

STATE OF  
COLORADO

Reilley - DNR, Robin &lt;robin.reilley@state.co.us&gt;

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**RCE and worst case PR12**

1 message

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**Reilley - DNR, Robin** <robin.reilley@state.co.us>  
To: Graham Roberts <graham.roberts@trappermine.com>

Wed, Feb 26, 2025 at 11:58 AM

Good afternoon Graham

Here is the RCE and the Worst case bond numbers.

I have the following questions on the RCE:

Would you be so kind as to take a look at N20, N21 and N21A MR Reveg tasks: N20 and N21 derives from PR11 while N21A derives from MR229. The acreages are different, so I am thinking that MR 229 represents the correct J Pit acreages. I need to update the Pit acreages task N21 I believe and all three are w/o shrubs so there could be duplicates here.....I'm thinking that N21 should be deleted.

Task N20 begins on page 406.

Bottom line is that it appears there would be an increase in required bond of:

\$11,674,890

Robin Reilley, M.S. GISP  
Environmental Protection Specialist II

image.png

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**3 attachments****CostEstimate\_PR12\_working.pdf**

4482K

**CostSummary\_PR12.pdf**

201K

**ReclaimedNot ReleasedPR12.docx**

16K

## BULLDOZER WORK

Task description: Ash Disposal Pit Regrade (NW section)

Site: Trapper Mine

Permit Action: PR12

Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 2/6/2025

County: Mineral

Filename: C010-001

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U

Horsepower: 850

Blade Type: Universal

Attachment: NA

Shift Basis: 3 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$496.62	NA
Operating Cost/Hour:	\$324.90	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.84	NA

Total unit Cost/Hour: \$860.36

Total Fleet Cost/Hour: **\$1,720.71**

### MATERIAL QUANTITIES

Initial Volume: 43,722

Swell factor: 1.000

Loose volume: **43,722 LCY**

Source of estimated volume: Permit Appendix A, Table A.4.1 and A-2.8

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 150 feet

Unadjusted hourly production: 2,036.8 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: -30 %

Average site altitude: 6,800 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9137

Adjusted unit production: 1,861.02 LCY/hr

Adjusted fleet production: **3722.04 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)  
Unit cost: \$0.462/LCY

Total job time: **11.75 Hours**

Total job cost: **\$20,213**





**TRUCK/LOADER TEAM WORK**Task description: Load/Haul Section E1,423,800Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010**PROJECT IDENTIFICATION**

Task #: 001B State: Colorado Abbreviation: None  
 Date: 2/18/2025 County: Moffat Filename: 001B  
 User: RAR

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

Equipment Description	
Truck Loader Team -Truck:	KOMATSU 830E
-Loader:	CAT 6090
Support Equipment -Load Area:	NA
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 14,000 Gal.

**Cost Breakdown:** Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Shovel	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	25	25	50
Ownership cost/hour:	\$209.47	\$302.35	NA	\$257.39	\$179.39	\$130.32
Operating cost/hour:	\$274.17	\$501.45	NA	\$49.23	\$29.91	\$70.88
%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:	\$25.24	\$33.87	NA	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$508.88	\$837.67	NA	\$345.21	\$237.06	\$201.20
Number of Units:	11	1	0	1	1	1
Group Subtotals:	Work: \$6,435.35	Support: \$345.21	Maint: \$438.26			

Total work team cost/hour: \$7,218.82

## **MATERIAL QUANTITIES**

Initial volume:	<u>128,454</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u><b>128,454</b></u>	LCY		

Source of estimated volume:	<u>Table A-4.1A</u>
Source of estimated swell factor:	<u>Cat Handbook</u>
Material Purchase Cost:	<u>\$0.00</u>
Total Cost:	<u>\$0.00</u>

## **HOURLY PRODUCTION**

### **Truck Capacity:**

#### **Truck Payload (weight) Basis:**

Material weight:	<u>3,300</u>	Pounds/LCY
Description:	<u>Decomposed rock - 75% Rock, 25% Earth</u>	
Rated Payload:	<u>492,200</u>	Pounds
Payload Capacity:	<u>149.15</u>	LCY

#### **Truck Bed (volume) Basis:**

Struck Volume:	<u>153.00</u>	LCY
Heaped Volume:	<u>192.00</u>	LCY
Average Volume:	<u>172.50</u>	LCY
Adjusted Volume:	<u>149.15</u>	LCY

Final Truck Volume Based on Number of Loader Passes: **145.78** LCY

### **Loading Tool Capacity**

Bucket Size Class: NA

Rated Capacity:	<u>58.900</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.825</u>	Blasted rock - avg. blasted (75 - 90%) 0.825
Adjusted Capacity:	<u><b>48.593</b></u>	LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:**      Number of Loading Tool Passes Required to      3      passes  
 Fill Truck:

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition      ABOVE AVERAGE  
 Rating:      \_\_\_\_\_  
 Selected Value within this Basic Rating:      AVERAGE  
 \_\_\_\_\_  
 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):      NA      minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.498</b>	minutes
Net Load Time per Truck:		<b>1.494</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	0.80	Minutes	Adjusted for site altitude:	0.800	Minutes
Truck Load Time:	1.494	Minutes	Adjusted for site altitude:	1.494	Minutes
Truck Maneuver and Dump Time:	1.20	Minutes	Adjusted for site altitude:	1.200	Minutes

Truck Travel (Haul & Return) 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	11428.00	10.00	3.00	13.00	620	18.513

Haul Time:      **18.513**      minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	11428.00	-10.00	3.00	-7.00	3450	3.415

Return Time: 3.415 minutes  
Total Truck Cycle Time: 25.422 minutes

## Loading Tool unit

Production 3,812.84 LCY/Hour Adjusted for job efficiency: 3,164.66 LCY/Hour

## Truck Unit

Production 344.06 LCY/Hour Adjusted for job efficiency: 285.57 LCY/Hour

Optimal No. of Trucks: 11 Truck(s) Selected Number of Trucks: 11 Truck(s)

Adjusted hourly truck team production: 3,141.25 LCY/Hour

Adjusted single truck/loader team production: 3,141.25 LCY/Hour

Adjusted multiple truck/loader team production: 3,141.25 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 40.89 Hours

