

March 24, 2020

Stephanie Fancher-English Loveland Ready-Mix Concrete, Inc. P.O. Box 299 Loveland, CO 80539

RE: Larimer Pit, Permit No. M-1974-069, Status Update on Problem Cited in February 20, 2020 Inspection Report

Ms. Fancher-English:

On March 16, 2020, the Division of Reclamation, Mining and Safety (Division) received your corrective action response for the problem cited in its February 20, 2020 inspection report regarding the inadequate financial warranty for the site. After reviewing the information submitted, the Division has made the following revisions to the bond estimate (see enclosed cost estimate tasks revised on March 20, 2020):

- <u>Task 001 Backfill 4 acres Cell 14</u>: Since no final pond size was specified for this cell in the approved reclamation plan, in preparing the initial bond estimate, the Division referred to the approved reclamation plan map to estimate the portion of this cell to be backfilled. Because the operator has demonstrated the appropriate water rights are in place for the current exposed groundwater in this cell, and no pond size was specified in the approved reclamation plan, the Division has removed this task from the cost estimate.
- <u>Task 005 Interseed Cell 18</u>: Based on the documentation provided which shows this cell has been successfully revegetated and only continued weed control efforts on two acres remains, the Division has revised this task to include only costs for weed spraying on two acres.
- 3) <u>Task 009 Backfill 1 acre Cell 5</u>: Because the approved reclamation plan states this cell will be backfilled to leave a two acre pond, and the current pond size exceeds this amount, the bond estimate must include costs for backfilling this cell. However, the Division has revised this task to include costs for backfilling only 0.75 acre (instead of one acre) at only 8 feet deep (instead of 15 feet deep), per the information provided.
- 4) <u>Task 012 Backfill 1 acre Cell 6</u>: Based on the information provided indicating this cell has essentially silted in with no more than one acre of groundwater exposed per the approved reclamation plan, the Division has removed this task from the cost estimate.
- <u>Task 015 Backfill 1 acre pit south of Cell 6</u>: Based on the information provided showing all but 0.25 acre of this pit has been backfilled, the Division has revised this task to include costs for backfilling only 0.25 acre (instead of one acre).



- 6) <u>Task 021 Backfill 11 acres Cell 20</u>: Because the approved reclamation plan states this cell will be backfilled to leave a four acre pond, and the current pond size exceeds this amount, the bond estimate must include costs for backfilling this cell. However, based on the information provided estimating current exposed groundwater in this cell to cover 8.525 acres, the Division has revised this task to include costs for backfilling only 4.525 acres (instead of 11 acres).
- 7) <u>Task 022 Retopsoil 11 acres Cell 20</u>: Based on the information provided, the Division has revised this task to include retopsoiling only 4.5 acres of this cell (instead of 11 acres).
- 8) <u>Task 023 Revegetate 11 acres Cell 20</u>: Based on the information provided, the Division has revised this task to include costs for revegetating only 6.5 acres of this cell (instead of 11 acres).

The Division appreciates the additional information provided demonstrating the appropriate water rights are in place for up to 52.29 acres of exposed groundwater at the site, which covers the current amount of exposed groundwater. This information demonstrates the site is in compliance with the Division of Water Resources with regard to the amount of exposed groundwater on site, as required by Rule 3.1.6(1)(a). With regard to the amount of exposed groundwater to remain at the site for final reclamation, the Division must hold a financial warranty sufficient to reclaim the site in accordance with the approved reclamation plan, including costs for backfilling any pits with exposed groundwater to the pond size specified in the approved reclamation plan. If the operator would like to revise the reclamation plan to leave larger ponds, this can be done by submitting a Technical Revision (see enclosed form). Such a revision should also include a revised reclamation plan map and bond estimate reflecting the proposed changes.

After making the above listed revisions to the bond estimate, the Division estimates the required financial warranty for completing reclamation of the site in accordance with the approved plan to be in the amount of \$1,066,209.00, which is \$519,409.00 more than the currently held amount of \$546,800.00. The Division will send the operator a separate notice of surety increase for this amount. The operator will have 60 days from the date of the notice to post the additional required financial warranty.

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129, or by email at <u>amy.eschberger@state.co.us</u>.

Sincerely,

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Amy Eschberger Environmental Protection Specialist

- Encls: Division's cost estimate tasks revised on March 20, 2020 Technical Revision form
- Cc: Brad Fancher, Loveland Ready-Mix Concrete, Inc. Michael Cunningham, DRMS

COST SUMMARY WORK

Task description:		Cost Su	mmary						
Site:	Larimer	Pit		Per	rmit Action:	1/16/2020 Inspection	Permit/Job	o#: <u>M1974069</u>	
<u>P</u>]	ROJECT	IDENTIFIC	ATION						
	Task #:	000		State:	Colorado		Abbreviation:	None	
	Date:	Rev 3/20/20	20 0	County:	Larimer		Filename:	M069-000	
	User:	AME							

