



August 24, 2023

Jodi Schreiber
PFM Consulting LLC
1774 N. Cougar Drive
Pueblo West, CO 81073

RE: Colorado Gravel LLC Pit, File No. M-2022-053, 112 Construction Materials Reclamation Permit Application, Adequacy Review No. 5

Ms. Schreiber:

The Division of Reclamation, Mining and Safety (Division) has completed its 5th adequacy review of your 112 Construction Materials Reclamation Permit Application submitted for the Colorado Gravel LLC Pit located in Prowers County. All comment and review periods for the application began on January 19, 2023, when the application was called complete for filing purposes.

After reviewing the applicant's adequacy response received on August 23, 2023, the Division has identified the following adequacy items in the application requiring additional information or clarification:

- 1) Please revise the Exhibit E - Reclamation Plan Map to include the following:
 - a. Label the 10 acre pond to remain for reclamation.
 - b. Change the final slope gradient of the pond to match the 3H:1V gradient provided in the reclamation plan.
 - c. Delineate and label the entire affected lands to be reclaimed, including mined areas and unmined areas. *Currently, it appears only the proposed mining area is delineated with a pink line; although it is not labeled. This map should show all lands to be affected by the operation, and not just the area to be mined. Based on the revised application materials, it appears the applicant is proposing to disturb the entire 54.5 acres.*

Additional Items:

- 2) The Division has calculated the required financial warranty for the proposed operation (see enclosed bond estimate). Please review the Division's bond estimate and submit any comments or questions you might have by the deadline provided below.
- 3) Pursuant to Rule 1.6.2(1)(c) and (2), any changes or additions to the application on file in our office must also be reflected in the public review copy which was placed with the local County Clerk and Recorder. Pursuant to Rule 6.4.18, you must provide our office with an affidavit or receipt indicating the date this was done. Please ensure the revised application submitted to the Prowers County Clerk and Recorder office includes all revised materials submitted to the Division.



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Jodi Schreiber
Colorado Gravel LLC Pit
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This concludes the Division's 5th adequacy review of your application. The decision date for the application is currently set for September 12, 2023. Please ensure the Division sufficient time to complete its review process by responding to these items no later than **September 5, 2023**. If additional time is needed, an extension request must be received by our Office by the decision date.

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,

A handwritten signature in blue ink that reads "Amy Eschberger". The signature is written in a cursive, flowing style.

Amy Eschberger
Senior Environmental Protection Specialist

Encl: Division's bond estimate

Cc: Ron Peterson, Colorado Gravel LLC
Nikie Gagnon, DRMS

COST SUMMARY WORK

Task description: Cost Summary

Site: Colorado Gravel LLC Pit

Permit Action: New Application

Permit/Job#: M2022053

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 8/24/2023

County: Prowers

Filename: M053-000

User: NCG

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill 700 ft active mine face	DOZER	1	20.37	\$8,694
002	Backfill 2 wash ponds	DOZER	1	5.56	\$2,371
003	Backfill settling pond	DOZER	1	4.03	\$1,721
004	Backfill 10 ac pit 2 ft above GW level	SCRAPER1	2	201.77	\$670,814
004b	Import 25% of required fill (104,867 cy) @ \$12/cy (N/A)	NA	0	0.00	\$0
004c	Dewater 10 acre pit	PUMPING	1	797.40	\$50,380
005	Rip compacted areas	RIPPER	2	11.99	\$10,747
006	Retopsoil 54.5 acres	SCRAPER1	2	20.16	\$67,015
007	Revegetate 54.5 acres	REVEGE	1	27.00	\$96,856
008	Mob/demob equipment	MOBILIZE	1	8.60	\$30,294
<u>SUBTOTALS:</u>				1096.88	\$938,892

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$18,966

Performance bond: 1.05

Total = \$9,858

Job superintendent: 548.44

Total = \$35,692

Profit: 10.00

Total = \$93,889

TOTAL O & P = \$158,406

CONTRACT AMOUNT (direct + O & P) = \$1,097,298

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 4.25

Total = \$46,635

Reclamation management and/or administration: 5.00

\$54,865

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$260,406

TOTAL BOND AMOUNT (direct + indirect) = \$1,199,298

BULLDOZER WORKTask description: **Backfill 700 ft active mine face**Site: **Colorado Gravel LLC Pit**Permit Action: **New Application**Permit/Job#: **M2022053****PROJECT IDENTIFICATION**Task #: **001**State: **Colorado**Abbreviation: **None**Date: **8/24/2023**County: **Prowers**Filename: **M053-001**User: **NCG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D8T - 8SU**
 Horsepower: **310**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **2 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$241.38	NA
Operating Cost/Hour:	\$143.92	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.45	NA

