CRG)
Cost Breakdown:				Utilization %		
Owner	rship Cost/Hour:		\$82.71	NA		
	ating Cost/Hour:		\$70.09	100		
	rship Cost/Hour:		\$4.44	NA		
	ating Cost/Hour:		\$3.92	100		
_	rator Cost/Hour: Unit Cost/Hour:		\$45.39 \$206.54	NA	_	
Total	Unit Cost/Hour.		\$200.34			
T = 4 = 1	Elect Cent/Heren	#30 (
Iotal	Fleet Cost/Hour:	\$206	.54			
		\$206	.54			
MATERIAL QUANT		`	.54			acres
MATERIAL QUANT Total Area t	ITIES	ped: 8.30				acres
MATERIAL QUANT Total Area t	ITIES to be graded or rip e of estimated acre	ped: 8.30				_ acres
MATERIAL QUANT Total Area t Source	ITIES to be graded or rip e of estimated acre TION	ped: <u>8.30</u> age: <u>Exhibit</u>	L	mph		acres
MATERIAL QUANT Total Area t Source	ITIES to be graded or rip e of estimated acre	ped: <u>8.30</u> age: <u>Exhibit</u> Speed:	L 1.50	mph ping (0-3 mph)	- 1.50	_ acres
MATERIAL QUANT Total Area t Source	ITIES to be graded or rip e of estimated acre TION Average Grader : Selected Applia Selected Blade	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: cation: Angle:	L 1.50 Rip 0	ping (0-3 mph) degree		_ acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT	ITIES to be graded or rip e of estimated acre ION Average Grader S Selected Applie Selected Blade S Effective Blade L	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> ength:	L 1.50 Rip 0 16.00	ping (0-3 mph) degree feet		_ acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width c	ITIES to be graded or rip e of estimated acre ION Average Grader S Selected Applie Selected Blade J Effective Blade L of blade overlap pe	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> ength: <u></u> r pass: <u></u>	L 1.50 Rip 0 16.00 2.00	ping (0-3 mph) degree feet feet		_ acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width o Net grading o	ITIES to be graded or rip e of estimated acre CION Average Grader & Selected Applie Selected Blade & Effective Blade L of blade overlap pe or ripping width pe	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> r pass: <u></u> r pass: <u></u>	L 1.50 Rip 0 16.00 2.00 14.00	ping (0-3 mph) degree feet feet feet	es	_ acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width o Net grading o Unadjusted	ITIES to be graded or rip e of estimated acre TON Average Grader & Selected Applie Selected Blade . Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> r pass: <u></u> r pass: <u></u>	L 1.50 Rip 0 16.00 2.00 14.00 2.5455	ping (0-3 mph) degree feet feet feet acres/	es hour	_ acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width o Net grading o	ITIES to be graded or rip e of estimated acre TON Average Grader & Selected Applie Selected Blade . Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> r pass: <u></u> r pass: <u></u>	L 1.50 Rip 0 16.00 2.00 14.00 2.5455	ping (0-3 mph) degree feet feet feet	es hour	_ acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width o Net grading o Unadjusted	ITIES to be graded or rip e of estimated acre TON Average Grader & Selected Applie Selected Blade . Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ	ped: 8.30 age: Exhibit Speed: cation: Angle: r pass: r pass: uction:	L 1.50 Rip 0 16.00 2.00 14.00 2.5455 S	ping (0-3 mph) degree feet feet feet acres/	es hour	_ acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width o Net grading o Unadjusted Job Condition Correction Altitude Adj: Job Efficiency:	ITIES to be graded or rip e of estimated acre TON Average Grader 3 Selected Applie Selected Blade 4 Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ Factors 1.00 0.90	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> ength: <u></u> r pass: <u></u> uction: <u></u> Source (CAT HB (1sh/d, fav	L 1.50 Rip 0 16.00 2.00 14.00 2.5455 S	ping (0-3 mph) degree feet feet feet acres/	es hour	acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width o Net grading o Unadjusted Job Condition Correction Altitude Adj:	ITIES to be graded or rip e of estimated acre ION Average Grader 3 Selected Applic Selected Blade 4 Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ Factors 1.00	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> ength: <u></u> r pass: <u></u> r pass: <u></u> uction: <u></u> Source (CAT HB	L 1.50 Rip 0 16.00 2.00 14.00 2.5455 S	ping (0-3 mph) degree feet feet feet acres/	es hour	acres
MATERIAL QUANT Total Area to Source HOURLY PRODUCT Width of Net grading of Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction:	ITIES to be graded or rip e of estimated acre TON Average Grader 3 Selected Applie Selected Blade 4 Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ Factors 1.00 0.90	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> ength: <u></u> r pass: <u></u> r pass: <u></u> uction: <u></u> Source (CAT HB (1sh/d, fav multiplier	L 1.50 Rip 0 16.00 2.00 14.00 2.5455 S	ping (0-3 mph) degree feet feet feet acres/	es hour <u>60</u> feet	acres
MATERIAL QUANT Total Area to Source HOURLY PRODUCT Width of Net grading of Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction:	ITIES to be graded or rip e of estimated acre ION Average Grader 3 Selected Applic Selected Blade 4 Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ Factors 1.00 0.90 0.9000	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> ength: <u></u> r pass: <u></u> r pass: <u></u> uction: <u></u> source (CAT HB (1sh/d, fav multiplier it Production:	L 1.50 Rip 0 16.00 2.00 14.00 2.5455 S) .)	ping (0-3 mph) degree feet feet feet acres/	es hour <u>60</u> feet 1r	acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width of Net grading of Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction: Add Add	ITIES to be graded or rip e of estimated acre TON Average Grader 3 Selected Applia Selected Blade Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ Factors 1.00 0.90 0.9000 djusted Hourly Un ljusted Hourly Flee	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> ength: <u></u> r pass: <u></u> r pass: <u></u> uction: <u></u> source (CAT HB (1sh/d, fav multiplier it Production:	L 1.50 Rip 0 16.00 2.00 14.00 2.5455 S) .) 2.2909	ping (0-3 mph) degree feet feet feet acres/ dite Altitude: <u>49</u>	es hour <u>60</u> feet 1r	acres
MATERIAL QUANT Total Area t Source HOURLY PRODUCT Width o Net grading o Unadjusted Job Condition Correction Altitude Adj: Job Efficiency: Net Correction: Add JOB TIME AND COS	ITIES to be graded or rip e of estimated acre TON Average Grader 3 Selected Applia Selected Blade Effective Blade L of blade overlap pe or ripping width pe Hourly Unit Produ Factors 1.00 0.90 0.9000 djusted Hourly Un ljusted Hourly Flee	ped: <u>8.30</u> age: <u>Exhibit</u> Speed: <u></u> cation: <u></u> Angle: <u></u> ength: <u></u> r pass: <u></u> r pass: <u></u> uction: <u></u> <u>Source</u> (CAT HB (1sh/d, fav multiplier it Production: et Production:	L 1.50 Rip 0 16.00 2.00 14.00 2.5455 S) .) 2.2909	ping (0-3 mph) degree feet feet acres/ Site Altitude: <u>49</u> acres/Hou acres/Hou	es hour <u>60</u> feet Ir Ir	Hours

