COST SUMMARY WORK

Т	ask description:	Cost Summary					
Site:	Signal Reservoir No. 1 Expansion	Pe	ermit Action:	_111c Applicatio	on	Permit/Jo	b#: <u>M2017013</u>
PF	ROJECT IDENTIFIC	CATION					
	Task #: 000 Date: 7/5/2018 User: JLE	State: County:	Colorado Adams		A	Abbreviation: Filename:	None M013-000
	Agency or organiz	zation name: DI	RMS				
TA	ASK LIST (DIRECT	COSTS)					
		00010/					
Task	Description			Form Used	Fleet	Task Hours	Cost
Task 001	Description Rip the reservoir area			Form Used RIPPER	Fleet Size		Cost \$10,651.00
	Description Rip the reservoir area Excavate and move li			Used		Hours	
001	Rip the reservoir area			Used RIPPER	Size	Hours 35.90	\$10,651.00
001 002	Rip the reservoir area Excavate and move li			Used RIPPER LOADER	Size 1 2	Hours 35.90 174.55	\$10,651.00 \$126,967.00
001 002 003	Rip the reservoir area Excavate and move li Spread liner material	ner material		Used RIPPER LOADER DOZER	Size 1 2 2	Hours 35.90 174.55 47.85	\$10,651.00 \$126,967.00 \$26,219.00
001 002 003 004	Rip the reservoir area Excavate and move li Spread liner material Compact the liner	ner material		Used RIPPER LOADER DOZER COMPACT	Size 1 2 2 2 2	Hours 35.90 174.55 47.85 24.36	\$10,651.00 \$126,967.00 \$26,219.00 \$10,209.00

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$3,717.75
Performance bond:	1.05	Total =	\$1,932.49
Job superintendent:	154.71	Total =	\$11,301.57
Profit:	10.00	Total =	\$18,404.70
		TOTAL O & P =	\$35,356.51
		CONTRACT AMOUNT (direct + O & P) = $($	\$219,403.51

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): Engineering work and/or contract/bid preparation: Reclamation management and/or administration:	0.00 7.22 5.00	Total = Total =	0.00 \$15,840.93 \$10,970.18
CONTINGENCY:	0.00	Total =	\$0.00
	TOTAL IN	DIRECT COST =	\$62,167.62
TOTAL BO	\$246,214.62		
Total Re	quired Suret	y = <u>\$246</u>	,215.00

