



March 9, 2022

Brad Fancher
Loveland Ready-Mix Concrete, Inc.
644 N. Namaqua Road
P.O. Box 299
Loveland, CO 80539

**Re: Loveland Ready-Mix Concrete, Inc., Dunn Pit, File No. M-2021-059,
112c Permit Application Second Adequacy Review**

Mr. Fancher,

The Division of Reclamation, Mining and Safety (Division/DRMS/Office) reviewed the contents of the Loveland Ready-Mix Concrete, Inc. (LRM) 112c permit application adequacy response dated February 21, 2022 for the Dunn Pit, File No. M-2021-059 and submits the following comments. The Division is required to issue an approval or denial decision no later than March 31, 2022, therefore a response to the following adequacy review concerns should be submitted to the Division as soon as possible.

The review consisted of comparing the application contents with the specific requirements of Rules 1, 3, 6.1, 6.2, 6.4 and 6.5 of the Minerals Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials effective date July 15, 2019. Any inadequacies are identified under the respective exhibit heading along with suggested actions to correct them.

Comments

1. The Applicant's response is adequate.

1.6 Public Notice

2. The Applicant's response is adequate.
3. Pursuant to Rule 1.6.2(e), please submit proof of the notice to all owners of record of surface and mineral rights of the affected land and the owners of record of all land surface within 200 feet of the boundary of the affected land including all easement holders located on the affected land and within 200 feet of the boundary of the affected land. Proof of notice may be return receipts of a Certified Mailing or by proof of personal service.

The Applicant submitted Certified Mail Receipt tracking information for the following owners of record of all land surface within 200 feet of the boundary of the affected land, however the



owners of record are not indicated on the Exhibit C-17 map. Please explain these discrepancies and revise the Exhibit C-17 - Permanent Man-Made Structures map accordingly.

- a. Todd Mason McCarty
- b. Rearden Minerals
- c. Robyn Allyson Herman
- d. Atomic Capital Minerals
- e. Leo Gilliss
- f. Naviates Infintes LLC
- g. Prometheus Minerals LLC

6.4.1 Exhibit A - Legal Description

- 4. The Applicant's response is adequate.

6.4.3 Exhibit C - Pre-Mining and Mining Plan Maps of Affected Land

- 5. The Applicant indicated the type of structures and the location of significant, valuable and permanent man-made structures contained on the area of affected land and within two hundred (200) feet of the affected land on the Exhibit C-17 map. Pursuant to Rule 6.4.3(g), please show the owner's name for the permanent man-made structures on the map.

The Applicant added the adjacent property owners to the Exhibit C-17 map in response to the Division's adequacy letter. Please revise the Exhibit C-17 map to indicate the owner's name for all utilities within 200 feet of the affected land boundary.

6.4.4 Exhibit D - Mining Plan

- 6. The Applicant's response is adequate.
- 7. The Applicant's response is adequate.

6.4.5 Exhibit E - Reclamation Plan

- 8. The Applicant's response is adequate.
- 9. The Applicant's response is adequate.
- 10. The Applicant's response is adequate.
- 11. The Applicant has not obtained the final augmentation plan for the groundwater exposure of the three groundwater ponds at the conclusion of the Dunn Pit reclamation. Therefore, the Division will require the Applicant to provide a reclamation bond to include the backfilling of the exposed groundwater until the final augmentation plan is obtained from the DWR. The Division calculated the reclamation bond based on this requirement.

The Applicant proposed a place-holder financial warranty in the amount of \$300,000.00 for the cost of backfilling Cell 1 until mining activities commence or the Operator obtains the final augmentation plan for the groundwater exposure of the three groundwater ponds at the conclusion of the Dunn Pit reclamation. The Division will accept the place-holder bond and require the Operator to submit a revised financial warranty estimate prior to commencing mining activities at the site.