Unit cost: \$2.298 /LCY Total job cost: \$295,196

## BULLDOZER WORK

Task description: Ash Disposal Pit Regrade (Section 1)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Mineral Filename: C010-002  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

## Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$1,720.71</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 24,907  
Swell factor: 1.000  
Loose volume: **24,907** LCY

Source of estimated volume: Permit Appendix A, Table A.4.1 and A-2.8  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 420 feet  
Unadjusted hourly production: 774.7 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: -5 %  
Average site altitude: 6,800 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6363

Adjusted unit production: 492.94 LCY/hr

Adjusted fleet production:	<hr/> <b>985.88</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 2 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.745/LCY <hr/>

Total job time:	<hr/> <b>25.26</b> Hours <hr/>
Total job cost:	<hr/> <b>\$43,472</b> <hr/>

## BULLDOZER WORK

Task description: Ash Disposal Pit Regrade (Section 2)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 002B State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Mineral Filename: C010-002B  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$1,720.71</b>	
Cost/Hour:		



## **MATERIAL QUANTITIES**

Initial  
Volume: 35,685  
Swell factor: 1.000  
Loose volume: **35,685 LCY**

Source of estimated volume: Permit Appendix A, Table A.4.1 and A-2.8  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 410 feet  
Unadjusted hourly production: 792.6 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: -10 %  
Average site altitude: 6,800 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6991

Adjusted unit production: 554.11 LCY/hr

Adjusted fleet production: **1108.22 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)

Unit cost: \$1.553/LCY

Total job time: **32.20 Hours**

Total job cost: **\$55,407**

## BULLDOZER WORK

Task description: Ash Disposal Pit Regrade (Section 3-1)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Mineral Filename: C010-003  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$1,720.71</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 7,833  
Swell factor: 1.000  
Loose volume: **7,833** LCY

Source of estimated volume: Permit Appendix A, Table A.4.1 and A-2.8  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 120 feet  
Unadjusted hourly production: 2,467.4 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: -10 %  
Average site altitude: 6,800 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750 (AVG.)
Material consistency:	1.200 (CAT HB)
Dozing method:	1.200 (S-BY-S)
Visibility:	0.800 (POOR)
Job efficiency:	0.790 (3 SHIFTS/DAY)
Spoil pile:	0.900 (SSD-FC)
Push gradient:	1.225 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.929 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.6991

Adjusted unit production: 1,724.96 LCY/hr

Adjusted fleet production:	<hr/> <b>3449.92</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 2 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.499/LCY <hr/>

Total job time:	<hr/> <b>2.27</b> Hours <hr/>
Total job cost:	<hr/> <b>\$3,907</b> <hr/>

## BULLDOZER WORK

Task description: Ash Disposal Pit Regrade (Section 3-2)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 003B State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Mineral Filename: C010-003B  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$1,720.71</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 64,667  
Swell factor: 1.000  
Loose volume: **64,667** LCY

Source of estimated volume: Permit Appendix A, Table A.4.1 and A-2.8  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 635 feet  
Unadjusted hourly production: 512.4 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: -20 %  
Average site altitude: 6,800 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8138

Adjusted unit production: 416.99 LCY/hr

Adjusted fleet production:	<hr/> <b>833.98</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 2 Dozer(s) <hr/>
Unit cost:	<hr/> \$2.063/LCY <hr/>

Total job time:	<hr/> <b>77.54</b> Hours <hr/>
Total job cost:	<hr/> <b>\$133,424</b> <hr/>



## BULLDOZER WORK

Task description: Regrade Johnson Coal Stockpile

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-004  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$860.36</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 26,112  
Swell factor: 1.000  
Loose volume: **26,112 LCY**

Source of estimated volume: Permit Appendix A, Table A-4.7  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 75 feet  
Unadjusted hourly production: 3,584.2 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %  
Average site altitude: 7,000 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5449

Adjusted unit production: 1,953.03 LCY/hr

Adjusted fleet  
production: 1953.03 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.441/LCY

Total job time: 13.37 Hours  
Total job cost: \$11,503

### **BULLDOZER WORK**

Task description: D/E Pit Regrade (Spoil Side East)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### **PROJECT IDENTIFICATION**

Task #: 004A State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-004A  
User: RAR

Agency or organization name: DRMS

### **HOURLY EQUIPMENT COST**

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$496.62	NA
Operating Cost/Hour:	\$324.90	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.84	NA
Total unit Cost/Hour:	\$860.36	
Total Fleet Cost/Hour:	<b>\$6,882.84</b>	

### MATERIAL QUANTITIES

Initial Volume:	528,550
Swell factor:	1.000
Loose volume:	<b>528,550 LCY</b>

Source of estimated volume:	Permit Appendix A, Table 1.4-2
Source of estimated swell factor:	Cat Handbook

### HOURLY PRODUCTION

Average push distance:	335 feet
Unadjusted hourly production:	956.8 LCY/hr

Materials consistency description:	Consolidated stockpile 1.0
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Average push gradient:	-20 %
Average site altitude:	7,000 feet

Material weight:	2,475 lbs/LCY
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Weight description:	User Provided
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<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.7535	
Adjusted unit production:	720.95 LCY/hr	
Adjusted fleet production:	<b>5767.6 LCY/hr</b>	

### **JOB TIME AND COST**

Fleet size:	8 Dozer(s)
Unit cost:	\$1.193/LCY
Total job time:	<b>91.64 Hours</b>
Total job cost:	<b>\$630,752</b>

## BULLDOZER WORK

Task description: D/E Pit Regrade (West)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 005A State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-005A  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$5,162.13</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 507,233  
Swell factor: 1.000  
Loose volume: **507,233** LCY

Source of estimated volume: Permit Appendix A, Table 1.4-2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 335 feet  
Unadjusted hourly production: 956.8 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -20 %  
Average site altitude: 7,000 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7535

Adjusted unit production: 720.95 LCY/hr

Adjusted fleet production:	<hr/> <b>4325.7</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 6 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.193/LCY <hr/>

Total job time:	<hr/> <b>117.26</b> Hours <hr/>
Total job cost:	<hr/> <b>\$605,313</b> <hr/>



## BULLDOZER WORK

Task description: Regrade BC Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 030 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-030  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	100
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## MATERIAL QUANTITIES