BULLDOZER RIPPING WORK

Т	Task description:		Rip the res	sel voli	area					
	Signal Reservoi	ir No. 1		Peri	mit Action:					
Site:	Expansion					111c Applie	cation	Permit/Jo	ob#: <u>M201</u>	7013
PF	ROJECT IDEN	TIFICA	TION							
	Task #: 001		S	State:	Colorado		A	Abbreviation:	None	
	Date: $\frac{7/3}{2}$	2018	Cou	unty:	Adams			Filename:	M013-00	1
	User: JLE									
	Agency of	rorganiza	ation name:	DR	MS					
H	OURLY EQUI	PMENT	<u>COST</u>							
	Basic M	achine:	Cat D10T	- 10SU	J		Horsepowe	er:	574	
	Ripper Attac	hment:	3-Shank H	Ripper		_	Shift Basi		per day	_
							Data Sourc	ce: ((CRG)	
Co	ost Breakdown:									
							Utilization	%		
			ip Cost/Hou			\$122.17	NA			
	Dinner		ng Cost/Hou ip Cost/Hou			\$111.29 \$14.40	100 NA			
			ip Cost/Hot ig Cost/Hot			\$8.25	100			
	Tupper		or Cost/Hou			\$40.52	NA			
		-	it Cost/Hou			\$296.63	I			
					\$20		-			
		1 otal 1 let	et Cost/Hou	ui	\$296	.05	-			
<u>M</u>	ATERIAL QU	ANTITI	IES		Selec	ted estimating	g method:	Area		
	ATERIAL QU	ANTITI	IES		Selec	ted estimating	g method:	Area		
Alt	ternate Methods:	<u>ANTITI</u>	IES	Ban					NA	
		ANTITI			k Volume:	ted estimating <u>NA</u> <u>3.00</u>	g method: BC Volum	Y	NA	BCY or 0
<u>Alt</u> smic:	ternate Methods: NA 30.00	acres	S	Rip	k Volume: Depth (ft):	NA 3.00	BC	Y		BCY or 0
<u>Alt</u> smic: Area:	ternate Methods: NA 30.00	acres	s estimated q	Rip	k Volume:	NA 3.00	BC	Y		BCY or 0
<u>Alt</u> smic: Area:	ternate Methods: NA 30.00	acres	s estimated q	Rip	k Volume: Depth (ft):	NA 3.00	BC	Y		BCY or (
<u>Alt</u> smic: Area:	ternate Methods: NA 30.00	acres	s estimated q	Rip	k Volume: Depth (ft):	NA 3.00	BC	Y		BCY or 0
<u>Alt</u> smic: Area:	ternate Methods: NA 30.00 S OURLY PROD	acres	s estimated q	Rip] quantity	k Volume: Depth (ft): 7:DRMS	NA 3.00	BC Volun	Y		BCY or 0
<u>Alt</u> smic: Area: <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD	acres	s estimated q DN	Rip] quantity	k Volume: Depth (ft): 7:DRMS	NA 3.00 Estimate	BC Volun	Y ne: 145,200		BCY or 0
<u>Alt</u> smic: Area: <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD	acres	s estimated q DN	Rip quantity c Veloc	k Volume: Depth (ft): r: <u>DRMS</u> ity:	NA 3.00 Estimate	BC` Volum feet	Y		BCY or 0
<u>Alt</u> smic: Area: <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD	acres Source of (DUCTIO	s estimated o <u>DN</u> Seismic rerage Ripp erage Ripp	Rip quantity c Veloc ing Dep ing Wic	k Volume: Depth (ft): 7: <u>DRMS</u> ity: pth: dth:	<u>NA</u> 3.00 Estimate NA 2.87 8.67	BC Volun feet mpl	Y		BCY or 0
<u>Alt</u> smic: Area: <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD	acres Source of (DUCTIO Ave Ave	s estimated o <u>N</u> Seismic rerage Ripp erage Rippi erage Rippi	Rip quantity c Veloc ing Dep ing Wio ng Leng	k Volume: Depth (ft): r: <u>DRMS</u> ity: ity: pth: gth:	<u>NA</u> 3.00 Estimate NA 2.87 8.67 500.00	BC` Volun feet feet deg feet	Y ne: <u>145,200</u> /second h rees		BCY or 0
<u>Alt</u> smic: Area: <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD	acres Source of (DUCTIO Ave Ave Ave A	s estimated o <u>N</u> Seismic rerage Rippi erage Rippi arage Rippi Average Do	Rip quantity c Veloc ing Dep ing Wio ng Leng vzer Spe	k Volume: Depth (ft): r: <u>DRMS</u> ity: ity: oth: gth: gth:	<u>NA</u> <u>3.00</u> Estimate NA <u>2.87</u> <u>8.67</u> <u>500.00</u> 88.00	BC` Volum feet deg deg feet feet	Y ne: <u>145,200</u> /second h rees		BCY or 0
<u>Alt</u> smic: Area: <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD	acres Source of C DUCTIO Ave Ave Ave Ave	s estimated o <u>N</u> Seismic erage Rippi erage Rippi Average Do rage Maneu	Rip quantity c Veloc ing Dep ing Wio ng Leng zer Spe uver Tin	k Volume: Depth (ft): r: DRMS ity: ity: pth: gth: gth: me:	<u>NA</u> 3.00 Estimate NA 2.87 8.67 500.00 88.00 0.25	BC Volum feet mpl deg feet feet feet	Y ne: <u>145,200</u> z/second h rees		BCY or 0