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	Cost
002	Description		Size	Hours	
002	Grade Cell 14 backfill slopes	DUZER	1	8.59	\$1,942
003	Retopsoil Cell 14 backfill area	SCRAPERI		9.60	\$12,097
004	Revegetate Cell 14 backfill area	REVEGE		11.60	\$26,706 \$207
005	Weed control in Cell 18	REVEGE	1	2.00	\$387
006	Interseed Cell 19	REVEGE	1	2.60	\$3,321
007	Revegetate Cell 8	REVEGE	1	15.00	\$35,713
008	Revegetate Cell 7 southern shoreline	REVEGE	1	2.50	\$5,386
009	Backfill 0.75 acre Cell 5	TRUCK1	1	45.78	\$32,293
010	Retopsoil Cell 5 backfill area	SCRAPER1	1	0.93	\$1,172
011	Revegetate Cell 5 backfill area	REVEGE	1	3.80	\$8,546
013	Retopsoil Cell 6 backfill area	SCRAPER1	1	1.11	\$1,398
014	Revegetate Cell 6 backfill area	REVEGE	1	3.65	\$8,208
015	Backfill 0.25 acre pit south of Cell 6	TRUCK1	1	20.55	\$14,497
016	Retopsoil 1.35 acre pit area south of Cell 6	SCRAPER1	1	1.39	\$1,754
017	Revegetate 1.35 acre pit area south of Cell 6	REVEGE	1	1.35	\$3,036
018	Rip 2.7 acre storage area south of Cell 5	RIPPER	1	4.34	\$1,065
019	Retopsoil 2.7 acre storage area south of Cell 5	SCRAPER1	1	2.51	\$3,162
020	Revegetate 2.7 acre storage area south of Cell 5	REVEGE	1	2.70	\$6,072
021	Backfill 4.5 acres Cell 20	TRUCK1	1	497.90	\$351,194
022	Retopsoil 4.5 acres Cell 20	SCRAPER1	1	3.95	\$4,981
023	Revegetate 6.5 acres Cell 20	REVEGE	1	6.50	\$14,617
024	Backfill Cell 21 overburden (from AM-3)	SCRAPER1	1	35.04	\$27,486
025	Shalestone lining Cell 21 (from AM-3)	SCRAPER1	1	6.37	\$4,997
026	Retopsoil Cell 21 (from AM-3)	SCRAPER1	1	1.58	\$1,243
027	Final grading Cell 21 (from AM-3)	GRADER	1	13.86	\$2,837
028	Revegetate 28 acres Cell 21 (from AM-3)	REVEGE	1	28.00	\$62,968
029	Compact/QC OB Lining Cell 21 - 55,000cy (from	NA	1	16.00	\$165,000
	AM-3)				
030	Mobilization/Demobilization	MOBILIZE	1	18.24	\$50,823
		<u>SUBTO</u>	TALS:	767.44	\$852,901

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:2.02Performance bond:1.05

 $\begin{array}{r} \text{Total} = & \$17,229 \\ \text{Total} = & \$8,955 \end{array}$

Cost Summary Worksheet Cont'd

Job superintendent:	160.00		Total =	\$11,102
Profit:	10.00		Total =	\$85,290
			TOTAL O & P =	\$122,577
	CONT	RACT AMOUNT	(direct + O & P) =	\$975,478
LEGAL - ENGINEERING - PRO	DJECT MANAGEMENT	:		
Financial warranty processi	ng (legal/related costs):	\$500	Total =	\$500
Engineering work and/or c	ontract/bid preparation:	4.25	Total =	\$41,458
Reclamation managemen	t and/or administration:	5.00		\$48,774
	CONTINGENCY:	0.00	Total =	\$0

TOTAL INDIRECT COST = \$213,308

TOTAL BOND AMOUNT (direct + indirect) = ____\$1,066,209

REVEGETATION WORK

Task descri	ption:	Weed control in	Cell 18			
Site: Larimer	Pit	Per	mit Action:	1/16/2020 Inspection	Permit/Job#	: M1974069
PROJECT	IDENTIFIC	ATION				
Task #: Date: User:	005 <u>Rev 3/20/202</u>	20 State: 20 County:	Colorado Larimer		Abbreviation: Filename:	None M069-005
Ag	ency or organiz	zation name:	RMS			

FERTILIZING

Materials

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

Application

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

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
Total Tilling Cost/Acre	\$193.60

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre
	\$

Total Seed Application Cost/Acre

\$0.00

MULCHING and MISCELLANEOUS

Materials

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

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

Estimate *Selected Replanti	No. of Acres: ed Failure Rate: ng Work Items:	2 0% NONE	Cost /Acre: Cost /Acre*:	\$193.60 \$0.00
Initial Job Cost:	\$387.20			
Reseeding Job Cost:	\$0.00		_	
Total Job Cost:	\$387		_	
Job Hours:	2.00			

TRUCK/LOADER TEAM WORK

Site: Louimer Did		Dormit A ati	on: $1/16/2020$ I	spaction	Dormit/Joh#	107/060
Site: Larimer Pit		Permit Acu	on: <u>1/16/2020 In</u>	ispection	Permit/Job#:	11974009
PROJECT IDENT	TIFICATION					
Task #: 009		State: Color	ado	Ab	breviation: No	one
Date: Rev 3/2	0/2020	County: Larim	er		Filename: M)69-009
User: <u>AME</u>						
Agency or o	rganization nan	ne: DRMS				
μοιίοι ν εοιίιο	MENT COST	۰.		Shift had	ice 1 par day	
HUUKLI EQUIF.	WIENI COSI	-		Shint bas	as: <u>1 per day</u>	
 Tn	ick Loader Tea	m - Truck · Cat	Equipment Descri	ption		
	ion Louder rea	-Loader: CA	Т 966Н			
Suppor	t Equipment -L	oad Area: NA				
Road Mai	-Du ntenance –Moto	or Grader: Cat	T 16M			
	-Wa	ter Truck: Wa	ter Tanker, 3,500	Gal.		
		1	~			. .
<u>Cost Breakdown</u> :	Truck/Loa	der Team	Support I	Equipment	Maintenai Motor Grader	Ce Equipment
	100	100		2 ump 1 nou	100	10
% Utilization-machine:	100 \$58.61	100 \$41.17	NA NA	/5 \$102.86	100 \$92.71	\$12.5
Operating cost/hour:	\$18.01	\$41.17	NA NA	\$103.80	\$70.09	\$13.3
%Utilization-riper:	948.24 NA	0	NA	\$01.70 NA	\$70.09 NA	\$28.9 N
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.0
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.0
Operator cost/hour:	\$24.79	\$35.93	NA	\$39.98	\$45.39	\$0.0
Unit Subtotals:	\$131.63	\$127.54	NA	\$205.54	\$198.18	\$42.4
Number of Units:	1	1	0	1	1	
Group Subtotals:	Work:	\$259.17	Support:	\$205.54	Maint:	\$240.64
Total work team cost/	hour: <u>\$705.35</u>					
MATERIAL OUA	NTITIES					
<u>MATERIAL QUA</u>	NIIIES					
Initial volume:	9,680		Swell	factor: <u>1.125</u>		
Loose volume.	10,09			a 1		
Source o	ce of estimated f estimated swe	volume: <u>Op:</u>	0.75 ac x 8 ft (leav Handbook	re 2 ac pond per re	ec plan)	
Source o	Material Purcha	ase Cost: $\$0.00$	0			
	То	tal Cost: \$0.0	0			
HOUKLY PROL	JUCTION					
Truck Capacity:	t) Decia					
Material we	ight: 2.650		Pounds/LCY			
Descrip	tion: Decom	posed rock - 25%	6 Rock, 75% Earth	1		
Rated Payl	load: $62,000$		Pounds			
Payload Capa	city: 25.40					