Initial  
Volume: 166,237  
Swell factor: 1.250

Loose volume: 207,796 LCY

Source of estimated volume: Appendix A, Table A-6.1

Source of estimated swell factor: Cat Handbook

### **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr  
Adjusted fleet production: 2864.36 LCY/hr

### **JOB TIME AND COST**

Fleet size:	<u>4 Dozer(s)</u>
Unit cost:	<u>\$0.688/LCY</u>
Total job time:	<u><b>72.55</b> Hours</u>
Total job cost:	<u><b>\$143,032</b></u>

## BULLDOZER WORK

Task description: Regrade D-Main Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 031 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-O31  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	100
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 121,593  
Swell factor: 1.250  
Loose volume: **151,991 LCY**

Source of estimated volume: Appendix A, Table A-6.1  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>53.06</b> Hours <hr/>
Total job cost:	<hr/> <b>\$104,620</b> <hr/>

## BULLDOZER WORK

Task description: Regrade East and West Ash Roads

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 032 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-O32  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	100
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 200,753  
Swell factor: 1.250  
Loose volume: **250,941 LCY**

Source of estimated volume: Appendix A, Table A-6.1  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr



Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>87.61</b> Hours <hr/>
Total job cost:	<hr/> <b>\$172,730</b> <hr/>

## BULLDOZER WORK

Task description: Regrade LOM Roads

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #:	<u>033</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/6/2025</u>	County:	<u>Moffat</u>	Filename:	<u>C010-O33</u>
User:	<u>RAR</u>				

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine:	<u>Cat D10T - 10SU</u>
Horsepower:	<u>574</u>
Blade Type:	<u>Semi-Universal</u>
Attachment:	<u>NA</u>
Shift Basis:	<u>1 per day</u>
Data Source:	<u>(CRG)</u>

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating		
Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own.		
Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op.		
Cost/Hour:	<u>\$0.00</u>	<u>100</u>
Operator		
Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total unit	<u>\$492.91</u>	
Cost/Hour:		
Total Fleet	<u>\$1,971.62</u>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 362,600  
Swell factor: 1.250  
Loose volume: **453,250 LCY**

Source of estimated volume: Appendix A, Table A-6.1  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>158.24</b> Hours <hr/>
Total job cost:	<hr/> <b>\$311,985</b> <hr/>

## BULLDOZER WORK

Task description: Regrade A Roads (Middle A and North A N pit)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 034 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-O34  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	100
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 133,517  
Swell factor: 1.250  
Loose volume: **166,896** LCY

Source of estimated volume: Appendix A, Table A-6.1  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

Job Condition	Correction Factor	Source
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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr  
Adjusted fleet production: **2864.36** LCY/hr

### **JOB TIME AND COST**

Fleet size:	<u>4 Dozer(s)</u>
Unit cost:	<u>\$0.688/LCY</u>

Total job time:	<u><b>58.27</b> Hours</u>
Total job cost:	<u><b>\$114,879</b></u>

## BULLDOZER WORK

Task description: Regrade N Pit Roads (old LOM, cross-over, ash pit)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 035 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-O35  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	100
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$860.11	
Cost/Hour:		
Total Fleet	<b>\$3,440.42</b>	
Cost/Hour:		



## **MATERIAL QUANTITIES**

Initial  
Volume: 105,283  
Swell factor: 1.150  
Loose volume: **121,075 LCY**

Source of estimated volume: Table A-6.1  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 3,441.4 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

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

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4164

Adjusted unit production: 1,433.00 LCY/hr

Adjusted fleet production:	<hr/> <b>5732</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.600/LCY <hr/>

Total job time:	<hr/> <b>21.12</b> Hours <hr/>
Total job cost:	<hr/> <b>\$72,671</b> <hr/>

## BULLDOZER WORK

Task description: Regrade C Pit Haul Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 036 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-036  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 136,400  
Swell factor: 1.250  
Loose volume: **170,500 LCY**

Source of estimated volume: Appendix A, Table a-6.1  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>59.52</b> Hours <hr/>
Total job cost:	<hr/> <b>\$117,360</b> <hr/>

## BULLDOZER WORK

Task description: Regrade East A Haul Roads (East A and East A Split, Bridge Rd)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 039 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-039  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	100
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

### MATERIAL QUANTITIES

Initial  
Volume: 155,400  
Swell factor: 1.250

Loose volume: 194,250 LCY

Source of estimated volume: Appendix A, Table A-6.1

Source of estimated swell factor: Cat Handbook

### **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr  
Adjusted fleet production: 2864.36 LCY/hr

### **JOB TIME AND COST**

Fleet size:	<u>4 Dozer(s)</u>
Unit cost:	<u>\$0.688/LCY</u>
Total job time:	<u><b>67.82</b> Hours</u>
Total job cost:	<u><b>\$133,708</b></u>



## BULLDOZER WORK

Task description: Regrade I/J Roads (I/J Spoil, I Mid, I West)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 040 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-040  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	25
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$493.16	
Cost/Hour:		
Total Fleet	<b>\$1,972.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 111,117  
Swell factor: 1.250  
Loose volume: **138,896** LCY

Source of estimated volume: Permit Appendix A, Tables A-2.3, A.6.1  
Source of estimated swell  
factor: Operator, Appendix  
A Table A-6.1

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly  
production: 2,028.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: -5 %  
Average site  
altitude: 6,725 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	1.000	(EXCL.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6546

Adjusted unit  
production: 1,327.53 LCY/hr

Adjusted fleet production:	<hr/> <b>5310.12</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.371/LCY <hr/>

Total job time:	<hr/> <b>26.16</b> Hours <hr/>
Total job cost:	<hr/> <b>\$51,598</b> <hr/>

## BULLDOZER WORK

Task description: Regrade K Pit Haul Roads (K1 EPRL K3)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 041 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-041  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 148,283  
Swell factor: 1.250  
Loose volume: **185,354 LCY**

Source of estimated volume: Appendix A, Table A-6.1  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>64.71</b> Hours <hr/>
Total job cost:	<hr/> <b>\$127,584</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Mine Access Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 042 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-042  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 54,022  
Swell factor: 1.250  
Loose volume: **67,528 LCY**

Source of estimated volume: Appendix A, Table a-6.1  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr



Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>23.58</b> Hours <hr/>
Total job cost:	<hr/> <b>\$46,481</b> <hr/>

## BULLDOZER WORK

Task description: Regrade No Name Access Roads #2, #4, 5R

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 044 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-044  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 24,719  
Swell factor: 1.250  
Loose volume: **30,899** LCY

Source of estimated volume: Appendix A, Table A- 6.2  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly  
production: 2,028.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: 10 %  
Average site  
altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit  
production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>10.79</b> Hours <hr/>
Total job cost:	<hr/> <b>\$21,268</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Potable Water Well Access Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 045 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-045  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 4,093  
Swell factor: 1.250  
Loose volume: **5,116 LCY**

Source of estimated volume: Appendix A, Table 1.4-5  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>1.79</b> Hours <hr/>
Total job cost:	<hr/> <b>\$3,522</b> <hr/>

## BULLDOZER WORK

Task description: Regrade West Pyeatt Access Road (1 and 2)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 046 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-046  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		



## **MATERIAL QUANTITIES**

Initial  
Volume: 16,370  
Swell factor: 1.250  
Loose volume: **20,463 LCY**

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly  
production: 2,028.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: 10 %  
Average site  
altitude: 6,400 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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit  
production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>7.14</b> Hours <hr/>
Total job cost:	<hr/> <b>\$14,085</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Middle Pyeatt Access Road (1, 2 and 3)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 047 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-047  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 15,142  
Swell factor: 1.250  
Loose volume: **18,928 LCY**

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>6.61</b> Hours <hr/>
Total job cost:	<hr/> <b>\$13,028</b> <hr/>

## BULLDOZER WORK

Task description: Regrade East Pyeatt Access Road (1, 2 and 3)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 048 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-048  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 21,159  
Swell factor: 1.250  
Loose volume: **26,449** LCY

Source of estimated volume: Appendix A, Table 1.4-5  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>9.23</b> Hours <hr/>
Total job cost:	<hr/> <b>\$18,205</b> <hr/>



## BULLDOZER WORK

Task description: Regrade Grouse Access Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 049 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-049  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

### MATERIAL QUANTITIES

Initial  
Volume: 10,477  
Swell factor: 1.250

Loose volume: 13,096 LCY

Source of estimated volume: Appendix A, Table 1.4-5

Source of estimated swell factor: Cat Handbook

### **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr  
Adjusted fleet production: 2864.36 LCY/hr

### **JOB TIME AND COST**

Fleet size:	<u>4 Dozer(s)</u>
Unit cost:	<u>\$0.688/LCY</u>
Total job time:	<u><b>4.57</b> Hours</u>
Total job cost:	<u><b>\$9,015</b></u>

## BULLDOZER WORK

Task description: Regrade West Flume Access Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 050 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-050  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 6,139  
Swell factor: 1.250  
Loose volume: 7,674 LCY

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly  
production: 2,028.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: 10 %  
Average site  
altitude: 6,400 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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit  
production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>2.68</b> Hours <hr/>
Total job cost:	<hr/> <b>\$5,282</b> <hr/>

## BULLDOZER WORK

Task description: Regrade East Flume Access Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 051 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-051  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 6,139  
Swell factor: 1.250  
Loose volume: 7,674 LCY

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly  
production: 2,028.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: 10 %  
Average site  
altitude: 6,400 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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit  
production: 716.09 LCY/hr



Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>2.68</b> Hours <hr/>
Total job cost:	<hr/> <b>\$5,282</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Deal Access Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 052 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-052  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 6,139  
Swell factor: 1.250  
Loose volume: 7,674 LCY

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly  
production: 2,028.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: 10 %  
Average site  
altitude: 6,400 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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit  
production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>2.68</b> Hours <hr/>
Total job cost:	<hr/> <b>\$5,282</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Horse Access Roads (Horse and Horse1)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 053 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-053  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 13,915  
Swell factor: 1.250  
Loose volume: **17,394 LCY**

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>6.07</b> Hours <hr/>
Total job cost:	<hr/> <b>\$11,973</b> <hr/>

## BULLDOZER WORK

Task description: Regrade West Horse Access Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 054 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-054  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		



## **MATERIAL QUANTITIES**

Initial  
Volume: 6,139  
Swell factor: 1.250  
Loose volume: 7,674 LCY

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly  
production: 2,028.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: 10 %  
Average site  
altitude: 6,400 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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit  
production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>2.68</b> Hours <hr/>
Total job cost:	<hr/> <b>\$5,282</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Middle Flume Access Roads (1 and 3)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 055 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-055  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 10,539  
Swell factor: 1.250  
Loose volume: **13,174 LCY**

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>4.60</b> Hours <hr/>
Total job cost:	<hr/> <b>\$9,068</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Oak Access Roads

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 056 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-056  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 7,776  
Swell factor: 1.270  
Loose volume: **9,876** LCY

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly  
production: 2,028.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: 10 %  
Average site  
altitude: 6,400 feet

Material weight: 2,700 lbs/LCY

Weight description: Earth - Wet excavated

<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:	<u>0.830</u>	<u>(1 SHIFT/DAY)</u>
Spoil pile:	<u>0.800</u>	<u>(SSD-AC)</u>
Push gradient:	<u>0.786</u>	<u>(CAT HB)</u>
Altitude:	<u>1.000</u>	<u>(CAT HB)</u>
Material Weight:	<u>0.852</u>	<u>(CAT HB)</u>
Blade type:	<u>1.000</u>	<u>(PAT)</u>

Net correction: 0.3335

Adjusted unit  
production: 676.34 LCY/hr

Adjusted fleet production:	<hr/> <b>2705.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.729/LCY <hr/>

Total job time:	<hr/> <b>3.65</b> Hours <hr/>
Total job cost:	<hr/> <b>\$7,197</b> <hr/>



## BULLDOZER WORK

Task description: Regrade Sage Access Roads

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 057 State: Colorado Abbreviation: None  
Date: 2/6/2025 County: Moffat Filename: C010-057  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 10,231  
Swell factor: 1.250  
Loose volume: **12,789** LCY

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>4.46</b> Hours <hr/>
Total job cost:	<hr/> <b>\$8,803</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Johnson Access Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #:	<u>058</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/6/2025</u>	County:	<u>Moffat</u>	Filename:	<u>C010-058</u>
User:	<u>RAR</u>				