<u>Alt</u> smic: Area: <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD	acres Source of C DUCTIO Ave Ave Ave Ave	s estimated o <u>N</u> Seismic rerage Rippi erage Rippi Average Do	Rip quantity c Veloc ing Dep ing Wio ng Leng zer Spe uver Tin	k Volume: Depth (ft): r: DRMS ity: ity: pth: gth: gth: me:	<u>NA</u> <u>3.00</u> Estimate NA <u>2.87</u> <u>8.67</u> <u>500.00</u> 88.00	BC Volum feet mpl deg feet feet feet	Y ne: <u>145,200</u> /second h rees		BCY or (
<u>Alt</u> smic: _ Area: _ <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD	acres Source of 0 DUCTIO Ave Ave Ave Ave Pro	s estimated o <u>N</u> Seismic erage Rippi erage Rippi Average Do rage Maneu oduction per	Rip quantity c Veloc ing Dep ing Wio ng Leng zer Spe uver Tin	k Volume: Depth (ft): r: DRMS ity: ity: pth: gth: gth: me:	<u>NA</u> 3.00 Estimate NA 2.87 8.67 500.00 88.00 0.25	BC Volum feet mpl deg feet feet feet	Y ne: <u>145,200</u> z/second h rees		BCY or (
<u>Alt</u> smic: _ Area: _ <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corre	acres Source of 6 DUCTIO Ave Ave Ave Pro ection Fac	s estimated o <u>N</u> Seismic erage Rippi erage Rippi Average Do rage Maneu oduction per	Rip quantity c Veloc ing Dep ing Wio ng Leng izer Spe uver Tin r unit an	k Volume: Depth (ft): 7: DRMS ity: ity: oth: gth: gth: rea:	<u>NA</u> 3.00 Estimate NA 2.87 8.67 500.00 88.00 0.25	BC Volum feet mpl deg feet feet feet acre	Y ne: <u>145,200</u> z/second h rees		BCY or 0
<u>Alt</u> smic: _ Area: _ <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corre	acres Source of 6 DUCTIO Ave Ave Ave Pro ection Fac	s estimated o <u>PN</u> Seismic rerage Rippi erage Rippi average Do rage Maneu oduction per oduction per ctors purly Unit P	Rip quantity c Veloc ing Dep ing Wio ng Leng izer Spe uver Tin r unit an Producti	k Volume: Depth (ft): r: ity: ity: oth: oth: gth: gth: rea: on:	<u>NA</u> 3.00 Estimate <u>NA</u> 2.87 8.67 500.00 88.00 0.25 1.007 1.007	BC Volum feet mpl deg feet feet feet acre	Y ne: <u>145,200</u> s/second h rees s s- es/hour res/hr		BCY or (
<u>Alt</u> smic: _ Area: _ <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corre	acres Source of 6 DUCTIO Ave Ave Ave Pro ection Fac	s estimated of <u>ON</u> Seismic rerage Rippi erage Rippi average Do rage Maneu oduction per ctors ourly Unit P Site	Rip quantity c Veloc ing Dep ing Wio ng Leng izer Spe uver Tin r unit an	k Volume: Depth (ft): r: ity: ity: oth: th: gth: gth: rea: ton: ide:	<u>NA</u> <u>3.00</u> Estimate <u>NA</u> <u>2.87</u> <u>8.67</u> <u>500.00</u> <u>88.00</u> <u>0.25</u> <u>1.007</u>	BC Volum feet mpl deg feet feet feet acre Acr feet	Y ne: <u>145,200</u> s/second h rees s s- es/hour res/hr		BCY or (
<u>Alt</u> smic: _ Area: _ <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corre	acres Source of 6 DUCTIO Ave Ave Ave Pro ection Fac	s estimated o <u>N</u> Seismic rerage Rippi erage Rippi rage Rippi Average Do rage Maneu oduction per ctors ourly Unit P Sitt Alt	Rip quantity c Veloc ing Dep ing Wio ng Leng izer Spe uver Tin r unit an Producti e Altitu	k Volume: Depth (ft): 7: DRMS ity: ity: oth: gth: gth: gth: rea: on: dde:	<u>NA</u> <u>3.00</u> Estimate <u>NA</u> <u>2.87</u> <u>8.67</u> <u>500.00</u> <u>88.00</u> <u>0.25</u> <u>1.007</u> <u>1.007</u> <u>5,130</u>	BC Volum feet mpl deg feet feet feet Acr feet	Y ne: <u>145,200</u> s/second h rees s es/hour res/hr		BCY or 0