Total unit Cost/Hour: **\$426.75**
 Total Fleet Cost/Hour: **\$426.75**

MATERIAL QUANTITIES

Initial Volume: **10,370**
 Swell factor: **1.250**
 Loose volume: **12,963 LCY**

Source of estimated volume: **700 ft L x 40 ft H, from 1H:1V to 3H:1V**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **120 feet**
 Unadjusted hourly production: **751.6 LCY/hr**

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **-5 %**
 Average site altitude: **3,477 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.810	(2 SHIFTS/DAY)

Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8466

Adjusted unit production: 636.30 LCY/hr

Adjusted fleet production: **636.3** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.671/LCY

Total job time: **20.37** Hours

Total job cost: **\$8,694**

BULLDOZER WORKTask description: **Backfill 2 wash ponds**Site: **Colorado Gravel LLC Pit**Permit Action: **New Application**Permit/Job#: **M2022053****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **8/24/2023**County: **Prowers**Filename: **M053-002**User: **NCG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D8T - 8SU**Horsepower: **310**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$241.38	NA
Operating Cost/Hour:	\$143.92	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$426.60**Total Fleet Cost/Hour: **\$426.60****MATERIAL QUANTITIES**Initial Volume: **6,666**Swell factor: **1.125**Loose volume: **7,499 LCY**Source of estimated volume: **(100' x 150' x 6' deep) (2 ponds)**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **1,400.0 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **-5 %**Average site altitude: **3,477 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)

Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9639

Adjusted unit production: 1,349.46 LCY/hr

Adjusted fleet production: **1349.46** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.316/LCY

Total job time: **5.56** Hours

Total job cost: **\$2,371**

BULLDOZER WORKTask description: **Backfill settling pond**Site: **Colorado Gravel LLC Pit**Permit Action: **New Application**Permit/Job#: **M2022053****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **8/24/2023**County: **Prowers**Filename: **M053-003**User: **NCG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D8T - 8SU**Horsepower: **310**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$241.38	NA
Operating Cost/Hour:	\$143.92	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$426.60**Total Fleet Cost/Hour: **\$426.60****MATERIAL QUANTITIES**Initial Volume: **4,840**Swell factor: **1.125**Loose volume: **5,445 LCY**Source of estimated volume: **0.5 acre x 6' deep**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **1,400.0 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **-5 %**Average site altitude: **3,477 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)

Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9639

Adjusted unit production: 1,349.46 LCY/hr

Adjusted fleet production: **1349.46** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.316/LCY

Total job time: **4.03** Hours

Total job cost: **\$1,721**

SCRAPER TEAM WORKTask description: **Backfill 10 ac pit 2 ft above GW level**Site: **Colorado Gravel LLC Pit**Permit Action: New ApplicationPermit/Job#: M2022053**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 8/24/2023County: ProwersFilename: M053-004User: AMEAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
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	50	NA	50	50
Ownership cost/hour:	\$341.67	NA	\$241.38	NA	\$212.21	\$16.65
Operating cost/hour:	\$285.26	NA	\$71.96	NA	\$62.44	\$18.80
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$41.30	NA	\$28.56	\$0.00
Unit Subtotals:	\$657.83	NA	\$354.64	NA	\$303.21	\$35.45
Number of Units:	4	0	1	0	1	1
Group Subtotals:	Work: \$2,631.32		Support: \$354.64		Maint: \$338.66	

Total work team cost/hour: **\$3,324.62****MATERIAL QUANTITIES**Initial volume: 419,467

CCY

Swell factor: 1.125Loose volume: **471,900**

LCY

Source of estimated volume: 10 ac pit x 40 ft depth, 26 ft bf depth (GW at 16 ft depth)Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,650 lbs/LCY
 Material description: Decomposed rock - 25% Rock, 75% Earth
 Rated Payload: 81,600 pounds
 Payload Capacity: 30.79 LCY

Struck Volume: 24.00 LCY
 Heaped Volume: 34.00 LCY
 Average Volume: 29.00 LCY
 Adjusted Capacity: **29.00** LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 3477 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	800.00	-5.00	3.00	-2.00	2920	0.35