	17.10	LCY				
Heaped Volume	22.10	LCY				
Average Volume:	19.60	LCY				
Adjusted Volume:	22.10	LCY				
Final	Truck Volume	e Based on Number	r of Loader Passes:	22.00	LCY	
Loading Tool Capacity						
			Buc	ket Size Class: N	JA	
Rated Capacity:	5.000	LCY (heaped	1)			
Bucket Fill Factor:	1.100	Other - rock/	dirt mixtures (100)-120%) 1.100		
Adjusted Capacity:	5.500	LCY		,		
				5000 G /		
Job Condition Corrections	<u> </u>	. . .	Site Altitude (ft.):	<u>5000</u> feet		
		Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HI	3)		
Job Efficiency:	0.830	0.830	(CAT H	3)		
Net Correction:	0.830	0.830				
Looding Tool Crule There	NT1.	mof Looding Trai	Decese Decesive J (Fill Transla	4	-
Loading Tool Cycle Time:	Numbe	er of Loading 1001	Passes Required to	Fill Iruck:	4	passes
Excavators and Front Shove	ls:					
Machine Cycle Time v Selected Value	s. Job Condition within this Bas	on Rating: <u>NA</u> ic Rating: <u>NA</u>				
Machine Cycle Time v Selected Value Track Loaders –	s. Job Conditic within this Bas Material Desci	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription:				
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Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: <u>NA</u> Wheel and Track Loaders - <u>Cycle Time Factors</u> Material:		on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle 7	Time (load, dump, 1	Dump: 0.100 maneuver): 0 Factor (min.)	0 min Source (Cat HB)	utes
Machine Cycle Time v Selected Value Track Loaders – Cycle Time Elements (min.) Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile:	 Job Conditic within this Bas Material Description Material Description Unadjusted Bas Material up t Conveyor or 	on Rating: <u>NA</u> ic Rating: <u>NA</u> ription: <u></u> Maneuver: <u>NA</u> asic Loader Cycle ' to 1/8" diameter 0.0	Time (load, dump, 1	Dump: 0.100 maneuver): 0 Factor (min.) 0.020 0.000	0 min <u>Source</u> (Cat HB) (Cat HB)	utes
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eg #	Haul Di	istance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	Time (min)	
	1400.00)	1.00	3.00	4.00	1774	0.979	
					Haul Time:	0.979	minutes	
Return Rou	ite:				=			
eg #	Haul D	istance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(Ft)			(%)	(%)	(fpm)	(min)	
	1400.00)	-1.00	3.00	2.00	3040	0.607	
					Return Time:	0.607	minutes	
				Total Tru	ck Cycle Time:	4.606	minutes	
ding Tool	unit							
Produc	ction	653.47	LCY/Hour		Adjusted for j	ob efficiency:	542.38	LCY/Hour
nit Produc	ction							
		286.58	LCY/Hour		Adjusted for j	ob efficiency:	237.86	LCY/Hou
No. of Tru	icks:	2	Truck(s)		Selected Num	ber of Trucks:	1	Truck(s)
			Adjuste	d hourly true	k team producti	on: 237	.86 LCY/	Hour
			Adjusted sing	le truck/loade	er team production	on: 237	.86 LCY/	Hour
			Adjusted multip	le truck/loade	er team production	on: 237	.86 LCY/	Hour
OB TIM	IE ANI	D COST						
Fleet s	ize:	1	Team(s)]	Fotal job time:	45.78	8 Hou	irs
Unit c	ost:	\$2.965	/LCY	,	Total job cost:	\$32,2	93	
	eg # eturn Roo eg # ling Tool Produc nit Produc No. of Tru OB TIM Fleet s Unit co	eg # Haul D. (Ft) 1400.00 eturn Route: eg # Haul D. (Ft) 1400.00 ding Tool unit Production nit Production No. of Trucks: OB TIME ANI Fleet size: Unit cost:	eg #Haul Distance (Ft)1400.00eturn Route:eg #Haul Distance (Ft)1400.00ding Tool unit Production nit Production653.47 286.58No. of Trucks:2OB TIME AND COST Fleet size:Fleet size:1Unit cost:\$2.965	eg #Haul Distance (Ft)Grade (%)1400.001.00eturn Route: 1.00 eg #Haul Distance (Ft)Grade (%)1400.00-1.00ding Tool unit Production nit Production653.47 286.58LCY/HourNo. of Trucks:2Truck(s) Adjusted Adjusted sing Adjusted multipOB TIME AND COST Fleet size:1Team(s) LCY	eg #Haul Distance (Ft)Grade (%) (%)Roll. Res (%)1400.001.003.00eturn Route:eg #Haul Distance (Ft)Grade (%) (%)1400.00-1.003.00Total Truding Tool unit Production nit Production653.47 286.58 2LCY/HourNo. of Trucks:2Truck(s) Adjusted hourly truc Adjusted single truck/loade Adjusted multiple truck/loadeOB TIME AND COST Fleet size:1Team(s)7Unit cost: $$2.965$ /LCY	eg # Haul Distance (Ft) Grade (%) Roll. Res (%) Total Res (%) 1400.00 1.00 3.00 4.00 Haul Distance (Ft) Grade (%) Roll. Res (%) Total Res (%) eg # Haul Distance (Ft) Grade (%) Roll. Res (%) Total Res (%) 1400.00 -1.00 3.00 2.00 Return Time: Total Truck Cycle Time: ling Tool unit Production 653.47 LCY/Hour Adjusted for j nit Production 286.58 LCY/Hour Adjusted for j No. of Trucks: 2 Truck(s) Selected Numi Adjusted hourly truck team productio Adjusted single truck/loader team productio Adjusted multiple truck/loader team production OB TIME AND COST Fleet size: 1 Team(s) Total job time: Unit cost: \$2.965 /LCY Total job cost: Total job cost:	eg # (Ft)Haul Distance (Ft)Grade (%)Roll. Res (%)Total Res (%)Velocity (fpm)1400.001.003.004.001774Haul Oute: eg # (Ft)DescriptionOute: (%)Outer (%)Velocity (%)eturn Route:Grade (%)Roll. Res (%)Total Res (%)Velocity (fpm)eturn Route:Grade (%)Roll. Res (%)Total Res (%)Velocity (fpm)eturn Route:Grade (%)Roll. Res (%)Total Res (%)Velocity (fpm)iturn Route:Grade (%)Roll. Res (%)Total Res (%)Velocity (fpm)1400.00-1.003.002.003040Return Time: Total Truck Cycle Time:Production nit Production653.47 286.58LCY/HourAdjusted for job efficiency: Adjusted for job efficiency: Adjusted for job efficiency: Adjusted single truck/loader team production: 237 Adjusted multiple truck/loader team production: 237 Adjusted multiple truck/loader team production:237 237OB TIME AND COSTFleet size:1Team(s)Total job time:45.7 32,2Unit cost:\$2.965/LCYTotal job cost:\$32,2	eg # (Ft)Haul Distance (Ft)Grade (%) (%)Roll. Res (%)Total Res (%)Velocity (fpm)Travel Time (min)1400.001.003.004.0017740.979Haul Distance (Ft)Grade (%) (%)Roll. Res (%)Total Res (%)Velocity (fpm)Travel Time (min)1400.00-1.003.002.0030400.6071400.00-1.003.002.0030400.607Return Time: Total Truck Cycle Time:0.607 4.606minutesDistance (%)CY/HourAdjusted for job efficiency:542.38Adjusted for job efficiency:237.86LCY/HourAdjusted for job efficiency:237.86LCY/HourAdjusted hourly truck team production: 237.86237.86LCY/AAdjusted hourly truck team production: 237.86237.86LCY/AOB TIME AND COSTFleet size:1Team(s)Total job time:45.78Hou 45.78Unit cost:\$2.965/LCYTotal job cost:\$32,293