<u>Alt</u> smic: _ Area: _ <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corre	acres Source of 6 DUCTIO Ave Ave Ave Pro ection Fac	s estimated of <u>PN</u> Seismic rerage Rippi arage Rippi Average Do rage Maneu oduction per oduction per ctors purly Unit P Situ Ali Job F	Rip quantity quantity c Veloc ing Dep ing Wid ng Leng izer Spe uver Tin r unit an Producti e Altitut titude A	k Volume: Depth (ft): r: DRMS ity: ity: pth:	<u>NA</u> <u>3.00</u> Estimate NA <u>2.87</u> <u>8.67</u> <u>500.00</u> <u>88.00</u> 0.25 <u>1.007</u> <u>1.007</u> <u>5,130</u> <u>1.00</u>	BC Volum feet feet feet feet feet feet feet fee	Y ne: <u>145,200</u> s/second h rees s es/hour res/hr s T HB)		BCY or 0
<u>Alt</u> smic: _ Area: _ <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corre	acres Source of (DUCTIO Ave Ave Ave Pro ection Fac	s estimated of <u>PN</u> Seismic rerage Rippi erage Rippi rage Rippi Average Do rage Maneu oduction per ctors ourly Unit P Situ Alt Job H Net C	Rip quantity c Veloc ing Dep ing Wid ng Leng izer Spe uver Tin r unit an Producti e Altitut titude A Efficien Correcti	k Volume: Depth (ft): r: DRMS ity: ity: oth: th: oth: gth: rea: on: de: acy: ity:	<u>NA</u> 3.00 Estimate NA 2.87 8.67 500.00 88.00 0.25 1.007 1.007 5,130 1.00 0.83 0.83	BC BC Volum feet mpl deg feet feet feet acre Acr feet (CA (1 s mul	Y ne: <u>145,200</u> s/second h rees es/hour res/hr tres/hr tres/hr tres/hr tres/hr		BCY or (
<u>Alt</u> smic: _ Area: _ <u>H(</u> <u>Sei</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corre	acres Source of 6 DUCTIO Ave Ave Ave Pro ection Fac justed Ho	s estimated of <u>PN</u> Seismic rerage Rippi rage Rippi Average Do rage Maneu oduction per ctors ourly Unit P Site Alt Job H Net O sted Hourly	Rip quantity quantity c Veloc ing Dep ing Wio ng Leng vzer Spe uver Tin r unit an Producti e Altitut titude A Efficien Correcti y Unit P	k Volume: Depth (ft): r: DRMS ity: ity: oth: oth: oth: oth: rea: ity: on: ity: on: on: on: roduction:	NA 3.00 Estimate NA 2.87 8.67 500.00 88.00 0.25 1.007 1.007 5,130 1.00 0.83 0.83 0.84	BC Volum feet feet feet feet feet feet feet fee	Y ne: <u>145,200</u> s/second h rees es/hour res/hr c AT HB) shift/day) ltiplier nr		BCY or (
Alt smic: Area: <u>Hu</u> <u>Sei</u> <u>Ar</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corree Unad	acres Source of 6 DUCTIO Ave Ave Ave Pro ection Fac justed Ho	s estimated of <u>PN</u> Seismic rerage Rippi erage Rippi rage Rippi Average Do rage Maneu oduction per ctors ourly Unit P Situ Alt Job H Net C	Rip quantity quantity c Veloc ing Dep ing Wio ng Leng vzer Spe uver Tin r unit an Producti e Altitut titude A Efficien Correcti y Unit P	k Volume: Depth (ft): r: DRMS ity: ity: oth: oth: oth: oth: rea: ity: on: ity: on: on: on: roduction:	<u>NA</u> 3.00 Estimate NA 2.87 8.67 500.00 88.00 0.25 1.007 1.007 5,130 1.00 0.83 0.83	BC BC Volum feet mpl deg feet feet feet acre Acr feet (CA (1 s mul	Y ne: <u>145,200</u> s/second h rees es/hour res/hr c AT HB) shift/day) ltiplier nr		BCY or (
Alt smic: Area: <u>H(</u> <u>Sei</u> <u>Ar</u>	ternate Methods: NA 30.00 S OURLY PROD ismic: rea: b Condition Corre	acres Source of 6 DUCTIO Ave Ave Ave Pro ection Fac justed Ho	s estimated of <u>PN</u> Seismic rerage Rippi erage Rippi average Do rage Maneu oduction per ctors ourly Unit P Situ Alt Job I Net C sted Hourly ted Hourly	Rip quantity quantity c Veloc ing Dep ing Wio ng Leng vzer Spe uver Tin r unit an Producti e Altitut titude A Efficien Correcti y Unit P	k Volume: Depth (ft): r: DRMS ity: ity: oth: oth: oth: oth: rea: ity: on: ity: on: on: on: roduction:	NA 3.00 Estimate NA 2.87 8.67 500.00 88.00 0.25 1.007 1.007 5,130 1.00 0.83 0.83 0.84	BC Volum feet mpl deg feet feet feet acre Acr feet (CA (1 s mul Acres/h	Y ne: <u>145,200</u> s/second h rees es/hour res/hr c AT HB) shift/day) ltiplier nr		BCY or C