12. The Applicant's response is adequate.

13. On Page 13, Section 7.3.1, the Applicant states the final grading will be no steeper than 2H:1V below water surface and 3H:1V above water surface which will create a final topography that is appropriate for natural open space or wildlife habitat. As noted in Item #12, please commit to reclaiming the pond slopes at a 3H:1V grade from 5 feet above to 10 feet below the expected water line and revise Exhibit E accordingly.

The Operator committed to the requirements of Rule 3.1.5(7) in response to the Division's adequacy letter, however Section 7.3.1 was not revised accordingly. Please provide a revised copy of Exhibit E.

14. The Applicant's response is adequate.

15. The Applicant's response is adequate.

16. The Applicant's response is adequate.

17. The Applicant's response is adequate.

6.4.5 Exhibit F - Reclamation Plan Map

18. The Applicant's response is adequate.

19. The Applicant's response is adequate.

6.4.6 Exhibit G - Water Information

20. A constructed well is indicated on Figure 2 - Water Rights Structures located in the southeast corner of the site, however the owner of the well is not indicated on the map. Please revise the Figure 2 map to indicate the owner of the well and provide proof of notification to the well owner.

The Applicant identified the well owner as Bradley Petroleum and stated a notification was sent to the owner in the adequacy response. The Division did not receive proof of notification to the well owner as indicated in the adequacy response. Please provide proof of notice to the well owner to the Division.

21. On Page 21, Section 9.2.3, the Applicant lists the constructed wells in the vicinity of the site. Please confirm the list includes all wells within 600 feet the permit boundary.

The Applicant provided a revised map of wells within 600 feet of the permit boundary with the adequacy response. Please provide a revised copy of Exhibit G, Section 9.2.3 to indicate the revised list of wells.

22. The Applicant's response is adequate.

23. The Applicant's response is adequate.

24. The Applicant provided proof of notification for well no. 12892-R owned by Paul and James Nelson. Please revise the list of constructed wells in Section 9.2.3 of Exhibit G to include the well owner.

6.4.9 Exhibit I - Soils Information

25. The Applicant's response is adequate.

6.4.12 Exhibit L - Reclamation Costs

26. The Division calculated the cost for an independent contractor to reclaim the site based on the information submitted by the Applicant in the application and the Division's requirement to include the cost to backfill the exposed groundwater until the final augmentation plan is obtained from the DWR at \$3,018,000.00. A copy of the Division's bond estimate is attached for review.

The Applicant proposed a total place-holder financial warranty in the amount of \$394,000.00 until mining activities commence or the Operator obtains the final augmentation plan for the groundwater exposure of the three groundwater ponds at the conclusion of the Dunn Pit reclamation.

The Division recalculated the cost for an independent contractor to reclaim the site based on the information submitted by the Applicant at \$398,000.00. A copy of the Division's bond estimate is attached for review. The Division will accept the total place-holder bond in the amount of \$398,000.00 and require the Operator to submit a revised financial warranty estimate prior to commencing mining activities at the site.

Minor comments or questions responses:

- The Division used the MEANS average superintendent cost at 50% of the total task hours, which is standard procedure for the Division.
- The weed control costs under Mulching and Miscellaneous Application were removed by the Division in the revised bond estimate. Please see attached.

- Task 002 - Topsoil C1 Shoreline utilizes a team of one (1) loader and two (2) haul trucks, therefore the Mob/Demob sheet accounts for 2 roadable trucks. The third roadable truck listed on the Mob/Demob sheet is a light duty pickup for the superintendent.

6.4.13 Exhibit M - Other Permit and Licenses

27. The Applicant's response is adequate.

6.4.18 Exhibit R - Proof of Filing with County Clerk and Recorder

28. Please provide an affidavit or receipt indicating the date on which the revised application information required to address this adequacy letter was placed with the Weld County Clerk and Recorder for public review, pursuant to Subparagraph 1.6.2(1)(c).