Haul Time: 0.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	5.00	3.00	8.00	1446	0.62

Return Time: 0.62 minutesTotal Scraper team cycle time: 2.47 minutesAdjusted for job conditions: 584.70 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,169.39 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,338.79 LCY/HourUnadjusted unit production/hour: 704.45 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 2 Team(s)Total job time: 201.77 HoursUnit cost: \$1.422 /LCYTotal job cost: \$670,814

PUMPING WORK

Task description: Dewater 10 acre pit

Site: Colorado Gravel LLC Pit

Permit Action: New Application

Permit/Job#: M2022053

PROJECT IDENTIFICATION

Task #: 004C

State: Colorado

Abbreviation: None

Date: 8/24/2023

County: Prowers

Filename: M053-004c

User: AME

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

	Description	Quantity
Make and Model:	Centrifugal pump - 125M, 8 in.	1
Attachment 1:	Suction hose - 6 in. diam., 25 ft.	1
Attachment 2:	Discharge hose - 6 in. D., 25 ft.	1
Labor Unit 1:	Pump operator	1

Horsepower: 70

Shift Basis: 1 per day

Weight: 1.50

(US Tons)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$15.12	NA
Operating Cost/Hour:	\$20.38	100
Operator Cost/Hour:	\$27.68	NA
Total Unit Cost/Hour:	\$63.18	

Total Fleet Cost/Hour: \$63.18

PUMPING QUANTITIES

Initial Pond Volume:	<u>240.00</u>		Conversion factor:	<u>325850.5800</u>
Final Pond Volume:	<u>78,204,139.20</u>	gallons		
Total Pond Inflow Surface Area:	<u>63,360</u>	Sq. ft.	Unit inflow rate in gph/sq. ft.:	<u>0.1758</u>
Total Pond Inflow Volume per Hour:	<u>11,138.69</u>	gallons		

Source of estimated volume: 10ac x 24ft satur= 240ac/ft; 660ft(4) pit perim x 24ft satur

PUMPING TIME

Maximum Pump Capacity:	<u>125,000</u>	gph/pump
Estimated Suction Head:	<u>15</u>	feet
Estimated Discharge Head:	<u>30</u>	feet
Total Head:	<u>45</u>	feet
CPB Pump Capacity:	<u>97,200</u>	gph/pump
Site Altitude:	<u>3,477</u>	feet
Adjusted Pumping Capacity:	<u>97,200</u>	gph
Initial Unadjusted Pumping Time:	<u>804.57</u>	hours
Inflow during Initial Pumping:	<u>8,961,847</u>	gallons
Net Unadjusted Pumping Time:	<u>896.77</u>	Hours
Altitude Adjustment Factor:	<u>0.9700</u>	(3% rule)
Pump Efficiency Factor:	<u>0.9167</u>	(55 min./hr.)
Total Adjusted Pumping Time:	<u>797.41</u>	hours

JOB TIME AND COST

Total job time: 797.41 Hours

Unit cost: \$0.000578 /Gallon

Total job cost: \$50,380

BULLDOZER RIPPING WORK

Task description: Rip compacted areas

Site: Colorado Gravel LLC Pit Permit Action: New Application Permit/Job#: M2022053

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 8/24/2023 County: Prowers Filename: M053-005
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$241.38	NA
Operating Cost/Hour:	\$143.92	100
Ripper Ownership Cost/Hour:	\$14.11	NA
Ripper Operating Cost/Hour:	\$7.45	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$448.16	
Total Fleet Cost/Hour:	\$896.32	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 15.70 acres Rip Depth (ft): 1.50 Volume: 37,994 BCY or CCY

Source of estimated quantity: 10 ac process/stockpile area + (6.3 acre-0.6 ac rd)

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 feet/pass
Average Ripping Width: 7.08 feet/pass
Average Ripping Length: 250.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.789 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.789 Acres/hr
Site Altitude: 3,477 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.65 Acres/hr
Adjusted Hourly Fleet Production: 1.31 Acres/hr

JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: 11.99 Hours

Unit cost: \$684.549 Per acre Total job cost: \$10,747

SCRAPER TEAM WORKTask description: Retopsoil 54.5 acresSite: Colorado Gravel LLC PitPermit Action: New ApplicationPermit/Job#: M2022053**PROJECT IDENTIFICATION**Task #: 006State: ColoradoAbbreviation: NoneDate: 8/24/2023County: ProwersFilename: M053-006User: NCGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
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	50	NA	50	50
Ownership cost/hour:	\$341.67	NA	\$241.38	NA	\$212.21	\$16.65
Operating cost/hour:	\$285.26	NA	\$71.96	NA	\$62.44	\$18.80
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$41.30	NA	\$28.56	\$0.00
Unit Subtotals:	\$657.83	NA	\$354.64	NA	\$303.21	\$35.45
Number of Units:	4	0	1	0	1	1
Group Subtotals:	Work: \$2,631.32		Support: \$354.64		Maint: \$338.66	

Total work team cost/hour: \$3,324.62**MATERIAL QUANTITIES**Initial volume: 43,963

CCY

Swell factor: 1.215Loose volume: 53,415

LCY

Source of estimated volume: 54.5 ac disturbed x 6 in depthSource 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: 0.70 MinutesJob Condition Correction:

Site Altitude: 3477 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	400.00	-3.00	3.00	0.00	2937	0.34

Haul Time: 0.34 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	400.00	3.00	3.00	6.00	1969	0.34

Return Time: 0.34 minutesTotal Scraper team cycle time: 2.18 minutesAdjusted for job conditions: 662.48 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,324.95 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,649.91 LCY/HourUnadjusted unit production/hour: 798.17 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 2 Team(s)Total job time: 20.16 HoursUnit cost: \$1.255 /LCYTotal job cost: \$67,015

REVEGETATION WORKTask description: Revegetate 54.5 acresSite: Colorado Gravel LLC PitPermit Action: New ApplicationPermit/Job#: M2022053**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 8/24/2023County: ProwersFilename: M053-007User: NCGAgency 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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$451.62

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Lehman Lovegrass - VNS/Native	1.60	155.92	\$16.16
Alfalfa - Forager	1.60	7.71	\$4.08
Orchardgrass - Shawnee	1.60	19.83	\$4.96
Tall Wheatgrass - Jose	1.60	2.90	\$5.40
Wheat, Winter - Tam 107	1.60	1.47	\$0.44
Totals Seed Mix	8.00	187.84	\$31.04

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Weed spray, truck, aquatic area, nox. [DMG]	\$62.72
Total Mulch Application Cost/Acre	\$137.18

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:	54.5	Cost /Acre:	\$1,711.41
Estimated Failure Rate:	25%	Cost /Acre*:	\$263.04
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$93,271.85		
Reseeding Job Cost:	\$3,583.92		
Total Job Cost:	\$96,856		
Job Hours:	27.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/demob equipment**Site: **Colorado Gravel LLC Pit**Permit Action: **New Application**Permit/Job#: **M2022053****PROJECT IDENTIFICATION**Task #: **008**State: **Colorado**Abbreviation: **None**Date: **8/24/2023**County: **Prowers**Filename: **M053-008**User: **NCG**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:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

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 D8T - 8SU	47.71	\$241.38	\$158.17	1	\$399.55	\$158.17	\$250.00
Cat D8T - 8SU	53.08	\$255.49	\$175.95	1	\$431.44	\$175.95	\$250.00
Cat 631G	52.50	\$341.67	\$175.95	4	\$2,070.48	\$703.80	\$500.00
CAT 16M	28.73	\$212.21	\$158.17	1	\$370.38	\$158.17	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	1	\$89.02	\$82.29	\$250.00

Subtotals: **\$3,360.87** **\$1,278.38** **\$1,500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	\$54.25	1	\$54.25	\$54.25
Light Duty Pickup, 4x4, 3/4 T.	\$15.83	1	\$15.83	\$15.83

Subtotals: **\$70.08** **\$70.08**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>LAMAR</u>	
Total one-way travel distance:	<u>20.00</u>	miles
Average Travel Speed:	<u>50.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$30,237.49</u>
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 ** two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$56.06</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.40</u>	<u>0.40</u>
Return Time (Hours):	<u>0.40</u>	<u>0.40</u>
Loading Time (Hours):	<u>1.75</u>	<u>NA</u>
Unloading Time (Hours):	<u>1.75</u>	<u>NA</u>
Subtotals:	<u>4.30</u>	<u>0.80</u>

JOB TIME AND COST

Total job time:	<u>8.60</u>	Hours
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Total job cost:	<u>\$30,294</u>
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