Unit cost: \$90.16 per acre

Total job cost:

\$748

MOTOR GRADER WORK

Task description:	Final grade all	miscellaneou	s areas (8.3 a	cres x .5')		
e: _Tucson South Resour	rce P	Permit Action:	AM01_Nov	2019	Permit/Job	#: <u>M2004044</u>
PROJECT IDENTIFI	CATION					
Task #: 011 Date: 11/15/2019	State: County:				reviation: _	None M044-011
User: JLE						
Agency or organ	ization name:	ORMS				
HOURLY EQUIPME	NT COST					
Basic Machine	: CAT 16M			Horsepower:	2	97
Ripper Attachment	: Multi-Shank F	Ripper		Shift Basis:		er day
				Data Source:	(C	RG)
Cost Breakdown:				Utilization %		
	ship Cost/Hour:		\$82.71	NA		
1	ating Cost/Hour:		\$70.09	100	_	
	ship Cost/Hour: ating Cost/Hour:		\$4.44 \$0.00	<u>NA</u> 0	_	
	rator Cost/Hour:		\$45.39	NA		
_	Unit Cost/Hour:		\$202.62		_	
Total I	Fleet Cost/Hour:	\$202	.62			
Source	o be graded or ripp of estimated acrea		L			acres
HOURLY PRODUCT						
	Average Grader S		1.50	mph	1.) 15	
	Selected Applic Selected Blade A		0	grading (0-2.5 n degree	÷ ·	
	Effective Blade Le		16.00	feet	6	
Width of	f blade overlap per	pass:	2.00	feet		
5 5	r ripping width per	1	14.00	feet		
Unadjusted	Hourly Unit Produ	ction:	2.5455	acres/h	iour	
Job Condition Correction	Factors	a	S	Site Altitude: <u>496</u>	<u>60</u> feet	
Altitude Adj:	1.00	Source (CAT HB)			
Job Efficiency:	0.90	(1sh/d, fav				
Net Correction:	0.9000	multiplier				
Ad	ljusted Hourly Uni	t Production:	2.2909	acres/Hou	r	
	justed Hourly Flee		2.2909	acres/Hou		
JOB TIME AND COS	T					
Fleet size: 1	Grader(s	5)	Total job time	e: 3.6	52	Hours
		,	J			

Loader Worksheet Cont'd			Task #	001		Page 23 of 27
Unit cost:	\$88.45	per acre		Total job cost:	\$734	-
		<u>RE</u>	VEGETAT	<u>ION WORK</u>		
Task descriptio	n: Re v	vegetation of	Affected Lar	nd		
Site: Tucson Sout	th Resource	Pe	rmit Action:	AM01_Nov2019	Permit/Jo	b#: <u>M2004044</u>
PROJECT ID	ENTIFICATI	<u>ON</u>				
Task #: 0	12	State:	Colorado		Abbreviation:	None
Date: 1	1/15/2019	County:	Adams		Filename:	M044-012
Date. 1	LE					