TRUCK/LOADER TEAM WORK

Task description:	Backfill	0.25 acre pit sou	th of Cell 6			
Site: Larimer Pit		Permit Activ	on: <u>1/16/2020 In</u>	nspection	Permit/Job#: <u>M</u>	1974069
PROJECT IDEN	TIFICATION					
Task #: 015		State: Colora	ado	Ab	breviation: <u>No</u>	ne
Date: <u>Rev 3/</u>	/20/2020	County: Larim	er		Filename: M0	69-015
User. ANIE	,					
Agency or	organization nar	ne: DRMS				
HOURLY EQUI	PMENT COST	<u>1</u>		Shift bas	sis: <u>1 per day</u>	
T	mult Loador Too	m Trucky Cot	Equipment Descri	iption		
1.	ruck Loader Tea	-Loader: Cat	730 T 966H			
Suppo	ort Equipment -L	Load Area: NA	1) 0011			
	-Dı	ump Area: Cat	D8T - 8SU			
Road Ma	aintenance – Mot	or Grader: CA	T 16M	C -1		
	- w a	ter Truck: Wa	ter Tanker, 3,500	Gal.		
Cost Breakdown:	Truck/Loa	ader Team	Support	Equipment	Maintenar	ce Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	100	100
Ownership cost/hour:	\$58.61	\$41.17	NA	\$103.86	\$82.71	\$13.51
Operating cost/hour:	\$48.24	\$50.45	NA	\$61.70	\$70.09	\$28.95
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$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	\$0.00
Unit Subtotals:	\$131.63	\$127.54	NA	\$205.54	\$198.18	\$42.46
Number of Units:	1	1	0	1	1	1
Group Subtotals:	Work:	\$259.17	Support:	\$205.54	Maint:	\$240.64
Total work team cos	t/hour: <u>\$705.35</u>	;				
MATERIAL QUA	<u>ANTITIES</u>					
Initial volume:	4,033	CCY	Swell	factor: 1.125		
Loose volume:	4,537	LCY				
Sou	arce of estimated	volume: Op: 0	0.25 ac x 10 ft			
Source	of estimated swe	ell factor: Cat I	Handbook			
	Material Purch	ase Cost: $\frac{$0.00}{$0.00}$)			
	10		5			
HOURLY PRO	DUCTION					
Truck Capacity:	100					
Truck Payload (weig Material w	<u>gnt) Basis:</u> reight: 2.650		Pounde/I CV			
Descri	ption: <u>2,030</u>	posed rock - 25%	Rock, 75% Earth	ı		
Rated Pay	yload: <u>62,000</u>		Pounds			
D 1 10						