6.4.19 Exhibit S - Permanent Man-made Structures

29. The Applicant's response is adequate.

30. The Applicant's response is adequate.

31. The Applicant's response is adequate.

Memos

32. The adequacy response for the Inlet Protection report are currently under review by the Division. A copy of the second review memo will be sent under separate cover, if needed.

33. The adequacy response for Exhibits F, G and Appendix D were reviewed by Patrick Lennberg with the Division. A copy of Mr. Lennberg's second review memo dated March 8, 2022 is attached. Please respond to the adequacy questions contained in the memo.

6.5 Geotechnical Stability Exhibit

34. The Applicant states Telesto completed a slope stability analysis of the planned mined and reclaimed slopes utilizing Slide-2D and can provide the modeling files to the DRMS upon request in the adequacy response. Please provide the Slide-2D modeling files in electronic format to allow the Division to verify the stability analysis using Clover Technology's Galena slope stability software.

35. The Applicant's response is adequate.

36. The Applicant's response is adequate.

37. The Applicant states updates in Section 6.1.2 and 6.2 specify that LRM mine at slopes and with appurtenances indicated by the slope stability analyses presented in Appendix B1 in the adequacy response. Section 6.1.2 was revised to include "an excavator stationed on a moveable platform...". Section 6.2 was not revised from the previous version of Exhibit D. Please update both sections to include the language from the adequacy response.

New adequacy issues

38. The Applicant provided revised Exhibit F-2 and F-3 maps removing Table 1 - Wetland Areas and Volumes with the adequacy response. Please confirm the Applicant intended to provide the revised map and explain why the tables were removed from the map.
39. The Applicant provided revised Exhibit F-4 and F-5 maps with the adequacy response. Pursuant to Rule 6.2.1(2)(b), maps must be prepared and signed by a registered land surveyor, professional engineer, or other qualified person. Please provide signed copies of the Exhibit F-4 and F-5 maps.
40. On Page 6, Exhibit D - Mining Plan (Updated 2/9/22), the Applicant states the entire site consists of approximately 114 acres. The Applicant listed the proposed permitted acreage on the application form as 114.25 acres. Please provide a copy of a revised Exhibit D indicating a proposed permit acreage of 114.25 acres.

Please be advised the Dunn Pit application may be deemed inadequate, and the application may be denied on March 31, 2022, unless the above mentioned adequacy review items are addressed to the satisfaction of the Division. If more time is needed to complete the reply, the Division can grant an extension to the decision date. This will be done upon receipt of a written waiver of the Applicant's right to a decision by March 31, 2022 and request for additional time. This must be received no later than the decision date.

If you have any questions, please contact me at peter.hays@state.co.us or (303) 866-3567 Ext. 8124.

Sincerely,



Peter S. Hays
Environmental Protection Specialist

Enclosures – Revised Reclamation Cost Estimate dated March 8, 2022
Lennberg Review Memo dated March 8, 2022

Ec: Jared Ebert; Division of Reclamation, Mining & Safety
Stephanie Fancher-English; Loveland Ready-Mix Concrete, Inc.
Walt Niccoli; Telesto Solutions, Inc.

COST SUMMARY WORK

Task description: Revised Bond Estimate

Site: Dunn Pit Permit Action: Revised Bond Estimate

Permit/Job#: M2021059

PROJECT IDENTIFICATION

Task #: 00R State: Colorado Abbreviation: None
Date: 3/8/2022 County: Weld Filename: M059-00R
User: PSH

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01R	Revegetate C1 Shoreline	REVEGE	1	40.00	\$1,726
02R	Topsoil C1 Shoreline	TRUCK1	1	13.06	\$6,114
03R	Revegetate C1 Wetlands	REVEGE	1	20.00	\$885
04R	Slope C1 West Slope	DOZER	1	3.72	\$629
05R	Rip Access Road	RIPPER	1	0.73	\$132
06R	Revegetate Access Road	REVEGE	1	20.00	\$517
07R	Mob / Demob	MOBILIZE	1	5.37	\$3,649
08R	Bond to Backfill C1 until Augmentation Decree	SITEMAINT ENANCE	1	160.00	\$300,000
<u>SUBTOTALS:</u>				262.88	\$313,652