Unit cost: \$355.036 Per acre Total job cost: **\$10,651**

WHEEL LOADER - LOAD AND CARRY WORK

	sk description:	Excavate and move liner n	laterial		
	Signal Reservoir No. 1 Expansion	Permit Action	111c Application	Permit/Jo	b#: <u>M201701</u>
<u>PR</u>	OJECT IDENTIFICA	TION			
	Task #: 002	State: Colorado		Abbreviation:	None
	Date: 7/3/2018	County: Adams		Filename:	M013-002
	User: JLE				
	Agency or organizat	tion name: DRMS			
HC	OURLY EQUIPMENT	COST			
	Basic Machine: CA	AT 992K	Horsep	oower:	801
	Attachment 1: RC	DPS Cab			ber day
			Data Se	ource: (I	CRG)
Cos	t Breakdown:				
			Utilization %		
	Ownership Cost/Hour		NA		
	Operating Cost/Hour		100		
	Operator Cost/Hour	r: \$41.46	NA		
	Total Unit Cost/Hour	r: \$363.68			
	Total Unit Cost/Hou Total Fleet Cost/Hou				
<u>M</u> /		ır: \$727.36			
MA	Total Fleet Cost/Hou	ır: \$727.36	Swell factor: 1	110	
MA	Total Fleet Cost/Hou TERIAL QUANTITI Initial volume: <u>145</u> ,2	ur: \$727.36 ES 200 CCY	Swell factor: <u>1</u>	.110	
<u>M</u> 4	Total Fleet Cost/Hou ATERIAL QUANTITI Initial volume: <u>145,2</u> Loose volume:	ur: \$727.36 ES 200 CCY 161,172 LCY		.110	
MA	Total Fleet Cost/Hou ATERIAL QUANTITI Initial volume: <u>145,2</u> Loose volume: <u>145</u>	ur: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acres	at 3 feet deep	.110	
<u>M</u> #	Total Fleet Cost/Hou ATERIAL QUANTITI Initial volume: <u>145,2</u> Loose volume:	ur: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acres	at 3 feet deep	.110	
	Total Fleet Cost/Hou ATERIAL QUANTITI Initial volume: 145,2 Loose volume: Source of estima	ar: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acres ted swell factor: Cat Han	at 3 feet deep	.110	
HC	Total Fleet Cost/Hou TERIAL QUANTITI Initial volume: 145,2 Loose volume: Source of estima Source of estima	ar: \$727.36 ES CCY 161,172 LCY timated volume: 30 acress ted swell factor: Cat Han N	at 3 feet deep dbook		
HC	Total Fleet Cost/Hou ATERIAL QUANTITI Initial volume: 145,2 Loose volume: Source of estima	ar: \$727.36 ES CCY 161,172 LCY timated volume: 30 acress ted swell factor: Cat Han N	at 3 feet deep	, <u>0.625</u>	minutes
НС	Total Fleet Cost/Hou TERIAL QUANTITI Initial volume: 145,2 Loose volume: Source of estima Source of estima	ar: \$727.36 ES CCY 161,172 LCY timated volume: 30 acress ted swell factor: Cat Han N	at 3 feet deep dbook Cycle Time (load, dump	, <u>0.625</u>	minutes
HC	Total Fleet Cost/Hou TERIAL QUANTITI Initial volume: 145,7 Loose volume: Source of estima Source of estima DURLY PRODUCTIO der Cycle Time: Cycle Time Factors Material:	ar: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acress ted swell factor: Cat Han N Unadjusted Basic No adjustment - factor no	at 3 feet deep dbook Cycle Time (load, dump maneuver) t applicable 0.00	2 0.625 - Factor (min.) 0.000	Source (Cat HB)
НС	Total Fleet Cost/Hou ATERIAL QUANTITI Initial volume: 145,2 Loose volume: Source of estima Source of estima DURLY PRODUCTIO der Cycle Time: Cycle Time Factors Material: Stockpile:	ar: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acress ted swell factor: Cat Han N Unadjusted Basic No adjustment - factor no No adjustment - factor no	cycle Time (load, dump maneuver) t applicable 0.00 t applicable 0.00	2 0.625 - Factor (min.)	Source
HC	Total Fleet Cost/Hou TERIAL QUANTITI Initial volume: 145,7 Loose volume: Source of estima Source of estima DURLY PRODUCTIO der Cycle Time: Cycle Time Factors Material:	ar: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acress ted swell factor: Cat Han N Unadjusted Basic No adjustment - factor no	cycle Time (load, dump maneuver) t applicable 0.00 t applicable 0.00	2 0.625 - Factor (min.) 0.000	Source (Cat HB)
HC	Total Fleet Cost/Hou ATERIAL QUANTITI Initial volume: 145,2 Loose volume: Source of estima Source of estima DURLY PRODUCTIO der Cycle Time: Cycle Time Factors Material: Stockpile:	ar: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acress ted swell factor: Cat Han N Unadjusted Basic No adjustment - factor no No adjustment - factor no Common ownership of true	cycle Time (load, dump maneuver) t applicable 0.00 t applicable 0.00	2 0.625 2 Teactor (min.) 0.000 0.000	Source (Cat HB) (Cat HB)
НС	Total Fleet Cost/Hou TERIAL QUANTITI Initial volume:	ar: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acress ted swell factor: Cat Han No adjustment - factor no No adjustment - factor no No adjustment - factor no Common ownership of tru 0.04	cycle Time (load, dump maneuver) t applicable 0.00 t applicable 0.00	: 0.625 Factor (min.) 0.000 0.000 -0.040	Source (Cat HB) (Cat HB) (Cat HB)
HC	Total Fleet Cost/Hou TERIAL QUANTITI Initial volume: Loose volume: Source of estima DURLY PRODUCTIO der Cycle Time: Cycle Time Factors Material: Stockpile: Truck Ownership:	ar: \$727.36 ES 200 CCY 161,172 LCY timated volume: 30 acres ted swell factor: Cat Han N Unadjusted Basic No adjustment - factor no No adjustment - factor no Common ownership of tru 0.04 Constant operation -0.04 Nominal target 0.00	cycle Time (load, dump maneuver) t applicable 0.00 t applicable 0.00	2 0.625 2 Factor (min.) 0.000 0.000 -0.040 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)

Rolling Resistance - Road Conditions

Haul:Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Return:Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul and Return Time

	Length (feet)	Grade Res.	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	500	0.00	3.00	3.00	0.4605	(Cat HB)
Return Route:	500	0.00	3.00	3.00	0.4616	(Cat HB)

Total Travel Time:	0.9221	minutes
Total Cycle Time:	1.4671	minutes

Load Bucket Capacity

Rated Capacity:	16.00	LCY (heaped)
Bucket Fill Factor:	0.850	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	13.60	LCY

Job Condition Correction Factors Site Altitude: <u>5130</u> feet

			Source			
Altitude Ad	j:	1.00	(CAT HI	3)		
Job Efficiency	/:	0.83	(1 shift/da	y)		
Net Correction	n:	0.83	multiplier			
τ	LCY/Hour					
	Adjusted	Hourly Uni	t Production:	461.66	LCY/Hour	
	Adjusted	Hourly Flee	et Production:	923.31	LCY/Hour	
JOB TIME AND C	COST					
Fleet size:	2	Loader(s)	Total job time:	174.56	Hours