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine:	<u>Cat D10T - 10SU</u>
Horsepower:	<u>574</u>
Blade Type:	<u>Semi-Universal</u>
Attachment:	<u>NA</u>
Shift Basis:	<u>1 per day</u>
Data Source:	<u>(CRG)</u>

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$257.39	NA
Operating		
Cost/Hour:	\$196.93	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	0
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$492.91	
Cost/Hour:		
Total Fleet	<b>\$1,971.62</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 25,374  
Swell factor: 1.250  
Loose volume: **31,718 LCY**

Source of estimated volume: Appendix A, Table A-6.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 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:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.902 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.3531

Adjusted unit production: 716.09 LCY/hr

Adjusted fleet production:	<hr/> <b>2864.36</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.688/LCY <hr/>

Total job time:	<hr/> <b>11.07</b> Hours <hr/>
Total job cost:	<hr/> <b>\$21,832</b> <hr/>

## BULLDOZER RIPPING WORK

Task description: Rip BC Walk Road

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #: 063 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 063  
User: RAR

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

## MATERIAL QUANTITIES

Selected estimating method: Area

### Alternate Methods:

Seismic:	<u>NA</u>	Bank Volume:	<u>NA</u>	BCY	<u>NA</u>		
Area:	<u>7.50</u>	acres	Rip Depth (ft):	<u>2.50</u>	Volum e:	<u>30,250</u>	BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### Seismic:

Seismic Velocity: NA feet/second

### Area:

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **2.24** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$4,755**



## BULLDOZER RIPPING WORK

Task description: Rip D-main Pit Haul Roads

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 064 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 064  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic:	<u>NA</u>	Bank Volume:	<u>NA</u>	BCY	<u>NA</u>		
Area:	<u>28.10</u>	acres	Rip Depth (ft):	<u>2.50</u>	Volum e:	<u>113,337</u>	BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### Seismic:

Seismic Velocity: NA feet/second

### Area:

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **8.41** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$17,814**

## BULLDOZER RIPPING WORK

Task description: Rip West Ash Haulroads (West Ash, West Ash1 and West Ash 2)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 065 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 065  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 20.00 acres Rip Depth (ft): 2.50 Volume: 80,667 BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### **Seismic:**

Seismic Velocity: NA feet/second

### **Area:**

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### **Job Condition Correction Factors**

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **5.98** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$12,679**

## BULLDOZER RIPPING WORK

Task description: Rip LOM Haul Roads (F2 and F2-G5)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 066 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 066  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 29.30 acres Rip Depth (ft): 2.50 Volume: 118,177 BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### Seismic:

Seismic Velocity: NA feet/second

### Area:

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **8.77** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$18,575**

## BULLDOZER RIPPING WORK

Task description: Rip A Pit Haul Roads (Middle A and North A)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 067 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 067  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic:	<u>NA</u>	Bank Volume:	<u>NA</u>	BCY	<u>NA</u>		
Area:	<u>21.50</u>	acres	Rip Depth (ft):	<u>2.50</u>	Volum e:	<u>86,717</u>	BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### **Seismic:**

Seismic Velocity: NA feet/second

### **Area:**

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### **Job Condition Correction Factors**

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **6.43** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$13,630**



## BULLDOZER RIPPING WORK

Task description: Rip N Pit Haul Roads

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 068 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 068  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 18.00 acres Rip Depth (ft): 2.50 Volume: 72,600 BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### **Seismic:**

Seismic Velocity: NA feet/second

### **Area:**

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### **Job Condition Correction Factors**

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **5.39** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$11,411**

## BULLDOZER RIPPING WORK

Task description: Rip East A Haul Roads (East A and East A Split)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 072 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 072  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic:	<u>NA</u>	Bank Volume:	<u>NA</u>	BCY	<u>NA</u>		
Area:	<u>9.90</u>	acres	Rip Depth (ft):	<u>2.50</u>	Volum e:	<u>39,930</u>	BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### **Seismic:**

Seismic Velocity: NA feet/second

### **Area:**

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### **Job Condition Correction Factors**

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **2.96** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$6,276**

## BULLDOZER RIPPING WORK

Task description: Rip Access Road (Tasks 042-059)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 074 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 074  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 10.40 acres Rip Depth (ft): 2.50 Volume: 41,947 BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### Seismic:

Seismic Velocity: NA feet/second

### Area:

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **3.11** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$6,593**

## BULLDOZER RIPPING WORK

Task description: Rip K Pit Haul Roads (KMain, K1, K2 , K3)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 075 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 075  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic:	<u>NA</u>	Bank Volume:	<u>NA</u>	BCY	<u>NA</u>		
Area:	<u>7.10</u>	acres	Rip Depth (ft):	<u>2.50</u>	Volum e:	<u>28,637</u>	BCY or CCY

Source of estimated quantity: Appendix A Table 1.4-5

## **HOURLY PRODUCTION**

### **Seismic:**

Seismic Velocity: NA feet/second

### **Area:**

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### **Job Condition Correction Factors**

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: **3.34** Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: **2.12** Hours  
Unit cost: \$633.949 Per acre Total job cost: **\$4,501**



## BULLDOZER RIPPING WORK

Task description: Rip I/J Roads (I/J Spoil, I Mid, I West)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 077 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 077  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic:	<u>NA</u>	Bank Volume:	<u>NA</u>	BCY	<u>NA</u>	
Area:	<u>15.23</u> acres	Rip Depth (ft):	<u>2.50</u>	Volume:	<u>61,428</u>	BCY or CCY

Source of estimated quantity: Appendix A Table 6.2

## **HOURLY PRODUCTION**

### Seismic:

Seismic Velocity: NA feet/second

### Area:

Average Ripping Depth: 2.50 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 1.007 acres/hour

### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 1.007 Acres/hr  
  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier  
  
Adjusted Hourly Unit Production: 0.84 Acres/hr  
Adjusted Hourly Fleet Production: 3.34 Acres/hr

## **JOB TIME AND COST**

Fleet size: 4 Grader(s) Total job time: 4.56 Hours  
Unit cost: \$633.949 Per acre Total job cost: \$9,655