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$6,336
Performance bond:	1.05	Total =	\$3,293
Job superintendent:	131.44	Total =	\$9,468
Profit:	10.00	Total =	\$31,365

TOTAL O & P = \$50,462

CONTRACT AMOUNT (direct + O & P) = \$364,114

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>\$500</u>	Total =	<u>\$500</u>
Engineering work and/or contract/bid preparation:	<u>4.25</u>	Total =	<u>\$15,475</u>
Reclamation management and/or administration:	<u>5.00</u>		<u>\$18,206</u>

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$84,642

TOTAL BOND AMOUNT (direct + indirect) = \$398,000 (Rounded)

REVEGETATION WORKTask description: Revegetate C1 ShorelineSite: Dunn Pit Permit Action: Revised Bond EstimatePermit/Job#: M2021059**PROJECT IDENTIFICATION**

Task #: 01R State: Colorado Abbreviation: None
 Date: 3/8/2022 County: Weld Filename: M059-01R
 User: PSH

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
Chisel plowing {DMG}	\$96.50
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
Total Tilling Cost/Acre	\$386.90

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.75	12.24	\$11.98
Alkali Sacaton	1.00	39.03	\$28.48
Alkaligrass, Fult's	0.50	13.77	\$1.81
Canada Wildrye	3.00	7.92	\$32.52
Bottlebrush Squirreltail	2.25	9.92	\$36.51
Western Wheatgrass - Arriba	10.00	25.25	\$65.00
Saltgrass, Inland	0.50	6.93	\$21.40

Totals Seed Mix	18.00	115.06	\$197.70
------------------------	-------	--------	-----------------

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	10.00	BALE	\$12.28	\$122.80
Herbicide - 2,4D @ 1.0 pt/ac	2.00	ACRE	\$2.98	\$5.96
Total Mulch Materials Cost/Acre				\$128.76

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Total Mulch Application Cost/Acre	\$71.57

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: 1.47 Cost /Acre: \$1,016.93
 Estimated Failure Rate: 25% Cost /Acre*: \$630.03
 *Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: **\$1,494.89**
 Reseeding Job Cost: **\$231.54**
 Total Job Cost: **\$1,726**
 Job Hours: **40.00**

TRUCK/LOADER TEAM WORKTask description: Topsoil C1 ShorelineSite: Dunn Pit Permit Action: Revised Bond EstimatePermit/Job#: M2021059**PROJECT IDENTIFICATION**

Task #: 02R State: Colorado Abbreviation: None
 Date: 3/8/2022 County: Weld Filename: M059-02R
 User: PSH

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 7-8 cy, 4x4
-Loader:	CAT 928Hz
Support Equipment -Load Area:	Cat D6T XL
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	NA

Cost Breakdown:

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	15	50	NA	75	NA
Ownership cost/hour:	\$16.03	\$30.09	\$64.38	NA	\$85.80	NA
Operating cost/hour:	\$25.50	\$4.48	\$32.31	NA	\$45.30	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	NA
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	NA
Operator cost/hour:	\$0.00	\$35.97	\$40.04	NA	\$46.87	NA
Unit Subtotals:	\$41.53	\$70.54	\$136.73	NA	\$177.97	NA
Number of Units:	2	1	1	0	1	0
Group Subtotals:	Work: \$153.60		Support: \$136.73		Maint: \$177.97	

Total work team cost/hour: \$468.30**MATERIAL QUANTITIES**

Initial volume: 2,378 CCY Swell factor: 1.000
 Loose volume: 2,378 LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
 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: 1,600 Pounds/LCY
 Description: Top Soil

Rated Payload:	<u>20,300</u>	Pounds
Payload Capacity:	<u>12.69</u>	LCY

Truck Bed (volume) Basis:

Struck Volume:	<u>7.00</u>	LCY
Heaped Volume:	<u>8.00</u>	LCY
Average Volume:	<u>7.50</u>	LCY
Adjusted Volume:	<u>8.00</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 5.85 LCY**Loading Tool Capacity**Bucket Size Class: NA

Rated Capacity:	<u>3.000</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.975</u>	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	<u>2.925</u>	LCY

Job Condition Corrections:Site Altitude (ft.): 4745 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: 2 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: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.475 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 or less 0.01	0.010	(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:		-0.050	minutes
Adjusted Loader Cycle Time:		0.425	minutes
Net Load Time per Truck:		0.525	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>0.525</u>	Minutes	Adjusted for site altitude:	<u>0.525</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	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	5.00	3.00	8.00	1381	0.898

Haul Time: **0.898** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	-5.00	3.00	-2.00	2938	0.476

Return Time: **0.476** minutesTotal Truck Cycle Time: **3.199** minutes

Loading Tool unit
 Production 342.44 LCY/Hour Adjusted for job efficiency: 284.22 LCY/Hour
 Truck Unit Production 109.72 LCY/Hour Adjusted for job efficiency: 91.07 LCY/Hour
 Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 2 Truck(s)
 Adjusted hourly truck team production: 182.14 LCY/Hour
 Adjusted single truck/loader team production: 182.14 LCY/Hour
 Adjusted multiple truck/loader team production: **182.14** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **13.06** HoursUnit cost: \$2.571 /LCY Total job cost: **\$6,114**

REVEGETATION WORKTask description: Revegetate C1 WetlandsSite: Dunn Pit Permit Action: Revised Bond EstimatePermit/Job#: M2021059**PROJECT IDENTIFICATION**

Task #: 03R State: Colorado Abbreviation: None
 Date: 3/8/2022 County: Weld Filename: M059-03R
 User: PSH

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
Chisel plowing {DMG}	\$96.50
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
Total Tilling Cost/Acre	\$386.90

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indiangrass - Cheyenne	1.20	3.66	\$13.56
Switchgrass - Blackwell	1.50	13.40	\$17.25
Alkali Bulrush	1.50	14.81	\$60.75
Creeping Spike Rush	0.60	8.54	\$108.60
Needle Spike Rush	0.40	5.69	\$90.80
Canada Wildrye	1.50	3.96	\$16.26
Softstem Bulrush	0.60	7.58	\$78.63
Hardstem Bulrush	0.60	5.58	\$89.82

Three Square Bulrush	0.60	4.13	\$103.05
Cordgrass, Prairie	0.70	2.94	\$56.00
Nebraska Sedge	0.60	12.57	\$99.90
Woolly Sedge	0.20	1.48	\$30.30
Totals Seed Mix	10.00	84.33	\$764.92

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	10.00	BALE	\$12.28	\$122.80
Herbicide - 2,4D @ 1.0 pt/ac	2.00	ACRE	\$2.98	\$5.96
Total Mulch Materials Cost/Acre				\$128.76

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Total Mulch Application Cost/Acre	\$71.57

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: 0.47 Cost /Acre: \$1,584.15
 Estimated Failure Rate: 25% Cost /Acre*: \$1,197.25
 *Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: **\$744.55**
 Reseeding Job Cost: **\$140.68**
 Total Job Cost: **\$885**
 Job Hours: **20.00**

BULLDOZER WORKTask description: Slope C1 West SlopeSite: Dunn PitPermit Action: Revised Bond EstimatePermit/Job#: M2021059**PROJECT IDENTIFICATION**Task #: 04RState: ColoradoAbbreviation: NoneDate: 3/8/2022County: WeldFilename: M059-04RUser: PSHAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D6T XLHorsepower: 185Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$64.38	NA
Operating Cost/Hour:	\$64.62	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA
Total unit Cost/Hour:	\$169.04	
Total Fleet Cost/Hour:	\$169.04	

