



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

January 31, 2024

Russell A. Larsen
Elam Construction, Inc.
556 Struthers Ave
Grand Junction, CO 81501-3826

**Re: AGRI-DLD Gravel Pit - File No. M-2000-030
Elam Construction, Inc.
Surety Increase (SI-2)**

Dear Russell A. Larsen:

On January 31, 2024 the Division of Reclamation, Mining and Safety increased the Financial Warranty requirement for this permit to \$230,203.00, in accordance with Rule 4.2.1 of the Rules and Regulations. **This is an increase of \$88,140.81.**

The Division ordered amendment of the current Financial Warranty, or submittal of a new Financial Warranty reflecting the increase, is due within 60 days from the date of this letter (January 31, 2024).

Please make arrangements with Sara M. Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara M. Stevenson-Benn by telephone at (303) 866-3567 (8148), or by email at Sara.stevenson-benn@state.co.us.

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of the permit after March 31, 2024, if the increased Financial Warranty has not been provided.

Bond Held:	\$142,062.19
Prior Liability:	\$142,062.19
Change in Liability:	\$88,140.81
Revised Liability:	\$230,203.00
Prior Permit Acreage:	156.27
Change in Permit Acreage:	0.00



Revised Permit Acreage:	156.27
Prior Affected Acreage:	156.27
Change in Affected Acreage:	0.00
Revised Affected Acreage:	156.27

If you have any questions, please contact me by telephone at (303) 866-3567 x 8188, or by email at Dustin.czapla@state.co.us.

Sincerely,



Dustin M. Czapla
Environmental Protection Specialist

cc: Jim R. Doody

M-GR-04

COST SUMMARY WORK

Task description: 2024-01-23 Update

Site: AGRI-DLD Gravel Pit

Permit Action: 2024-01-23 Update

Permit/Job#: M2000030

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 1/23/2024

County: La Plata

Filename: M2000030000

User: DMC

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Reduce Highwalls to 2:1	DOZER	1	43.80	\$20,572
02a	Push Overburden Downslope, Create 3:1	DOZER	1	35.36	\$16,287
03a	Grade Pit Floor	DOZER	1	43.03	\$19,824
04a	Rip Compaction on Pit Floor	RIPPER	1	54.68	\$25,684
05a	Spread Topsoil on Slopes	DOZER	1	2.75	\$1,266
06a	Load and Carry Topsoil from Stockpile to Pit Floor	TRUCK1	1	58.88	\$14,870
07a	Spread Topsoil on Pit Floor	DOZER	1	34.38	\$15,838
08a	Revegetate	REVEGE	1	40.00	\$66,252
09a	Mobilize/Demobilize	MOBILIZE	1	5.20	\$3,730
<u>SUBTOTALS:</u>				318.08	\$184,323

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$3,723

Performance bond: 1.05

Total = \$1,935

Job superintendent: 159.04

Total = \$10,350

Profit: 10.00

Total = \$18,432

TOTAL O & P = \$34,441

CONTRACT AMOUNT (direct + O & P) = \$218,764

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$10,938

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$45,880

TOTAL BOND AMOUNT (direct + indirect) = \$230,203

BULLDOZER WORKTask description: **Reduce Highwalls to 2:1**Site: **AGRI-DLD Gravel Pit** Permit Action: **2024-01-23 Update** Permit/Job#: **M2000030****PROJECT IDENTIFICATION**

Task #:	01A	State:	Colorado	Abbreviation:	None
Date:	1/23/2024	County:	La Plata	Filename:	M030-01a
User:	DMC				

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine:	Cat D9T - 9SU
Horsepower:	405
Blade Type:	Semi-Universal
Attachment:	3-shank ripper
Shift Basis:	1 per day
Data Source:	(CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own. Cost/Hour:	\$18.32	NA
Ripper op. Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$469.65
Total Fleet Cost/Hour:	\$469.65

MATERIAL QUANTITIES

Initial Volume:	28,800
Swell factor:	1.430
Loose volume:	41,184 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
Source of estimated swell factor:	Cat Handbook

HOURLY PRODUCTION

Average push distance:	50 feet
Unadjusted hourly production:	2,110.5 LCY/hr

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

Average push gradient:	-20 %
Average site altitude:	6,600 feet

Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth**

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750 (AVG.)
Material consistency:	0.900 (CAT HB))
Dozing method:	1.000 (GEN.)
Visibility:	1.000 (AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4455