BULLDOZER WORK

Task description: Regrade Coyote Impoundment

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

**PROJECT IDENTIFICATION**

Task #: 078 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 078  
User: RAR

Agency or organization name: DRMS

**HOURLY EQUIPMENT COST**

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$492.91</u>	
Total Fleet Cost/Hour:	<u><b>\$985.81</b></u>	

## **MATERIAL QUANTITIES**

Initial	83,750
Volume:	
Swell factor:	1.000
Loose	
volume:	<b>83,750 LCY</b>

Source of estimated	Appendix A Table A-7.2
volume:	
Source of estimated swell	Operator Estimate
factor:	

## **HOURLY PRODUCTION**

Average push distance:	500 feet
Unadjusted hourly	410.8 LCY/hr
production:	

Materials consistency	Consolidated stockpile 1.0
description:	

Average push	10 %
gradient:	
Average site	6,400 feet
altitude:	

Material weight:	2,550 lbs/LCY
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Weight	User Provided
description:	

<u>Job Condition</u>	<u>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	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction:	0.3531
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Adjusted unit	145.05 LCY/hr
production:	

Adjusted fleet production:	<hr/> <b>290.1</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 2 Dozer(s) <hr/>
Unit cost:	<hr/> \$3.398/LCY <hr/>

Total job time:	<hr/> <b>288.69</b> Hours <hr/>
Total job cost:	<hr/> <b>\$284,597</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Middle Pyeatt Impoundments Impoundment (1,2, 3)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 079 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 079  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$492.91	
Total Fleet Cost/Hour:	<b>\$492.91</b>	

## **MATERIAL QUANTITIES**

Initial Volume:	15,381
Swell factor:	1.000
Loose volume:	<b>15,381</b> LCY

Source of estimated volume:	Appendix A Table A-7.2
Source of estimated swell factor:	Operator Estimate

## **HOURLY PRODUCTION**

Average push distance:	225 feet
Unadjusted hourly production:	842.1 LCY/hr

Materials consistency description:	Consolidated stockpile 1.0
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Average push gradient:	10 %
Average site altitude:	6,400 feet

Material weight:	2,550 lbs/LCY
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Weight description:	User Provided
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<u>Job Condition</u>	<u>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:	0.600	(FND-SF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction:	0.2648
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Adjusted unit production:	222.99 LCY/hr
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Adjusted fleet production:	<hr/> <b>222.99</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$2.210/LCY <hr/>

Total job time:	<hr/> <b>68.98</b> Hours <hr/>
Total job cost:	<hr/> <b>\$33,999</b> <hr/>



## BULLDOZER WORK

Task description: Regrade Far East Buzzard Impoundment

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 080 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 080  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$492.91	
Total Fleet Cost/Hour:	<b>\$492.91</b>	

## **MATERIAL QUANTITIES**

Initial  
Volume: 342  
Swell factor: 1.000  
Loose  
volume: **342 LCY**

Source of estimated volume: Appendix A Table A-7.2  
Source of estimated swell factor: Operator Estimate

## **HOURLY PRODUCTION**

Average push distance: 100 feet  
Unadjusted hourly production: 1,718.9 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 feet

Material weight: 2,550 lbs/LCY

Weight description: User Provided

<u>Job Condition</u>	<u>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	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 606.94 LCY/hr

Adjusted fleet production:	<hr/> <b>606.94</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.812/LCY <hr/>

Total job time:	<hr/> <b>0.56</b> Hours <hr/>
Total job cost:	<hr/> <b>\$278</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Sage Impoundments (1 and 2)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 081 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 081  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$492.91	
Total Fleet Cost/Hour:	<b>\$492.91</b>	

## **MATERIAL QUANTITIES**

Initial	
Volume:	8,302
Swell factor:	1.000
Loose	
volume:	<b>8,302 LCY</b>

Source of estimated	Appendix A Table 1.4-6
volume:	

Source of estimated swell	Operator Estimate
factor:	

## **HOURLY PRODUCTION**

Average push distance:	150 feet
Unadjusted hourly	1,243.2 LCY/hr
production:	

Materials consistency	Consolidated stockpile 1.0
description:	

Average push	10 %
gradient:	
Average site	6,400 feet
altitude:	

Material weight:	2,550 lbs/LCY
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Weight	User Provided
description:	

<u>Job Condition</u>	<u>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	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction:	0.3531
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Adjusted unit	438.97 LCY/hr
production:	

Adjusted fleet production:	<hr/> <b>438.97</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.123/LCY <hr/>

Total job time:	<hr/> <b>18.91</b> Hours <hr/>
Total job cost:	<hr/> <b>\$9,322</b> <hr/>

BULLDOZER WORK

Task description: Regrade West Horse Impoundment

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

**PROJECT IDENTIFICATION**

Task #: 082 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 082  
User: RAR

Agency or organization name: DRMS

**HOURLY EQUIPMENT COST**

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$492.91	
Total Fleet Cost/Hour:	<b>\$492.91</b>	

## **MATERIAL QUANTITIES**

Initial  
Volume: 3,315  
Swell factor: 1.000  
Loose  
volume: **3,315 LCY**

Source of estimated volume: Appendix A Table A-7.2  
Source of estimated swell factor: Operator Estimate

## **HOURLY PRODUCTION**

Average push distance: 55 feet  
Unadjusted hourly production: 2,670.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 6,400 feet

Material weight: 2,550 lbs/LCY

Weight description: User Provided

<u>Job Condition</u>	<u>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	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 942.78 LCY/hr



Adjusted fleet production:	<hr/> <b>942.78</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.523/LCY <hr/>

Total job time:	<hr/> <b>3.52</b> Hours <hr/>
Total job cost:	<hr/> <b>\$1,733</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Impoundment H

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 083 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 083  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$492.91	
Total Fleet Cost/Hour:	<b>\$492.91</b>	

## **MATERIAL QUANTITIES**

Initial Volume:	3,198
Swell factor:	1.000
Loose volume:	<b>3,198 LCY</b>

Source of estimated volume:	Appendix A Table A-7.2
Source of estimated swell factor:	Operator Estimate