MATERIAL QUANTITIESInitial Volume: 1,564Swell factor: 1.000Loose volume: **1,564 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 444.6 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: -30 %Average site altitude: 4,745 feetMaterial weight: 1,600 lbs/LCYWeight description: Top SoilJob Condition Correction FactorSource

Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9459

Adjusted unit
production: 420.55 LCY/hr
Adjusted fleet
production: **420.55 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.402/LCY

Total job time: **3.72 Hours**
Total job cost: **\$629**

BULLDOZER RIPPING WORK

Task description: Rip Access Road

Site: Dunn Pit Permit Action: Revised Bond Estimate Permit/Job#: M2021059

PROJECT IDENTIFICATION

Task #: 05R State: Colorado Abbreviation: None
Date: 3/8/2022 County: Weld Filename: M059-05R
User: PSH

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D6T XL Horsepower: 185
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$64.38</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$64.62</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$5.99</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$4.30</u>	<u>100</u>
Operator Cost/Hour:	<u>\$40.04</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$179.33</u>	
Total Fleet Cost/Hour:	<u>\$179.33</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 0.44 acres Rip Depth (ft): 0.50 Volume: 355 BCY or CCY

Source of estimated quantity: Permit Application

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 1.64 feet/pass
Average Ripping Width: 6.58 feet/pass
Average Ripping Length: 200.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.719 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.719 Acres/hr
Site Altitude: 4,745 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.60 Acres/hr
Adjusted Hourly Fleet Production: 0.60 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 0.74 Hours

Unit cost: \$300.695 Per acre

Total job cost: \$132

REVEGETATION WORKTask description: Revegetate Access RoadSite: Dunn Pit Permit Action: Revised Bond EstimatePermit/Job#: M2021059**PROJECT IDENTIFICATION**

Task #: 06R State: Colorado Abbreviation: None
 Date: 3/8/2022 County: Weld Filename: M059-06R
 User: PSH

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
Chisel plowing {DMG}	\$96.50
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
Total Tilling Cost/Acre	\$386.90

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.75	12.24	\$11.98
Alkali Sacaton	1.00	39.03	\$28.48
Alkaligrass, Fult's	0.50	13.77	\$1.81
Canada Wildrye	3.00	7.92	\$32.52
Bottlebrush Squirreltail	2.25	9.92	\$36.51
Western Wheatgrass - Arriba	10.00	25.25	\$65.00
Saltgrass, Inland	0.50	6.93	\$21.40

Totals Seed Mix	18.00	115.06	\$197.70
------------------------	-------	--------	-----------------

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	10.00	BALE	\$12.28	\$122.80
Herbicide - 2,4D @ 1.0 pt/ac	2.00	ACRE	\$2.98	\$5.96
Total Mulch Materials Cost/Acre				\$128.76

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Total Mulch Application Cost/Acre	\$71.57

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: 0.44 Cost /Acre: \$1,016.93
 Estimated Failure Rate: 25% Cost /Acre*: \$630.03
 *Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: **\$447.45**
 Reseeding Job Cost: **\$69.30**
 Total Job Cost: **\$517**
 Job Hours: **20.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob / Demob**

Site: **Dunn Pit** Permit Action: **Revised Bond Estimate** Permit/Job#: **M2021059**

PROJECT IDENTIFICATION

Task #: **07R** State: **Colorado** Abbreviation: **None**
 Date: **3/8/2022** County: **Weld** Filename: **M059-07R**
 User: **PSH**

Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**

Shift basis: **1 per day**
 Cost Data Source: **CRG Data**

Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)****Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D6T XL	25.01	\$70.37	\$68.37	1	\$138.74	\$68.37	\$250.00
CAT 14M	23.57	\$85.80	\$68.37	1	\$154.17	\$68.37	\$250.00
CAT 928Hz	13.91	\$30.09	\$68.37	1	\$98.46	\$68.37	\$250.00