Truck Bed (volume) Basis:						
Struck Volume:	<u>17.10</u> LC	CY				
Heaped Volume:	LC	CY				
Average Volume:	19.60 LC	CY				
Adjusted Volume:	LC	CY				
Final 7	Truck Volume Ba	used on Number of	Loader Passes:	22.00	LCY	
Loading Tool Capacity			Buel	zat Siza Class: N	٨	
Rated Canacity:	5 000	I CY (heaped)	Ducr	tet Size Class. <u>IN</u>	A	_
Bucket Fill Factor:	1 100	Other rock/dirt	mixtures (100	120%) 1 100		
Adjusted Capacity:	5.500	LCY	mixtures (100	-12070) 1.100		
Job Condition Corrections:		Site	e Altitude (ft.): 5	5000 feet		
	Truck	Loader	Source			
Altitude Adi:	1 000	1 000	(CAT HB	3)		
Job Efficiency:	0.830	0.830	(CAT HB	3)		
				· · · · · ·		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time:	Number of	Loading Tool Pass	ses Required to 1	Fill Truck:	4 p	asses
Excavators and Front Shovels	<u>s:</u>					
Machina Cycle Time ye	Job Condition B	Poting: NA				
Selected Value w	ithin this Basic R	ating: NA				
Track Loaders – I	Material Descripti	ion:				
Cycle Time Elements (min.):						
Load: NA	Man	euver: NA		Dump: 0.100	l	
Wheel and Track Loaders -	Unadjusted Basic	Loader Cycle Tim	e (load, dump, n	naneuver): 0	.500 minu	tes
Cycle Time Factors				Factor (min.)	Source	
Material:	Material up to 1	/8" diameter 0.02		0.020	(Cat HB)	_
Stockpile:	Conveyor or doz	zer piled 10 ft. high	and up 0.00	0.000	(Cat HB)	-
Truck Ownership:	Common owner	ship of trucks and l	oaders -0.04	-0.040	(Cat HB)	_
Operation:	Constant operati	on -0.04		-0.040	(Cat HB)	-
Dump Target:	Nominal target (0.00		0.000	(Cat HB)	-
		Net Cycle Time	e Adjustment:	-0.060	minutes	_
		Adjusted Loade	r Cycle Time:	0.440	minutes	
		Net Load Ti	me per Truck:	1.420	minutes	
Truck Cycle Time:						
Truck Exchange Time:	0.60	Minutes	Adjusted	for site altitude:	0.600	Minute
Truck Load Time:	1.420	Minutes	Adjusted	for site altitude:	1.420	Minute
ck Maneuver and Dump Time:	1.00	Minutes	Adjusted	for site altitude:	1.000	Minute
Truck Travel (Haul & Return)) Time:	Road Condition: <u>F</u>	irm, smooth, rol	ling, dirt/lt. surfaced	l, watered,	

	Haul Rou	te:							
	Seg #	Haul I (Ft)	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time	
_	1	1000 (20	1.00	2.00	1.00	1774	(min)	
	1	1800.0	00	1.00	3.00	4.00	1//4	1.204	
						Haul Time:	1.204	minutes	
	Return Ro	oute:		<u></u>					
	Seg #	Haul I	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	(min)	
	1	1800.0	00	-1.00	3.00	2.00	3040	0.739	
						Return Time:	0.739	minutes	
					Total True	ck Cycle Time:	4.963	minutes	
Lo	ading Too	l unit							
	Produ	iction	653.47	LCY/Hour		Adjusted for j	ob efficiency:	542.38	LCY/Hour
Truck	Unit Produ	iction							
		-	265.97	LCY/Hour		Adjusted for j	ob efficiency:	220.75	LCY/Hour
Optimal	l No. of Tr	ucks:	2	Truck(s)		Selected Num	ber of Trucks:	1	Truck(s)
				Adjuste	d hourly true	k team production	on: 220	.75 LCY/H	Iour
				Adjusted sing	le truck/loade	r team production	on: 220	.75 LCY/H	Iour
				Adjusted multip	le truck/loade	er team production	on: 220	.75 LCY/H	Iour
	JOB TIN	ME AN	D COST						
	Fleet	size:	1	Team(s)	1	Total job time:	20.5	5 Hour	rs
	Unit	cost:	\$3.195	/LCY	r	Fotal job cost:	\$14,4	97	

TRUCK/LOADER TEAM WORK

Task description:	Backfill 4	4.5 acres Cell 20)			
Site: Larimer Pit		Permit Action	on: <u>1/16/2020 In</u>	nspection	Permit/Job#: <u>M</u>	1974069
PROJECT IDEN	TIFICATION					
Task #: 021		State: Colora	ado	Ab	breviation: No	ne
Date: Rev 3/2	20/2020 C	County: Larim	er		Filename: M0	69-021
User: <u>AME</u>						
Agency or o	organization nam	e: DRMS				
HOURLY EQUIE	PMENT COST			Shift bas	is: <u>1 per day</u>	
			Equipment Descri	ption		
Ti	ruck Loader Tear	n - Truck: Cat	730 T 966H			
Suppo	ort Equipment -Lo	Dad Area: NA	1 90011			
	-Du	mp Area: Cat	D8T - 8SU			
Road Ma	intenance – Moto	r Grader: CA	T 16M	<u></u>		
	-Wat	er Truck: Wa	ter Tanker, 3,500	Gal.		
Cost Breakdown•	Truck/Loa	der Team	Support 1	Fauinment	Maintenan	ce Equipment
<u>cost Dreakdown</u> .	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	75	100	100
Ownership cost/hour:	\$58.61	\$41.17	NA	\$103.86	\$82.71	\$13.51
Operating cost/hour:	\$48.24	\$50.45	NA	\$61.70	\$70.09	\$28.95
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$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	\$0.00
Unit Subtotals:	\$131.63	\$127.54	NA	\$205.54	\$198.18	\$42.46
Number of Units:		1	0		1	
Group Subtotals:	Work:	\$259.17	Support:	\$205.54	Maint:	\$240.64
Total work team cost	t/hour: <u>\$705.35</u>					
MATERIAL QUA	ANTITIES					
Initial volume:	109,505	CCY	Swell	factor: 1.125		
Loose volume:	123,19	3 LCY				
Sou	rce of estimated	volume: Op: 4	4.525 ac x 15 ft			
Source	of estimated swel	l factor: Cat I	Handbook			
	Material Purcha	se Cost: $\$0.00$)			
	10	tai Cost: <u>50.00</u>)			
HOURLY PRO	DUCTION					
Truck Capacity:						
Truck Payload (weig	ht) Basis:		D 1 7			
Material w	eight: 2,650	osed rock 25%	Pounds/LCY			
Rated Pay	vload: 62.000	505CU TOCK - 23%	Pounds	1		