## **HOURLY PRODUCTION**

Average push distance:	150 feet
Unadjusted hourly production:	1,243.2 LCY/hr

Materials consistency description:	Consolidated stockpile 1.0
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Average push gradient:	10 %
Average site altitude:	6,400 feet

Material weight:	2,550 lbs/LCY
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Weight description:	User Provided
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<u>Job Condition</u>	<u>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	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction:	0.3531
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Adjusted unit production:	438.97 LCY/hr
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Adjusted fleet production:	<hr/> <b>438.97</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.123/LCY <hr/>

Total job time:	<hr/> <b>7.29</b> Hours <hr/>
Total job cost:	<hr/> <b>\$3,591</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Industrial Waste Pond

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 084 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 084  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$492.91	
Total Fleet Cost/Hour:	<b>\$492.91</b>	

## **MATERIAL QUANTITIES**

Initial Volume:	3,279
Swell factor:	1.000
Loose volume:	<b>3,279 LCY</b>

Source of estimated volume:	Appendix A Table A-7.2
Source of estimated swell factor:	Operator Estimate

## **HOURLY PRODUCTION**

Average push distance:	150 feet
Unadjusted hourly production:	1,243.2 LCY/hr

Materials consistency description:	Consolidated stockpile 1.0
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Average push gradient:	10 %
Average site altitude:	6,400 feet

Material weight:	2,550 lbs/LCY
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Weight description:	User Provided
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<u>Job Condition</u>	<u>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	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction:	0.3531
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Adjusted unit production:	438.97 LCY/hr
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Adjusted fleet production:	<hr/> <b>438.97</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.123/LCY <hr/>

Total job time:	<hr/> <b>7.47</b> Hours <hr/>
Total job cost:	<hr/> <b>\$3,682</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Deal 1 and 2

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 085 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 085  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$5.87	50
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$523.79	
Total Fleet Cost/Hour:	<b>\$523.79</b>	



## **MATERIAL QUANTITIES**

Initial  
Volume: 9,555  
Swell factor: 1.000  
Loose  
volume: **9,555 LCY**

Source of estimated volume: A-7.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 50 feet  
Unadjusted hourly production: 2,748.7 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %  
Average site altitude: 7,500 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3537

Adjusted unit production: 972.22 LCY/hr

Adjusted fleet production:	<hr/> <b>972.22</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.539/LCY <hr/>

Total job time:	<hr/> <b>9.83</b> Hours <hr/>
Total job cost:	<hr/> <b>\$5,148</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Deacon 1,2 and Jeffway 1,2 impoundments

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 086 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 086  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
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>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$5.87</u>	<u>50</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$523.79</u>	
Total Fleet Cost/Hour:	<u><b>\$523.79</b></u>	

## **MATERIAL QUANTITIES**

Initial  
Volume: 92,093  
Swell factor: 1.000  
Loose  
volume: **92,093 LCY**

Source of estimated volume: A-7.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 50 feet  
Unadjusted hourly production: 2,748.7 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %  
Average site altitude: 7,500 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3537

Adjusted unit production: 972.22 LCY/hr

Adjusted fleet production:	<hr/> <b>972.22</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.539/LCY <hr/>

Total job time:	<hr/> <b>94.72</b> Hours <hr/>
Total job cost:	<hr/> <b>\$49,616</b> <hr/>

## BULLDOZER WORK

Task description: Regrade W. Buzzard #4 Impoundment

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 087 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 087  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
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>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$5.87</u>	<u>50</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$523.79</u>	
Total Fleet Cost/Hour:	<u><b>\$523.79</b></u>	

## **MATERIAL QUANTITIES**

Initial  
Volume: 4,923  
Swell factor: 1.000  
Loose  
volume: **4,923 LCY**

Source of estimated volume: A-7.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 80 feet  
Unadjusted hourly production: 2,028.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %  
Average site altitude: 7,500 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4043

Adjusted unit production: 819.92 LCY/hr

Adjusted fleet production:	<hr/> <b>819.92</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.639/LCY <hr/>

Total job time:	<hr/> <b>6.00</b> Hours <hr/>
Total job cost:	<hr/> <b>\$3,145</b> <hr/>



## BULLDOZER WORK

Task description: Regrade E. Buzzard #3 Impoundment

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 088 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 088  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D10T - 10SU  
Horsepower: 574  
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>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$5.87</u>	<u>50</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$523.79</u>	
Total Fleet Cost/Hour:	<u><b>\$523.79</b></u>	

## **MATERIAL QUANTITIES**

Initial  
Volume: 6,414  
Swell factor: 1.000  
Loose  
volume: **6,414 LCY**

Source of estimated volume: A-7.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 70 feet  
Unadjusted hourly production: 2,253.9 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %  
Average site altitude: 7,500 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>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	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4043

Adjusted unit production: 911.25 LCY/hr

Adjusted fleet production:	<hr/> <b>911.25</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.575/LCY <hr/>

Total job time:	<hr/> <b>7.04</b> Hours <hr/>
Total job cost:	<hr/> <b>\$3,687</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Diversions

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 089 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 089  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D8T - 8SU  
Horsepower: 310  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$14.53	NA
Ripper op. Cost/Hour:	\$3.98	50
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$340.12	
Total Fleet Cost/Hour:	<b>\$340.12</b>	

## **MATERIAL QUANTITIES**

Initial  
Volume: 33,374  
Swell factor: 1.000  
Loose  
volume: **33,374 LCY**

Source of estimated volume: A-8.2  
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: Compacted fill or embankment 0.9

Average push gradient: 0 %  
Average site altitude: 7,500 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
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: 0.3881

Adjusted unit production: 543.34 LCY/hr

Adjusted fleet production:	<hr/> <b>543.34</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.626/LCY <hr/>

Total job time:	<hr/> <b>61.42</b> Hours <hr/>
Total job cost:	<hr/> <b>\$20,891</b> <hr/>

## BULLDOZER WORK

Task description: Regrade Diversions

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 089MR228 State: Colorado Abbreviation: None  
Date: 2/24/2025 County: Moffat Filename: C010-  
089MR228  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D8T - 8SU  
Horsepower: 310  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
<u>Ownership</u>	<u>\$173.32</u>	<u>NA</u>
<u>Cost/Hour:</u>		
<u>Operating</u>	<u>\$109.71</u>	<u>100</u>
<u>Cost/Hour:</u>		
<u>Ripper own.</u>	<u>\$14.53</u>	<u>NA</u>
<u>Cost/Hour:</u>		
<u>Ripper op.</u>	<u>\$3.98</u>	<u>50</u>
<u>Cost/Hour:</u>		
<u>Operator</u>	<u>\$38.59</u>	<u>NA</u>
<u>Cost/Hour:</u>		