Fleet size:	2	Loader(s)	Total job time:	174.56	Hou
Unit cost:	\$0.788	/LCY	Total job cost:	\$126,967	

BULLDOZER WORK

Task description:	Spread line	er material			
Signal Reservoir No e: Expansion	. 1	Permit Action:	111c Application	Permit/Jo	b#: <u>M2017013</u>
PROJECT IDENTIF	ICATION				
Task #: 003 Date: 7/3/2018 User: JLE	St Cou	ate: Colorado nty: Adams		Abbreviation: Filename:	None M013-003
Agency or orga	nization name:	DRMS			
HOURLY EQUIPMI	ENT COST				
Basic Machine:CaHorsepower:57Blade Type:SeAttachment:NShift Basis:1	at D10T - 10SU 74 emi-Universal		- - - -		
Cost Breakdown: Ownership Cost/Hour:		\$122.17	<u>Utilization %</u> NA		
Operating Cost/Hour:		\$111.29	100		
Ripper own. Cost/Hour:		\$0.00	NA		
Ripper op. Cost/Hour:		\$0.00	0		
Operator Cost/Hour:		\$40.52	NA		
Swell factor: 1.0	5,200				
Source of estimated vo Source of estimated sw factor:		cres at 3 feet deep Handbook	,		
HOURLY PRODUC	<u>TION</u>				
Average push distance: Unadjusted hourly production:		t 7 LCY/hr			
Materials consistency description:	L	bose stockpile 1.2			
Average push gradient: Average site altitude:	0 %				
-	·				
Material weight:	2,800 lbs/LC	Ϋ́			

Weight description: Clay - Wet Job Condition Correction Factor Source **Operator Skill:** 0.750 (AVG.) Material consistency: 1.200 (CAT HB) Dozing method: 1.000 (GEN.) Visibility: 1.000 (AVG.) Job efficiency: (1 SHIFT/DAY) 0.830 Spoil pile: 0.900 (SSD-FC) Push gradient: 1.000 (CAT HB) Altitude: 1.000 (CAT HB) Material Weight: 0.821 (CAT HB) Blade type: 1.000 (PAT) Net correction: 0.5520 Adjusted unit 1,517.28 LCY/hr production:

Adjusted fleet 3034.56 LCY/hr

JOB TIME AND COST

Fleet size:	2 Dozer(s)
Unit cost:	\$0.181/LCY
Total job time:	47.85 Hours

rotui joo time.	47.00 110415
Total job cost:	\$26,219

COMPACTION WORK

	ask description:	Compact the Li	ner				
e: _	Signal Reservoir No. 1 Expansion	Per	rmit Action:	111c Applic	cation	Permit/Job#: _	M2017013
<u>PR</u>	OJECT IDENTIFIC	ATION					
	Task #: 004 Date: 7/3/2018 User: JLE	State: County:	Colorado Adams			eviation: <u>Non</u> ilename: <u>M0</u>	ne 13-004
	Agency or organiz	ation name: DR	RMS				
H	OURLY EQUIPMEN	Т СОЅТ					
<u>11(</u>	Basic Machine:	CAT 825H			Horsepower:	354	
	Compactor Type:	Soil - tamping f	oot	_	Shift Basis:	1 per da	
					Data Source:	(CRG)	
Cos	st Breakdown:				Utilization %		
	Ownersh	nip Cost/Hour:	\$103.	01	NA		
		ng Cost/Hour:	\$74.:		100		
		tor Cost/Hour:	\$31.		NA		
	Total U	nit Cost/Hour:	\$209.	45			
	Total Flo	eet Cost/Hour:	\$418	.90			
	ATERIAL QUANTIT	TES					
<u>M</u> /	Loose volume:	145,		_ LCY	Shri	nkage factor:	0.900
<u>M</u> /	Loose volume: Compacted volume:	145, 130,	680	CCY		-	0.900
<u>M</u> /	Loose volume: Compacted volume: Source	145,, 130, e of estimated volu	6 80 1me: <u>Divis</u>	CCY	Shri nation, Mining &	-	0.900
<u>M</u> 4	Loose volume: Compacted volume: Source	145, 130,	6 80 1me: <u>Divis</u>	CCY		-	0.900
	Loose volume: Compacted volume: Source	145, 130, e of estimated volu nated shrinkage fac	6 80 1me: <u>Divis</u>	CCY ion of Reclan andbook		Safety	
	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa	145, 130, e of estimated volu nated shrinkage fac <u>ON</u> acted width per pas	680 ume: <u>Divis</u> ctor: <u>Cat H</u> s (W):	CCY ion of Reclan andbook Unadjust 7.34	nation, Mining &	Safety	
	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag	e of estimated volu nated shrinkage fac ON acted width per pas ge Compactor Spec	680 Inne: Divis Ctor: Cat H s (W): ed (S):	CCY ion of Reclan andbook Unadjust 7.34 3.00	nation, Mining & ed hourly produc feet mph	Safety	
	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t	e of estimated volu nated shrinkage fac ON ucted width per pas ge Compactor Spec thickness of each li	680 ume: Divis ctor: Cat H s (W):	CCY ion of Reclan andbook Unadjust 7.34 3.00 9.00	ted hourly produc feet feet inches	Safety tion = (W x S x	L x C) / P
	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t	145, 130, e of estimated volu nated shrinkage fac ON acted width per pas ge Compactor Spec thickness of each li Conversion Consta	680 ume: Divis ctor: Cat H s (W):	CCY ion of Reclan andbook Unadjust 7.34 3.00	ted hourly produc feet feet feet for mph inches (5,280ft	Safety	L x C) / P
	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t	e of estimated volu nated shrinkage fac ON ucted width per pas ge Compactor Spec thickness of each li	680 ume: Divis ctor: Cat H s (W):	CCY ion of Reclan andbook Unadjust 7.34 3.00 9.00 16.3	ted hourly produc feet feet inches	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t	145, 130, a of estimated volumented shrinkage factor ON acted width per pass ge Compactor Spect thickness of each lic Conversion Constant er of machine pass Hourly Unit Product	680 ume: Divis ctor: Cat H s (W):	CCY ion of Reclan (andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33	ted hourly produc feet feet mph inches (5,280ft passes	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t Compacted t Compacted t	145, 130, a of estimated volumented shrinkage factor ON acted width per pass ge Compactor Spect thickness of each lic Conversion Constant er of machine pass Hourly Unit Product	680 ume: Divis ctor: Cat H s (W):	CCY ion of Reclan (andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33	ted hourly produc feet mph inches (5,280ft passes CCY/ho	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t Compacted t Compacted t Compacted t Compacted t Compacted t Compacted t Compacted t Compacted t	145, 130, 130, 130, 130, 130, 130, 145, 145, 145, 145, 145, 145, 145, 145, 145, 145, 145, 145, 145, 130,	680 ume: Divis ctor: Cat H s (W): ed (S): ift (L): nt (C): iction: Source (CAT HB	CCY ion of Reclan andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33 Site Altit	ted hourly produc feet mph inches (5,280ft passes CCY/ho	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t Condition Correction Fa	145, 130, e of estimated volumented shrinkage factors ON acted width per pass ge Compactor Spectratic spectra set of each lic Conversion Constater of machine pass Hourly Unit Productors 1.00 0.83	680 ume: Divis ctor: Cat H s (W):	CCY ion of Reclan andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33 Site Altit	ted hourly produc feet mph inches (5,280ft passes CCY/ho	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t Condition Correction Fa	145, 130, e of estimated volumented shrinkage factors ON acted width per pass ge Compactor Spectration thickness of each life Conversion Constant er of machine pass Hourly Unit Product actors 1.00 0.83 0.8300	680 ume: Divis ctor: Cat H s (W):	CCY ion of Reclan (andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33 Site Altit	ted hourly produc feet mph inches (5,280ft passes CCY/ho tude: <u>5,130</u> feet	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t Condition Correction Fa	145, 130, e of estimated volumented shrinkage factors ON acted width per pass ge Compactor Spectratic spectra	680 ume: Divis ctor: Cat H s (W): ed (S): ift (L): nt (C): es (P): ction: Source (CAT HB (1 shift/day multiplier Production:	CCY ion of Reclan (andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33 Site Altit	ted hourly produc feet mph inches (5,280ft passes CCY/hour tude: 5,130 feet	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t Condition Correction Fa	145, 130, e of estimated volumented shrinkage factors ON acted width per pass ge Compactor Spectration thickness of each life Conversion Constant er of machine pass Hourly Unit Product actors 1.00 0.83 0.8300	680 ume: Divis ctor: Cat H s (W): ed (S): ift (L): nt (C): es (P): ction: Source (CAT HB (1 shift/day multiplier Production:	CCY ion of Reclan (andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33 Site Altit	ted hourly produc feet mph inches (5,280ft passes CCY/ho tude: <u>5,130</u> feet	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Condition Correction Fa Altitude Adj: Job Efficiency: Net Correction: Adju Adju	145, 130, e of estimated volumented shrinkage factors ON acted width per pass ge Compactor Spectration thickness of each lith Conversion Constant er of machine pass Hourly Unit Product actors 1.00 0.83 0.8300 asted Hourly Unit I sted Hourly Fleet I	680 ume: Divis ctor: Cat H s (W): ed (S): ift (L): nt (C): es (P): ction: Source (CAT HB (1 shift/day multiplier Production:	CCY ion of Reclan (andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33 Site Altit	ted hourly produc feet mph inches (5,280ft passes CCY/hour tude: 5,130 feet	Safety $tion = (W \times S \times $	L x C) / P
<u>H(</u>	Loose volume: Compacted volume: Source Source of estin DURLY PRODUCTIO Compa Averag Compacted t Compacted t Condition Correction Fa	145, 130, e of estimated volumented shrinkage factors ON acted width per pass ge Compactor Spectration thickness of each lith Conversion Constant er of machine pass Hourly Unit Product actors 1.00 0.83 0.8300 asted Hourly Unit I sted Hourly Fleet I	680 Ime: Divis ctor: Cat H s (W): ed (S): ift (L): nt (C): es (P): action: Source (CAT HB (1 shift/day multiplier Production:	CCY ion of Reclan (andbook Unadjust 7.34 3.00 9.00 16.3 1 3,230.33 Site Altit) () 2,681.18 5,362.35	ted hourly produc feet mph inches (5,280ft passes CCY/hour tude: 5,130 feet	Safety $tion = (W \times S \times $	L x C) / P