Struck Volume:	17 10 1	CV				
II	$\frac{17.10}{22.10}$ I					
Heaped Volume:	$\frac{22.10}{10.00}$ I					
Average volume:	$\frac{19.00}{22.10}$ I					
Adjusted Volume:	22.10 1	LCY				
Final	Truck Volume l	Based on Number o	f Loader Passes:	22.00	LCY	
Loading Tool Capacity						
Rated Canacity:	5,000	I CV (heaped)	Buch	ket Size Class: <u>N</u>	A	_
Bucket Fill Factor:	1 100	Other rock/div	rt mixtures (100	120%) 1 100		
Adjusted Capacity:	5.500	LCY	It mixtures (100	-12070) 1.100		-
Job Condition Corrections:		Si	ite Altitude (ft.): 5	5000 feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE	5)		
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.830	0.830				
Looding Tool Cycle Times	Numbor	of Looding Tool Do	and Dogwind to	Cill Transfer	4	
Evenuetors and Front Shove	Number	of Loading 1001 Pa	isses Required to		<u> 4 </u>	passes
Excavators and Front Shover	<u>18.</u>					
Machine Cycle Time v Selected Value v	s. Job Condition within this Basic	Rating: <u>NA</u> Rating: NA				
Machine Cycle Time v. Selected Value v Track Loaders –	s. Job Condition within this Basic Material Descrij	Rating: <u>NA</u> Rating: <u>NA</u> ption:				
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.):	s. Job Condition within this Basic Material Descrij	Rating: <u>NA</u> Rating: <u>NA</u> ption:				
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA	s. Job Condition within this Basic Material Descrij Ma	Rating: <u>NA</u> Rating: <u>NA</u> ption:		 Dump: 0.100		
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders -	s. Job Condition within this Basic Material Descrip Unadjusted Bas	a Rating: <u>NA</u> Rating: <u>NA</u> ption: aneuver: <u>NA</u> sic Loader Cycle Tin	me (load, dump, 1	Dump: 0.100	.500 min	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - Cycle Time Factors	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas	Rating: <u>NA</u> Rating: <u>NA</u> ption: aneuver: <u>NA</u> sic Loader Cycle Tin	me (load, dump, r	Dump:0.100 naneuver):0 Factor (min.)	. <u>500 min</u>	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: <u>NA</u> Wheel and Track Loaders - <u>Cycle Time Factors</u> Material:	s. Job Condition within this Basic Material Descrip Unadjusted Bas Material up to	Rating: NA Rating: NA ption:	me (load, dump, 1	Dump: 0.100 naneuver): 0 Factor (min.) 0.020	500 min Source (Cat HB)	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile:	s. Job Condition within this Basic Material Descrip Unadjusted Bas Material up to Conveyor or d	Rating: NA Rating: NA ption:	me (load, dump, r	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000	.500 minu Source (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership:	s. Job Condition within this Basic Material Descrip Unadjusted Bas Material up to Conveyor or d Common own	Rating: NA Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 -0.040	500 minu Source (Cat HB) (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	s. Job Condition within this Basic Material Descrip – Ma – Unadjusted Bas – Material up to Conveyor or d Common own Constant opera	Rating: NA Rating: NA ption:	me (load, dump, 1 gh and up 0.00 l loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 -0.040 -0.040	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Condition within this Basic Material Descrip 	Rating: NA Rating: NA ption:	me (load, dump, 1 gh and up 0.00 l loaders -0.04	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 -0.040 -0.040 0.000	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Condition within this Basic Material Descrip Unadjusted Bas Material up to Conveyor or d Conveyor or d Common own Constant opera Nominal targe	Rating: NA Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04 ne Adjustment:	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 -0.040 0.000 -0.040 0.000 -0.060	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Material up to Conveyor or d Conveyor or d Common own Constant opera Nominal targe	Rating: NA Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04 ne Adjustment: ler Cycle Time:	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 -0.040 0.000 -0.040 0.000 -0.060 0.440	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Material up to Conveyor or d Conveyor or d Common own Constant opera Nominal targe	a Rating: NA c Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04 ne Adjustment: ler Cycle Time: lime per Truck:	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 -0.040 0.000 -0.040 0.000 -0.060 0.440 1.420	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Unadjusted Bas Unadjusted Bas Onveyor or d Conveyor or d Conveyor or d Common own Constant opera Nominal targe	Rating: NA Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04 ne Adjustment: ler Cycle Time:	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 -0.040 0.000 -0.040 0.000 -0.060 0.440 1.420	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Material up to Conveyor or d Common own Constant opera Nominal targe	a Rating: NA c Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04 ne Adjustment: ler Cycle Time: Cime per Truck:	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 -0.040 -0.040 0.000 -0.060 0.440 1.420 for site altitude:	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes 0.600	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Material up to Conveyor or d Common own Constant opera Nominal targe : 0.60 : 1.420	a Rating: NA a Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04 ne Adjustment: ler Cycle Time: Time per Truck: Adjusted Adjusted	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 0.000 -0.040 0.000 -0.060 0.440 1.420 1.420	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes 0.600 1.420	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time ck Maneuver and Dump Time	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Material up to Conveyor or d Common own Constant opera Nominal targe : 0.60 : 1.420 : 1.00	a Rating: NA a Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04 ne Adjustment: ler Cycle Time: Time per Truck: Adjusted Adjusted Adjusted	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 0.000 -0.040 0.000 -0.060 0.440 1.420 1.420 for site altitude:	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes 0.600 1.420 1.000	utes
Machine Cycle Time v Selected Value v Track Loaders – Cycle Time Elements (min.): Load: NA Wheel and Track Loaders - Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Exchange Time Truck Load Time ck Maneuver and Dump Time	s. Job Condition within this Basic Material Descrip Ma Unadjusted Bas Material up to Conveyor or d Conveyor or d Common own Constant opera Nominal targe : 0.60 : 1.420 : 1.00	a Rating: NA c Rating: NA ption:	me (load, dump, r gh and up 0.00 l loaders -0.04 ine Adjustment: ler Cycle Time: Time per Truck: Adjusted Adjusted Adjusted Firm, smooth, rol	Dump: 0.100 naneuver): 0. Factor (min.) 0.020 0.000 0.000 -0.040 0.000 -0.060 0.440 1.420 1.420 for site altitude:	500 minu Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) 0.600 1.420 1.000	utes — — — — — — — — — — — — —