Adjusted unit production: 940.23 LCY/hr

Adjusted fleet production: **940.23** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.500/LCY

Total job time: **43.80** Hours

Total job cost: **\$20,572**

BULLDOZER WORKTask description: **Push Overburden Downslope, Create 3:1**Site: **AGRI-DLD Gravel Pit** Permit Action: **2024-01-23 Update** Permit/Job#: **M2000030****PROJECT IDENTIFICATION**

Task #: 02A State: Colorado Abbreviation: None
 Date: 1/23/2024 County: La Plata Filename: M030-02a
 User: DMC

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D9T - 9SU
 Horsepower: 405
 Blade Type: Semi-Universal
 Attachment: 3-shank ripper
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$238.76</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$162.29</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$18.32</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>

Total unit Cost/Hour: \$460.67
 Total Fleet Cost/Hour: **\$460.67**

MATERIAL QUANTITIES

Initial Volume: 30,400
 Swell factor: 1.215
 Loose volume: **36,936 LCY**

Source of estimated volume: Division of Reclamation, Mining & Safety
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 50 feet
 Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -20 %
 Average site altitude: 6,600 feet

Material weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% Earth

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill: <u>0.750</u>	<u>(AVG.)</u>
Material consistency: <u>1.000</u>	<u>(CAT HB)</u>
Dozing method: <u>1.000</u>	<u>(GEN.)</u>
Visibility: <u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4950

Adjusted unit production: 1,044.70 LCY/hr

Adjusted fleet production: **1044.7** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.441/LCY

Total job time: **35.36** Hours

Total job cost: **\$16,287**

BULLDOZER WORKTask description: **Grade Pit Floor**Site: **AGRI-DLD Gravel Pit** Permit Action: **2024-01-23 Update** Permit/Job#: **M2000030****PROJECT IDENTIFICATION**

Task #: **03A** State: **Colorado** Abbreviation: **None**
 Date: **1/23/2024** County: **La Plata** Filename: **M030-03a**
 User: **DMC**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D9T - 9SU**
 Horsepower: **405**
 Blade Type: **Semi-Universal**
 Attachment: **3-shank ripper**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own. Cost/Hour:	\$18.32	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$460.67**
 Total Fleet Cost/Hour: **\$460.67**

MATERIAL QUANTITIES

Initial Volume: **17,600**
 Swell factor: **1.000**
 Loose volume: **17,600 LCY**

Source of estimated volume: **Division of Reclamation, Mining & Safety**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **150 feet**
 Unadjusted hourly production: **910.5 LCY/hr**

Materials consistency description: **Consolidated stockpile 1.0**

Average push gradient: **0 %**
 Average site altitude: **6,600 feet**

Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed**

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill: 0.750	(AVG.)
Material consistency: 1.000	(CAT HB)
Dozing method: 1.000	(GEN.)
Visibility: 1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4492

Adjusted unit production: 409.00 LCY/hr

Adjusted fleet production: **409** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.126/LCY

Total job time: **43.03** Hours

Total job cost: **\$19,824**

BULLDOZER RIPPING WORK

Task description: Rip Compaction on Pit Floor

Site: AGRI-DLD Gravel Pit Permit Action: 2024-01-23 Update Permit/Job#: M2000030

PROJECT IDENTIFICATION

Task #: 04A State: Colorado Abbreviation: None
Date: 1/23/2024 County: La Plata Filename: M030-04a
User: DMC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper Ownership Cost/Hour:	\$18.32	NA
Ripper Operating Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	\$469.65	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 40.00 acres Rip Depth (ft): 1.50 Volume: 96,800 BCY or CCY

Source of estimated quantity: Reclamation Plan

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.63 feet/pass
Average Ripping Width: 7.67 feet/pass
Average Ripping Length: 400.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.881 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.881 Acres/hr
Site Altitude: 6,600 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier
Adjusted Hourly Unit Production: 0.73 Acres/hr
Adjusted Hourly Fleet Production: 0.73 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 54.69 Hours

Unit cost: \$642.107 Per acre Total job cost: \$25,684

BULLDOZER WORKTask description: **Spread Topsoil on Slopes**Site: **AGRI-DLD Gravel Pit** Permit Action: 2024-01-23 Update Permit/Job#: M2000030**PROJECT IDENTIFICATION**

Task #:	<u>05A</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>1/23/2024</u>	County:	<u>La Plata</u>	Filename:	<u>M030-05a</u>
User:	<u>DMC</u>				

