

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):

- 1) Task 001 – Backfill 4 acres Cell 14: 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.
- 2) Task 005 – Interseed Cell 18: 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) Task 009 – Backfill 1 acre Cell 5: 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) Task 012 – Backfill 1 acre Cell 6: 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.
- 5) Task 015 – Backfill 1 acre pit south of Cell 6: 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) Task 021 – Backfill 11 acres Cell 20: 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) Task 022 – Retopsoil 11 acres Cell 20: 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) Task 023 – Revegetate 11 acres Cell 20: 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 amy.eschberger@state.co.us.

Sincerely,



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 Summary

Site: Larimer Pit

Permit Action: 1/16/2020 Inspection

Permit/Job#: M1974069

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: Rev 3/20/2020

County: Larimer

Filename: M069-000

User: AME

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
002	Grade Cell 14 backfill slopes	DOZER	1	8.59	\$1,942
003	Retopsoil Cell 14 backfill area	SCRAPER1	1	9.60	\$12,097
004	Revegetate Cell 14 backfill area	REVEGE	1	11.60	\$26,706
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 AM-3)	NA	1	16.00	\$165,000
030	Mobilization/Demobilization	MOBILIZE	1	18.24	\$50,823
<u>SUBTOTALS:</u>				767.44	\$852,901

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05

Total = \$17,229

Total = \$8,955

Job superintendent: 160.00
Profit: 10.00

Total = \$11,102
Total = \$85,290
TOTAL O & P = \$122,577
CONTRACT AMOUNT (direct + O & P) = \$975,478

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500
Engineering work and/or contract/bid preparation: 4.25
Reclamation management and/or administration: 5.00

Total = \$500
Total = \$41,458
Total = \$48,774

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$213,308

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

REVEGETATION WORKTask description: **Weed control in Cell 18**Site: **Larimer Pit**Permit Action: **1/16/2020 Inspection**Permit/Job#: **M1974069****PROJECT IDENTIFICATION**Task #: **005**State: **Colorado**Abbreviation: **None**Date: **Rev 3/20/2020**County: **Larimer**Filename: **M069-005**User: **AME**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
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
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MULCHING and MISCELLANEOUS**Materials**

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

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	<u>2</u>	Cost /Acre:	<u>\$193.60</u>
Estimated Failure Rate:	<u>0%</u>	Cost /Acre*:	<u>\$0.00</u>
*Selected Replanting Work Items:	<u>NONE</u>		

Initial Job Cost:	<u>\$387.20</u>
Reseeding Job Cost:	<u>\$0.00</u>
Total Job Cost:	<u>\$387</u>
Job Hours:	<u>2.00</u>

TRUCK/LOADER TEAM WORKTask description: Backfill 0.75 acre Cell 5Site: Larimer PitPermit Action: 1/16/2020 InspectionPermit/Job#: M1974069PROJECT IDENTIFICATIONTask #: 009State: ColoradoAbbreviation: NoneDate: Rev 3/20/2020County: LarimerFilename: M069-009User: AMEAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 966H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

Truck/Loader Team

Support Equipment

Maintenance 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 cost/hour: \$705.35MATERIAL QUANTITIESInitial volume: 9,680

CCY

Swell factor: 1.125Loose volume: 10,890

LCY

Source of estimated volume: Op: 0.75 ac x 8 ft (leave 2 ac pond per rec plan)Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,650

Pounds/LCY

Description: Decomposed rock - 25% Rock, 75% EarthRated Payload: 62,000

Pounds

Payload Capacity: 23.40

LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 22.00 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	5.500	LCY

Job Condition Corrections:

Site Altitude (ft.): 5000 feet

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

Loading Tool Cycle Time:

Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.060	minutes
Adjusted Loader Cycle Time:		0.440	minutes
Net Load Time per Truck:		1.420	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.420	Minutes	Adjusted for site altitude:	1.420	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	1.00	3.00	4.00	1774	0.979

Haul Time: **0.979** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	-1.00	3.00	2.00	3040	0.607

Return Time: **0.607** minutesTotal Truck Cycle Time: **4.606** minutes

Loading Tool unit
 Production 653.47 LCY/Hour Adjusted for job efficiency: 542.38 LCY/Hour
 Truck Unit Production
286.58 LCY/Hour Adjusted for job efficiency: 237.86 LCY/Hour
 Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 237.86 LCY/Hour
 Adjusted single truck/loader team production: 237.86 LCY/Hour
 Adjusted multiple truck/loader team production: **237.86** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **45.78** HoursUnit cost: \$2.965 /LCY Total job cost: **\$32,293**

TRUCK/LOADER TEAM WORKTask description: **Backfill 0.25 acre pit south of Cell 6**Site: **Larimer Pit**Permit Action: 1/16/2020 InspectionPermit/Job#: M1974069**PROJECT IDENTIFICATION**Task #: 015State: ColoradoAbbreviation: NoneDate: Rev 3/20/2020County: LarimerFilename: M069-015User: AMEAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 966H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance 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 cost/hour: **\$705.35****MATERIAL QUANTITIES**Initial volume: 4,033

CCY

Swell factor: 1.125Loose volume: **4,537**

LCY

Source of estimated volume: Op: 0.25 ac x 10 ftSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,650

Pounds/LCY

Description: Decomposed rock - 25% Rock, 75% EarthRated Payload: 62,000

Pounds

Payload Capacity: 23.40

LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 22.00 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	5.500	LCY