Subtotals: **\$391.37** **\$205.11** **\$750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 7-8 cy, 4x4	\$66.35	2	\$132.70	\$132.70
Light Duty Pickup, 4x4, 1 T. Crew	\$121.54	1	\$121.54	\$121.54

Subtotals: **\$254.24** **\$254.24**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: GREELEY, CO
 Total one-way travel distance: 12.00 miles
 Average Travel Speed: 35.00 mph

Total Non-Roadable Mob/Demob Cost * \$3,474.49
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$174.34
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.34	0.34
Return Time (Hours):	0.34	0.34
Loading Time (Hours):	1.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	2.69	0.69

JOB TIME AND COST

Total job time: 5.37 Hours

Total job cost: \$3,649

SITE MAINTENANCE

Task description: Bond to Backfill C1 until Augmentation Decree

Site: Dunn Pit

Permit Action: Revised Bond
Estimate

Permit/Job#: M2021059

PROJECT IDENTIFICATION

Task #: 08R
Date: 3/8/2022
User: PSH

State: Colorado
County: Weld

Abbreviation: None
Filename: M059-08R

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Bond to Backfill C1 until Augmentation Decree Placeholder	160.00	USER PROVIDED ITEM	30,000.00	1	\$10.00	\$300,000.00

Job Hours: 160.00

Total Cost: \$300,000.00



Date: March 8, 2022

To: Peter Hays, DRMS

From: Patrick Lennberg, DRMS

RE: Dunn Pit New Permit Application, Exhibits F, G and Appendix D Review Memo, File No. M2021-059

On September 25, 2021, I was requested to review Exhibits F, G and the Groundwater Baseline Study (Appendix D) of the Dunn Pit new permit application M2021-059, below are follow-up questions that should be addressed after reviewing the Applicant's adequacy responses.

Exhibit F

1. Please show the Hill and Brush Ditch orientation on the Reclamation Plan Map.

Adequate

Exhibit G

1. On Figure 2 the decreed surface water feature for the Hill and Brush Ditch is missing, please update the figure.

Adequate

2. On Figure 2 the decreed groundwater feature for the Mad Russian Well (0405661) and constructed well (59968-F), and the 10 monitoring wells are missing please update.

Adequate

Appendix D

1. The applicant states, page 6, they will measure water levels in the 10 monitoring wells, installed in Summer 2021, monthly for one year then quarterly thereafter. The Division believes monthly water level monitoring should occur for at least one year after mining activities have begun to verify the numerical models predictions and monitor the effects of mining on the surrounding groundwater system.

Adequate



2. How will the proposed open groundwater pond effect the surrounding ditches, Brush Ditch and the Big T and Platte Ditch in both the near term and long term?

Adequate

3. What is the supposed source of toluene that was detected in MW-5?

Adequate

4. In Section 5.3.1, it is stated the drawdown in the Dunn well is not expected to be greater than 2 feet. However, in Figure 16 the graphed drawdown approaches 4 feet. Please reconcile this discrepancy.

The Division misinterpreted the graph and transposed the Dunn and Nelson wells on Figure 16.

5. In Figure 16 three of the four wells graphed have a starting point that indicates increased water levels, shouldn't all wells begin at 0.0 indicating no mining influence?

Adequate

6. All groundwater sample results need to be compared to the Water Quality Control Commission's (WQCC) Regulation No. 41 – The Basic Standards for Groundwater (Reg 41) and the most conservative values in Tables 1 thru 4 for all analytes listed for minimum of five consecutive quarters. The sample results from the June/August 2021 sampling event only compared results to WQCC Reg 41 Tables 1 and 2. Table 3 of Reg 41 are agriculture standards which contain a few analytes that Tables 1 and 2 omit.

Attachment 15 Revised Initial Water Quality Sampling Result Tables do not appear to have been updated to reflect the most conservative values from Tables 1 through 4. An example is Aluminum, it has a Table 3 concentration of 5 mg/l dissolved. Additionally the footer has not been updated as indicated in the response. Please update the tables.