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine:	<u>Cat D9T - 9SU</u>
Horsepower:	<u>405</u>
Blade Type:	<u>Semi-Universal</u>
Attachment:	<u>3-shank ripper</u>
Shift Basis:	<u>1 per day</u>
Data Source:	<u>(CRG)</u>

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$238.76</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$162.29</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$18.32</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>

Total unit Cost/Hour:	<u>\$460.67</u>
Total Fleet Cost/Hour:	<u>\$460.67</u>

MATERIAL QUANTITIES

Initial Volume:	<u>1,440</u>
Swell factor:	<u>1.250</u>
Loose volume:	<u>1,800 LCY</u>

Source of estimated volume:	<u>Division of Reclamation, Mining & Safety</u>
Source of estimated swell factor:	<u>Cat Handbook</u>

HOURLY PRODUCTION

Average push distance:	<u>150 feet</u>
Unadjusted hourly production:	<u>910.5 LCY/hr</u>

Materials consistency description: Consolidated stockpile 1.0

Average push gradient:	<u>-30 %</u>
Average site altitude:	<u>6,600 feet</u>

Material weight: 2,550 lbs/LCYWeight description: Earth - Dry packed

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7192

Adjusted unit production: 654.83 LCY/hr

Adjusted fleet production: **654.83** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.703/LCY

Total job time: **2.75** Hours

Total job cost: **\$1,266**

TRUCK/LOADER TEAM WORKTask description: **Load and Carry Topsoil from Stockpile to Pit Floor**Site: **AGRI-DLD Gravel Pit**Permit Action: 2024-01-23 UpdatePermit/Job#: M2000030**PROJECT IDENTIFICATION**Task #: 06AState: ColoradoAbbreviation: NoneDate: 1/23/2024County: La PlataFilename: M030-06aUser: DMCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 8-10 cy, 6x4
-Loader:	CAT 938H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-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	100	NA	NA	NA	NA
Ownership cost/hour:	\$16.85	\$43.90	NA	NA	NA	NA
Operating cost/hour:	\$49.69	\$34.86	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$66.54	\$119.47	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$252.55		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$252.55****MATERIAL QUANTITIES**Initial volume: 17,600

CCY

Swell factor: 1.125Loose volume: **19,800**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,550

Pounds/LCY

Description: Earth - Dry packedRated Payload: 27,280

Pounds

Payload Capacity: 10.70

LCY

Truck Bed (volume) Basis:

Struck Volume:	8.00	LCY
Heaped Volume:	10.00	LCY
Average Volume:	9.00	LCY
Adjusted Volume:	10.00	LCY

Final Truck Volume Based on Number of Loader Passes: 7.61 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	3.900	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	3.803	LCY

Job Condition Corrections:

Site Altitude (ft.): 6600 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: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.483 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 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:		0.423	minutes
Net Load Time per Truck:		0.523	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.523	Minutes	Adjusted for site altitude:	0.523	Minutes
Truck Maneuver and Dump Time:	0.80	Minutes	Adjusted for site altitude:	0.800	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	5.00	5.00	2218	0.205
2	300.00	10.00	5.00	15.00	734	-0.390
3	300.00	0.00	5.00	5.00	2218	0.186

Haul Time: **0.001** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	0.00	5.00	5.00	2814	0.135
2	300.00	-10.00	5.00	-5.00	2938	0.147
3	300.00	0.00	5.00	5.00	2814	0.107

Return Time: **0.389** minutesTotal Truck Cycle Time: **2.213** minutes

Loading Tool unit

Production 446.26 LCY/Hour Adjusted for job efficiency: 370.40 LCY/Hour
 Truck Unit Production 206.24 LCY/Hour Adjusted for job efficiency: 171.18 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 342.35 LCY/Hour
 Adjusted single truck/loader team production: 342.35 LCY/Hour
 Adjusted multiple truck/loader team production: **342.35** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **57.83** Hours

Unit cost: \$0.738 /LCY Total job cost: **\$14,606**

BULLDOZER WORKTask description: **Spread Topsoil on Pit Floor**Site: **AGRI-DLD Gravel Pit** Permit Action: 2024-01-23 Update Permit/Job#: M2000030**PROJECT IDENTIFICATION**

Task #:	<u>07A</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>1/23/2024</u>	County:	<u>La Plata</u>	Filename:	<u>M030-07a</u>
User:	<u>DMC</u>				