Unit cost. $\frac{1}{90.076}$ per CCT	Unit cost:	\$0.078	per CCY
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Total job cost: **\$10,209**

MISCELLANEOUS TRUCK WORK

Task description:	Add water to the liner			
Signal Reservoir No. e: <u>Expansion</u>	1 Permit Action	:111c Application	Permit/Job#:	M2017013
PROJECT IDENTIFI	CATION			
Task #: 005 Date: 7/3/2018 User: JLE	State: Colorado County: Adams		Abbreviation: <u>Nor</u> Filename: <u>M0</u>	ne 13-005
Agency or organ	ization name: DRMS			
HOURLY EQUIPMEN	NT COST			
Make and Model:	Water Tanker, 7,000 Gal.		Horsepower:	330
Attachment 1:			Shift Basis:	1 per day
Attachment 2:			Weight:	29.65
Labor Unit 1: Labor Unit 2:	Tanker Driver - 1 rear axle			(US Tons)
Cost Breakdown:				
		Utilization %		
Ownership Cost/H		NA		
Operating Cost/H		100		
Operator Cost/H		NA		
Total Unit Cost/H	lour: \$139.07			
Total Fleet Cost/I	Hour: \$139.07			
JOB TIME AND CO	<u>ST</u>			
		Tatal ish time.	24.40	Hours
Fleet size: 1	Truck(s)	Total job time:	24.40	110013

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Mo	bilization of Equ	ipment				
Signal Reservo Expansion	ir No. 1	Permit		Applicatio	<u>n</u>	Permit/Job#: <u>N</u>	12017013
PROJECT IDEN	TIFICATI	<u>ON</u>					
Task #: 006		State: Co	lorado		Abbre	eviation: None	
Date: $7/3/2$	2018		lams			lename: M013	
User: JLE							
Agency of	r organization	name: DRMS					
EQUIPMENT T	RANSPOR'	<u>T RIG COST</u>					
					Shift ba	sis: 1 per da	V
				C	Cost Data Sou		
Truck	Tractor Desci	ription: GENE	RIC ON-HIGH			DR, 6X4, DIESEI	L POWERED,
					(2ND HALF,		
Truck	Trailer Desci	ription: Gl			,	ROP DECK EQU	IPMENT
			,	RAILER	(25T, 50T, AN	ND 1001)	
Cost Breakdown:							
Available Rig Ca	nacitica	0-25 Tons	26-50 Tons	51	Tons		
Ownership		\$16.63	\$18.37		2.33		
Ownership		\$44.38	\$46.13		0.07		
	Cost/Hour:	\$27.66	\$27.66		7.66		
	Cost/Hour:	\$0.00	\$25.39		5.39		
Total Unit		\$88.67	\$117.55		25.45		
Total Onit	cost/fiour.	\$00.07	\$117.55	ψ1.	23.43		
	EEOUDA	TENT.					
NON ROADABI	on numper						
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Machine Description			Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
	Weight/	Owner ship				Return Trip Cost/hr/ fleet	
	Weight/ Unit	Owner ship			Cost/hr/	Return Trip Cost/hr/ fleet \$250.90	
Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/ fleet	Cost/hr/ fleet	Cost/ fleet
Description Cat D10T - 10SU	Weight/ Unit (TONS) 93.31	Owner ship Cost/hr/ unit \$136.57	Cost/hr/unit \$125.45	Size	Cost/hr/ fleet \$524.04	Cost/hr/ fleet \$250.90	Cost/ fleet \$500.00
Description Cat D10T - 10SU CAT 992K	Weight/ Unit (TONS) 93.31 107.88	Owner ship Cost/hr/ unit \$136.57 \$176.02	Cost/hr/unit \$125.45 \$125.45	Size	Cost/hr/ fleet \$524.04 \$602.94	Cost/hr/ fleet \$250.90 \$250.90 \$235.10	Cost/ fleet \$500.00 \$500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 7,000 Gal.	\$139.07	1	\$139.07	\$139.07
Fuel Tanker, 6x4, 210 HP	\$74.87	2	\$149.74	\$149.74
		~		

Subtotals: **\$288.81 \$288.81**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	BRIGHTON	
Total one-way travel distance:	5.00	miles
Average Travel Speed:	55.00	mph
Total Non-Roadable Mob/Demob Cost *	\$6,555.29	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$52.51	
	\$52.51	

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.09	0.09
Return Time (Hours):	0.09	0.09
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.18	0.18

JOB TIME AND COST

Total job time: **2.36** Hours

Total job cost: **\$6,608**