Job Condition Corrections:

Site Altitude (ft.): 5000 feet

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

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.060	minutes
Adjusted Loader Cycle Time:		0.440	minutes
Net Load Time per Truck:		1.420	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.420	Minutes	Adjusted for site altitude:	1.420	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	1.00	3.00	4.00	1774	1.204

Haul Time: **1.204** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	-1.00	3.00	2.00	3040	0.739

Return Time: **0.739** minutesTotal Truck Cycle Time: **4.963** minutes

Loading Tool unit
 Production 653.47 LCY/Hour Adjusted for job efficiency: 542.38 LCY/Hour
 Truck Unit Production
265.97 LCY/Hour Adjusted for job efficiency: 220.75 LCY/Hour
 Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 220.75 LCY/Hour
 Adjusted single truck/loader team production: 220.75 LCY/Hour
 Adjusted multiple truck/loader team production: **220.75** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **20.55** HoursUnit cost: \$3.195 /LCY Total job cost: **\$14,497**

TRUCK/LOADER TEAM WORKTask description: **Backfill 4.5 acres Cell 20**Site: **Larimer Pit**Permit Action: **1/16/2020 Inspection**Permit/Job#: **M1974069****PROJECT IDENTIFICATION**Task #: **021**State: **Colorado**Abbreviation: **None**Date: **Rev 3/20/2020**County: **Larimer**Filename: **M069-021**User: **AME**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

Equipment Description	
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 966H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance 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 cost/hour: **\$705.35****MATERIAL QUANTITIES**Initial volume: **109,505**

CCY

Swell factor: **1.125**Loose volume: **123,193**

LCY

Source of estimated volume: **Op: 4.525 ac x 15 ft**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: **2,650**

Pounds/LCY

Description: **Decomposed rock - 25% Rock, 75% Earth**Rated Payload: **62,000**

Pounds

Payload Capacity: **23.40**

LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 22.00 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	5.500	LCY

Job Condition Corrections:

Site Altitude (ft.): 5000 feet

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

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.060	minutes
Adjusted Loader Cycle Time:		0.440	minutes
Net Load Time per Truck:		1.420	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.420	Minutes	Adjusted for site altitude:	1.420	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

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	1774	0.866

Haul Time: **0.866** 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	3040	0.542

Return Time: **0.542** minutesTotal Truck Cycle Time: **4.428** minutes

Loading Tool unit
 Production 653.47 LCY/Hour Adjusted for job efficiency: 542.38 LCY/Hour
 Truck Unit Production
298.10 LCY/Hour Adjusted for job efficiency: 247.43 LCY/Hour
 Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 247.43 LCY/Hour
 Adjusted single truck/loader team production: 247.43 LCY/Hour
 Adjusted multiple truck/loader team production: **247.43** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **497.90** HoursUnit cost: \$2.851 /LCY Total job cost: **\$351,194**

SCRAPER TEAM WORKTask description: **Retopsoil 4.5 acres Cell 20**Site: **Larimer Pit**Permit Action: **1/16/2020 Inspection**Permit/Job#: **M1974069****PROJECT IDENTIFICATION**Task #: **022**State: **Colorado**Abbreviation: **None**Date: **Rev 3/20/2020**County: **Larimer**Filename: **M069-022**User: **AME**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	100	100
Ownership cost/hour:	\$162.02	NA	NA	\$103.86	\$82.71	\$13.51
Operating cost/hour:	\$184.64	NA	NA	\$82.26	\$70.09	\$28.95
%Utilization-ripper:	NA	NA	NA	NA	100	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$4.44	\$0.00
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$3.92	\$0.00
Operator cost/hour:	\$45.58	NA	NA	\$39.98	\$45.39	\$0.00
Unit Subtotals:	\$392.24	NA	NA	\$226.10	\$206.54	\$42.46
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work: \$784.48		Support: \$226.10		Maint: \$249.00	

Total work team cost/hour: **\$1,259.58****MATERIAL QUANTITIES**Initial volume: **3,630**

CCY

Swell factor: **1.215**Loose volume: **4,410**

LCY

Source of estimated volume: **4.5 ac x 6 in depth**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.60 MinutesJob 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 3.0Haul 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 minutesReturn 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 minutesTotal Scraper team cycle time: 2.59 minutesAdjusted for job conditions: 557.61 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,115.21 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,115.21 LCY/HourUnadjusted unit production/hour: 671.81 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 3.95 HoursUnit cost: \$1.129 /LCYTotal job cost: \$4,981

REVEGETATION WORKTask description: Revegetate 6.5 acres Cell 20Site: Larimer PitPermit Action: 1/16/2020 InspectionPermit/Job#: M1974069**PROJECT IDENTIFICATION**Task #: 023State: ColoradoAbbreviation: NoneDate: Rev 3/20/2020County: LarimerFilename: M069-023User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
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
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Application

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:	6.5	Cost /Acre:	\$2,032.10
Estimated Failure Rate:	20%	Cost /Acre*:	\$1,083.70
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$13,208.65		
Reseeding Job Cost:	\$1,408.81		
Total Job Cost:	\$14,617		
Job Hours:	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: _____

Operator (If Other than Permittee): _____

Permittee Representative: _____

Please provide a brief description 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>	<u>Required TR Fee</u>	<u>Submitted</u> (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	☐