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine:	<u>Cat D9T - 9SU</u>
Horsepower:	<u>405</u>
Blade Type:	<u>Semi-Universal</u>
Attachment:	<u>3-shank ripper</u>
Shift Basis:	<u>1 per day</u>
Data Source:	<u>(CRG)</u>

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$238.76</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$162.29</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$18.32</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>

Total unit Cost/Hour:	<u>\$460.67</u>
Total Fleet Cost/Hour:	<u>\$460.67</u>

MATERIAL QUANTITIES

Initial Volume:	<u>19,200</u>
Swell factor:	<u>1.000</u>
Loose volume:	<u>19,200 LCY</u>

Source of estimated volume:	<u>Division of Reclamation, Mining & Safety</u>
Source of estimated swell factor:	<u>Cat Handbook</u>

HOURLY PRODUCTION

Average push distance:	<u>100 feet</u>
Unadjusted hourly production:	<u>1,243.2 LCY/hr</u>

Materials consistency description: Consolidated stockpile 1.0

Average push gradient:	<u>0 %</u>
Average site altitude:	<u>6,600 feet</u>

Material weight: 2,550 lbs/LCYWeight description: Earth - Dry packed

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4492

Adjusted unit production: 558.45 LCY/hr

Adjusted fleet production: **558.45** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.825/LCY

Total job time: **34.38** Hours

Total job cost: **\$15,838**

REVEGETATION WORKTask description: RevegetateSite: AGRI-DLD Gravel PitPermit Action: 2024-01-23 UpdatePermit/Job#: M2000030**PROJECT IDENTIFICATION**Task #: 08AState: ColoradoAbbreviation: NoneDate: 1/23/2024County: La PlataFilename: M030-08aUser: DMCAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
0-20-20, 4-8-12, 10-10-10	40.00	pound	\$0.62	\$24.80
			Total Fertilizer Materials Cost/Acre	\$24.80

Application

Description	Cost /Acre
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$17.42
Total Fertilizer Application Cost/Acre	\$17.42

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Total Tilling Cost/Acre	\$112.82

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	2.50	8.09	\$16.25
Crested Wheatgrass - Fairway	1.20	5.51	\$4.83
Smooth Brome - Manchar	2.50	8.32	\$8.31
Intermediate Wheatgrass - Tegmar	3.00	6.40	\$9.00
Western Wheatgrass - Arriba	3.20	8.08	\$20.80
Totals Seed Mix	12.40	36.41	\$59.19

Application

Description	Cost /Acre
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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
Total Mulch Application Cost/Acre	\$74.46

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:	40	Cost /Acre:	\$1,380.26
Estimated Failure Rate:	20%	Cost /Acre*:	\$1,380.26
*Selected Replanting Work Items:	FERTILIZING, TILLING, SEEDING, MULCHING		
Initial Job Cost:	\$55,210.40		
Reseeding Job Cost:	\$11,042.08		
Total Job Cost:	\$66,252		
Job Hours:	40.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize**Site: **AGRI-DLD Gravel Pit**Permit Action: **2024-01-23 Update**Permit/Job#: **M2000030****PROJECT IDENTIFICATION**Task #: **09A**State: **Colorado**Abbreviation: **None**Date: **1/23/2024**County: **La Plata**Filename: **M030-09a**User: **DMC**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 D9T - 9SU	60.01	\$238.76	\$175.95	1	\$414.71	\$175.95	\$250.00
CAT 938H	16.34	\$43.90	\$82.29	1	\$126.19	\$82.29	\$0.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	1	\$89.02	\$82.29	\$0.00
Subtotals:					\$629.92	\$340.53	\$250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 8-10 cy, 6x4	\$98.45	2	\$196.90	\$196.90
Light Duty Pickup, 4x4, 3/4 T.	\$15.83	1	\$15.83	\$15.83
Subtotals:			\$212.73	\$212.73

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>DURANGO</u>	
Total one-way travel distance:	<u>15.00</u>	miles
Average Travel Speed:	<u>50.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$3,601.95</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$127.64</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.30</u>	<u>0.30</u>
Return Time (Hours):	<u>0.30</u>	<u>0.30</u>
Loading Time (Hours):	<u>1.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>1.00</u>	<u>NA</u>
Subtotals:	<u>2.60</u>	<u>0.60</u>

JOB TIME AND COST

Total job time: 5.20 Hours

Total job cost: \$3,730