Seg	# H	ul Distance	Grade (%)	Roll Res	Total Res	Velocity	Travel	
Beg			Orade (70)	(0/)	(0/2)	(fpm)	Time	
	(r	()		(%)	(%)	(ipiii)	(min)	
1	12	00.00	1.00	3.00	4.00	1774	0.866	
					Haul Time:	0.866	minutes	
Retu	urn Route				_			
Seg	# H	ul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(F	t)		(%)	(%)	(fpm)	Time (min)	
1	12	00.00	-1.00	3.00	2.00	3040	0.542	
					Return Time:	0.542	minutes	
				Total Tru	ck Cycle Time:	4.428	minutes	
Loadin	ig Tool un	it			,			
Loadin	ng Tool un Productio	it n 653.47	LCY/Hour		Adjusted for j	ob efficiency:	542.38	LCY/Hour
Loadin Truck Unit	ng Tool un Productio Productio	it n <u>653.47</u> n	LCY/Hour		Adjusted for j	ob efficiency:	542.38	LCY/Hour
Loadin Truck Unit	ng Tool un Productic Productic	it n <u>653.47</u> n <u>298.10</u>	LCY/Hour LCY/Hour		Adjusted for j Adjusted for j	ob efficiency: ob efficiency:	<u>542.38</u> 247.43	_ LCY/Hour _ LCY/Hour
Loadin Truck Unit Optimal No.	ng Tool un Productic Productic	$\begin{array}{c} \text{it} \\ \text{n} \\ \text{n} \\ \hline 298.10 \\ \text{s:} \\ 2 \end{array}$	LCY/Hour LCY/Hour Truck(s)		Adjusted for j Adjusted for j Selected Numl	ob efficiency: ob efficiency: ber of Trucks:	542.38 247.43 1	_ LCY/Hour _ LCY/Hour _ Truck(s)
Loadin Truck Unit Optimal No.	ng Tool un Productio Productio	$\begin{array}{c} \text{it} \\ n \\ n \\ \hline 298.10 \\ \text{s:} \\ 2 \end{array}$	LCY/Hour LCY/Hour Truck(s) Adjuste	ed hourly truc	Adjusted for j Adjusted for j Selected Numl k team productio	ob efficiency: ob efficiency: ber of Trucks: on: 247	542.38 247.43 1 .43 LCY/	_ LCY/Hour _ LCY/Hour _ Truck(s) Hour
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Loadin Truck Unit Optimal No. <u>JOI</u>	ng Tool un Productic Productic . of Truck <u>B TIME</u> Fleet size	$ \frac{1}{1} $ it 653.47	LCY/Hour LCY/Hour Truck(s) Adjusted sing Adjusted multip	ed hourly truc le truck/loade le truck/loade	Adjusted for j Adjusted for j Selected Numl k team productio er team productio er team productio Fotal job time:	ob efficiency: ob efficiency: ber of Trucks: on: 247 on: 247 on: 247 497.9	<u>542.38</u> <u>247.43</u> <u>1</u> <u>43</u> LCY/ <u>43</u> LCY/ <u>43</u> LCY/ <u>43</u> LCY/ <u>43</u> LCY/	LCY/Hour LCY/Hour Truck(s) Hour Hour Hour