7. Did the applicant sample for radionuclides that are part of Reg 41 Table 1?

Adequate

8. Nitrate/Nitrite as N was sampled, Appendix B, in some wells but not others, why?

Adequate

9. Nitrate, Nitrite, and Total Nitrate + Nitrite are Reg 41 Table 1 values that appear to have not been sampled in all wells, please comment.

Adequate

10. The Division recognizes there will become a point when a reduction in groundwater level and quality monitoring frequency becomes reasonable. The reduction requests and approvals will be completed through submittal of a Technical Revision.

Adequate

11. Section 6.1.5, the Dunn well is not an on-site monitoring well but rather an adjacent private well that may be influenced by mining. Is it the applicant's intent to extend the 5 foot trigger to this well? If so, are there historic groundwater level data to support this trigger value?

Adequate

12. In Monitoring Well Drilling Summary Report, Section 2.1, it is stated during drilling soil samples were collected for SPLP testing. Please provide the results of these analysis?

Adequate

13. In the text, Section 2.2, it is stated the monitoring well screen size used was 0.01" but on the boring logs the screen size indicated is 0.1", please clarify. Please note the discrepancy appears to have made onto the forms submitted to DWR.

Adequate

14. In the Groundwater Sampling and Analysis Plan Section 1 it references a water management pond. Please provide more details of the pond and clearly show it on Figure 1.

Adequate

15. Please update Table 2 to include the WQCC Reg 41 concentrations each analyte is compared to.

Table 2 shows the standard for Iron to be 5 mg/l however the most stringent standard is 0.3 mg/l listed in WQCC Reg. 41 Table 2. Please update the table.

16. Please provide copies of the completed groundwater data sheet(s) for each well sampled. In the future the Division will require submittal of these sheets along with other sample data.

Why are there no field parameters recorded during well purging on the field sheets? If parameters were recorded please update the field sheets.

17. Field blanks, Section 7.2.2, the applicant proposes to collect a field blank once annually and the Division does agree this is appropriate. The purpose of the field blank is to assess contamination from field conditions during sampling. At least one field blank should be collected during each sampling event. Please revise to reflect at least one field blank will be collected during each sampling event.

Adequate

18. Rinsate sample, Section 7.2.3, the applicant proposes to collect a rinsate sample twice annually and the Division does agree this is appropriate. The purpose of the rinsate sample is to assess the adequacy of the decontamination process. It assess contamination from the total sampling, sample preparation and measurement process, when decontaminated sampling equipment is used to collect samples. Please revise to reflect at least one rinsate sample will be collected during each sampling event as appropriate.

Adequate

19. As mentioned in #6 above, the Division will require at least five consecutive quarters of baseline water quality measurements with samples results compared to the most conservative values in Reg 41 Tables 1-4. Additionally, quarterly groundwater monitoring will continue for at least one year after the mining activities started at the site. After one year of mining the operator may, through a Technical Revision, request decreasing both the list of analytes samples are analyzed for and the frequency of monitoring.

Adequate

20. In Appendix D, page 15-16, the Applicant states groundwater level and quality samples will be collected from all monitoring wells on quarterly basis. After one year the Applicant may approach the Division seeking to modify the plan along with justification for the modification. In the Groundwater Sampling and Analysis Plan Section 5.0, page 2, the plan states groundwater quality samples will only be collected from select wells and those wells are listed in Table 1. Table 1 only lists five wells to be sampled. Please explain the discrepancy and update accordingly. The Division is expecting all monitoring wells to be sampled on quarterly basis.

If you need additional information or have any questions, please let me know.

Sincerely,

A handwritten signature in blue ink, reading "Patrick Lennberg". The signature is written in a cursive style with a large, stylized "L" and "G".

Patrick Lennberg
Environmental Protection Specialist

cc: Jared Ebert, DRMS