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
Chisel plowing {DMG}		\$94.63
Weed control spraying (MEANS 31 31 16.13 3100)		\$193.60
	Total Tilling Cost/Acre	\$288.23

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Big Bluestem - Kaw	1.70	5.07	\$22.70
Blue Grama - Hachita	0.30	4.90	\$4.79
Switchgrass - Blackwell	2.00	17.86	\$23.00
Sideoats Grama - Vaughn	1.00	3.28	\$8.38
Western Wheatgrass - Arriba	4.80	12.12	\$31.20
Needlegrass, Green - Lodorm	1.50	6.23	\$17.66

Totals Seed Mix 11.30	49.47	\$107.73
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Application

Description		Cost /Acre
Drill Seeding (DRMS Survey Cost)		\$232.00
	Total Seed Application Cost/Acre	\$232.00

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	1.00	TON	\$295.00	\$295.00
Total Mulch Materials Cost/Acre				\$295.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$70.17
Total Mulch Application	Cost/Acre \$70.17

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Chokecherry	0.39	Container, 1 gallon (MEANS)	\$14.76	\$2.40	\$5.76
Cottonwood, Plains	0.35	Container, 5 gallon (MEANS)	\$48.62	\$2.40	\$17.02
Willow, Sandbar	0.39	Container, 1 gallon (MEANS)	\$17.33	\$2.40	\$6.76
	ck Cost / Acre	\$29.53			

JOB TIME AND COST

	No. of Acres:	103	Cost /Acre:	\$1,022.66
Estimate	ed Failure Rate:	20%	Cost /Acre*:	\$339.73
*Selected Replanti	ng Work Items:	SEEDING		
Initial Job Cost:	\$105,333.98			
Reseeding Job Cost:	\$6,998.44			
Total Job Cost:	\$112,332			
Job Hours:	103.00			

Loader Worksheet Cont'd

Task # 001

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EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: : Tucson South I		bilization Permit	Action: AM0	1_Nov2019) I	Permit/Job#: M	2004044
PROJECT IDEN	TIELCATI	ON					
			1		A b b m		
Task #: 013 Date: 11/1 User: JLE	5/2019		olorado lams			viation: <u>None</u> ename: <u>M044</u>	-013
Agency of	organization	n name: DRMS					
EQUIPMENT T	RANSPOR	T RIG COST					
Truck	Tractor Desc	ription: GENE	RIC ON-HIGHV	WAY TRU	Shift bas ost Data Sour CK TRACTO (2ND HALF, 2	ce: $\frac{1}{CRG Da}$	ta
Truck	Trailer Desc	ription: G			SENECK, DR 25T, 50T, AN	OP DECK EQUI D 100T)	IPMENT
Cost Breakdown:							
Available Rig Ca		0-25 Tons	26-50 Tons		Tons		
Ownership		\$17.20	\$29.63		8.69		
Operating		\$26.56	\$47.02		5.69		
	Cost/Hour:	\$23.63	\$23.63		3.63		
<u>1</u>	Cost/Hour:	\$0.00	\$23.53		3.53		
Total Unit	Cost/Hour:	\$67.39	\$123.81	\$14	1.54		
NON ROADABI	LE EQUIPN	MENT:					
Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Drill/Broadcast Seeder with Tractor	25.00	\$18.15	\$67.39	2	\$171.08	\$134.78	\$500.00
CAT 16M	28.73	\$87.15	\$123.81	2	\$421.92	\$247.62	\$500.00
Cat 637G w/push- pull	59.59	\$174.06	\$141.54	2	\$631.20	\$283.08	\$1,000.00
Cat D9T - 9SU	66.13	\$135.43	\$141.54	2	\$553.94	\$283.08	\$500.00
Cat 740	36.49	\$68.27	\$123.81	4	\$768.32	\$495.24	\$1,000.00
CAT 990H high lift	83.34	\$141.85	\$141.54	1	\$283.39	\$141.54	\$250.00

 Subtotals:
 \$2,829.85
 \$1,585.34
 \$3,750.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 10,000 Gal.	\$211.14	2	\$422.28	\$422.28
		Subtotals:	\$422.28	\$422.28

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	BRIGHTON	
Total one-way travel distance:	1.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$32,259.33	
'* two round trips with haul rig:		_
Total Roadable Mob/Demob Cost **	\$18.77	
** one round trip, no haul rig:	φ10.//	_

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.02	0.02
Return Time (Hours):	0.02	0.02
Loading Time (Hours):	2.17	NA
Unloading Time (Hours):	2.17	NA
Subtotals:	4.38	0.04

JOB TIME AND COST

Total job time: **8.77** Hours

Total job cost: \$32,278

 Task 014 East Cell Slurry Wall, Contingency Cost

Slurry Wall Length – 8,100 LF

Average Depth – 30 LF

Square foot of slurry Wall – 243,000 SF

Average Unit Cost - \$3.00/SF

Total Cost - \$729,000.00

20% Contingency - \$145,800