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SCRAPER TEAM WORK

Site: Larimer Pit	Pe	ermit Action:	1/16/2020 Inspec	ction Peri	mit/Job#: <u>M197</u>	4069
PROJECT IDEN	TIFICATION					
Task #:022	State:	Colorado		Abbrev	viation: None	
Date: Rev 3/2	20/2020 County:	Larimer		Fil	ename: M069-	022
Oser. <u>Awil</u>						
Agency or o	organization name: <u>L</u>	DRMS				
HOURLY EQUIE	MENT		COSTSh	ift basis: <u>1 per d</u>	ay	
		Equipm	ent Description			
	-Scrap	er: Cat 63	7G			
Suppo	-Doz rt Equipment -Load Ard	er: NA ea: NA				
	-Dump Are	ea: Cat D8	T - 8SU			
Road Ma	intenance – Motor Grad Water True	er: CAT 1	6M Tankar 3 500 Gal			
	-water file	ck. Water	Tanker, 5,500 Gai.			
Cost Breakdown:	Scraper Work Te	eam	Support Equip	ment	Maintenance	Equipme
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water
%Utilization-machine:	100	NA	NA	100	100	
Ownership cost/hour:	\$162.02	NA	NA	\$103.86	\$82.71	
Operating cost/hour:	\$184.64	NA	NA	\$82.26	\$70.09	
%Utilization-ripper:	NA	NA	NA	NA	100	
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$4.44	
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$3.92	
Uperator cost/hour:	\$45.58	NA	NA	\$39.98	\$45.39	
Unit Subtotals:	\$392.24	NA 0	NA 0	\$226.10	\$206.54	
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	1 Maint:	\$24
		φ70 0	Support.	\$220.10	Ivianit.	φ24,
Total work team cost	/hour: <u>\$1,259.58</u>	-				
MATERIAL QUA	NTITIES					
Initial volume:	3.630	CCY	Swell facto	or: 1.215		
Loose volume:	4,410	LCY	5 Wen factor			
Sou	rce of estimated volume	e: 4.5 ac x	6 in depth			
Source	of estimated swell factor	r: Cat Han	dbook			
HOUKLY PROD	UCTION					
			Scraper Bo	wl (volume) Bas	<u>is:</u>	
Material weight:	1,600 lbs/LCY		Struck V	/olume: 24.00	L	CY
Material description:	1 COD moren da		Heaped V	$\sqrt{\text{olume:} 34.00}$	L	CY
Rated Pavload			Average v	/omme. /grui		A. T

<u>0.80</u> Minutes

<u>0.60</u> Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5000 feet

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

Travel Time:

Road Condition: 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	1200.00	1.00	3.00	4.00	2394	0.66

Haul Time: **0.66** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	-1.00	3.00	2.00	2960	0.53
				Return Time:	0.53 r	ninutes
			Total Scraper	team cycle time:	2.59	minutes
			Adjusted for	or job conditions:	557.61	LCY/Hour
			Selected Nu	mber of Scrapers:	2	Scraper(s)
	Adjusted	a single scrap	per team (unit) h	ourly production:	1,115.21	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet) h	ourly production:	1,115.21	LCY/Hour
Optimal	Unadjusted unit prod Number of Scrapers pe	duction/hours r push dozers	671.81	LCY/Hour		

JOB TIME AND COST

Fleet size:	1	Team(s)	Total job time:	3.95	Hours
Unit cost:	\$1.129	/LCY	Total job cost:	\$4,981	

REVEGETATION WORK

]	Fask descrip	otion:	Revegetate 6.5 a	cres Cell 20			
Site:	Larimer	Pit	Pe	rmit Action:	1/16/2020 Inspection	Permit/Job#	: M1974069
<u>P</u>	ROJECT	<u>IDENTIFIC</u>	ATION				
	Task #: Date:	023 Rev 3/20/202	20 State: County:	Colorado Larimer		Abbreviation: Filename:	None M069-023
	Age	ency or organiz	zation name: DI	RMS			

FERTILIZING

Materials

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

Application

Description	Cost /Acre
	\$
Total Fertili	zer 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
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

	Totals Seed Mix	9.00	113.81	\$136.27
Application	n			

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$947.43
	Total Seed Application Cost/Acre	\$947.43

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

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
					\$
Totals Nursery Stock Cost / Acre				\$0.00	

JOB TIME AND COST

No. of Acres: Estimated Failure Rate: *Selected Replanting Work Items:		6.5 20% SEEDING	Cost /Acre: Cost /Acre*:	\$2,032.10 \$1,083.70
Initial Job Cost: Reseeding Job Cost: Total Job Cost: Job Hours:	\$13,208.65 \$1,408.81 \$14,617 6.50			



COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY

1313 Sherman Street, Room 215, Denver, Colorado 80203 ph(303) 866-3567

REQUEST FOR TECHNICAL REVISION (TR) COVER SHEET

File No.: M-	Site Name:	
County	TR#	(DRMS Use only)
Permittee <u>:</u>		
Operator (If Other than Per	mittee):	
Permittee Representative:_		
Please provide a brief desc	ription of the proposed revision:	

As defined by the Minerals Rules, a Technical Revision (TR) is: "a change in the permit or application which does not have more than a minor effect upon the approved or proposed Reclamation or Environmental Protection Plan." The Division is charged with determining if the revision as submitted meets this definition. If the Division determines that the proposed revision is beyond the scope of a TR, the Division may require the submittal of a permit amendment to make the required or desired changes to the permit.

The request for a TR is not considered "filed for review" until the appropriate fee is received by the Division (as listed below by permit type). Please submit the appropriate fee with your request to expedite the review process. After the TR is submitted with the appropriate fee, the Division will determine if it is approvable within 30 days. If the Division requires additional information to approve a TR, you will be notified of specific deficiencies that will need to be addressed. If at the end of the 30 day review period there are still outstanding deficiencies, the Division must deny the TR unless the permittee requests additional time, in writing, to provide the required information.

There is no pre-defined format for the submittal of a TR; however, it is up to the permittee to provide sufficient information to the Division to approve the TR request, including updated mining and reclamation plan maps that accurately depict the changes proposed in the requested TR.

Required Fees for Technical Revision by Permit Type - Please mark the correct fee and submit it with your request for a Technical Revision.

<u>Permit Type</u>	Required TR Fee	Submitted (mark only one)
110c, 111, 112 construction materials, and 112 quarries	\$216	
112 hard rock (not DMO)	\$175	
110d, 112d(1, 2 or 3)	\$1006	