<u>Total unit</u>	<u>\$340.12</u>
<u>Cost/Hour:</u>	
<u>Total Fleet</u>	<u><b>\$340.12</b></u>
<u>Cost/Hour:</u>	

## **MATERIAL QUANTITIES**

Initial  
Volume: 532  
Swell factor: 1.000  
Loose  
volume: 532 LCY

Source of estimated A-8.2  
volume:  
Source of estimated swell Cat Handbook  
factor:

## **HOURLY PRODUCTION**

Average push distance: 50 feet  
Unadjusted hourly 1,400.0 LCY/hr  
production:

Materials consistency Compacted fill or embankment 0.9  
description:

Average push 0 %  
gradient:  
Average site 7,500 feet  
altitude:

Material weight: 2,550 lbs/LCY

Weight Earth - Dry packed  
description:

Job Condition	Correction Factor	Source
<u>Operator Skill:</u>	<u>0.750</u>	<u>(AVG.)</u>
<u>Material consistency:</u>	<u>0.900</u>	<u>(CAT HB))</u>
<u>Dozing method:</u>	<u>1.000</u>	<u>(GEN.)</u>
<u>Visibility:</u>	<u>0.800</u>	<u>(POOR)</u>
<u>Job efficiency:</u>	<u>0.830</u>	<u>(1 SHIFT/DAY)</u>
<u>Spoil pile:</u>	<u>0.800</u>	<u>(SSD-AC)</u>
<u>Push gradient:</u>	<u>1.000</u>	<u>(CAT HB)</u>
<u>Altitude:</u>	<u>1.000</u>	<u>(CAT HB)</u>
<u>Material Weight:</u>	<u>0.902</u>	<u>(CAT HB)</u>
<u>Blade type:</u>	<u>1.000</u>	<u>(PAT)</u>

Net correction: 0.3234

Adjusted unit  
production: 452.76 LCY/hr



<u>Adjusted fleet production:</u>	<u><b>452.76</b> LCY/hr</u>
---------------------------------------	-----------------------------

**JOB TIME AND COST**

<u>Fleet size:</u>	<u>1 Dozer(s)</u>
<u>Unit cost:</u>	<u>\$0.751/LCY</u>

<u>Total job time:</u>	<u><b>1.18</b> Hours</u>
<u>Total job cost:</u>	<u><b>\$400</b></u>

## SCRAPER TEAM WORK

Task description: Replace Topsoil on Ash Pits (ASH1)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 090 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 090  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 11,254 CCY Swell factor: 1.000  
Loose volume: 11,254 LCY

Source of estimated volume: Appendix A, Table A-9.1  
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: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

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

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	1978.00	10.00	4.00	14.00	657	3.02

Haul Time: 3.02 minutes

Return Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	1978.00	-10.00	4.00	-6.00	2972	0.72

Return Time: 0.72 minutes

Total Scraper team cycle time:	<u>5.34</u>	minutes
Adjusted for job conditions:	<u>540.90</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>2,163.60</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>2,163.60</u>	LCY/Hour

Unadjusted unit production/hour: 651.69 LCY/Hour  
Optimal Number of Scrapers per  
push dozer: \_\_\_\_\_

### **JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>5.20</u>	Hours
Unit cost:	<u>\$2.845</u>	/LCY	Total job cost:	<u>\$32,014</u>	

## SCRAPER TEAM WORK

Task description: Replace Topsoil on Ash Pits (ASH2)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 090A State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 90A  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 60,000 CCY Swell factor: 1.000  
Loose volume: 60,000 LCY

Source of estimated volume: Appendix A, Table A-10.1  
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: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

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

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	711.00	-12.00	4.00	-8.00	1628	0.56

Haul Time: 0.56 minutes

Return Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	711.00	-12.00	4.00	-8.00	2972	0.30

Return Time: 0.30 minutes

Total Scraper team cycle time:	<u>2.46</u>	minutes
Adjusted for job conditions:	<u>1,174.15</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>4,696.59</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>4,696.59</u>	LCY/Hour

Unadjusted unit production/hour: 1,414.63 LCY/Hour  
 Optimal Number of Scrapers per  
 push dozer: \_\_\_\_\_

### **JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>12.78</u>	Hours
Unit cost:	<u>\$1.310</u>	/LCY	Total job cost:	<u>\$78,627</u>	

## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil on Ash Pits (A92-4 to Pit)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 090B State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 090B  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-ripper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$22.07
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$44.95
Number of Units:	4	1	1	1	1	1
Group Subtotals:	Work: \$1,894.70		Support: \$692.32		Maint: \$282.01	

Total work team cost/hour: **\$2,869.03**



## **MATERIAL QUANTITIES**

Initial volume: 115,215 CCY    Swell factor: 1.000  
Loose volume: **115,215** LCY

Source of estimated volume: TR124 Appendix A Table A-3.1  
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: 200,000 Pounds  
Payload Capacity: 125.00 LCY

#### **Truck Bed (volume) Basis:**

Struck Volume: 60.60 LCY  
Heaped Volume: 78.80 LCY  
Average Volume: 69.70 LCY  
Adjusted Volume: 78.80 LCY

Final Truck Volume Based on Number of Loader Passes: **77.72** LCY

### **Loading Tool Capacity**

Bucket Size Class: Large

Rated Capacity: 7.850 LCY (heaped)  
Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100  
Adjusted Capacity: **8.635** LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

Number of Loading Tool Passes Required to Fill Truck: 9 passes

**Loading Tool Cycle Time:****Excavators and Front Shovels:**Machine Cycle Time vs. Job Condition  
Rating:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>2.516</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>2.516</u>	Minutes	Adjusted for site altitude:	<u>2.516</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

**Truck Travel (Haul & Return) 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	5147.00	10.00	3.00	13.00	620	8.345

Haul Time: **8.345** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5147.00	-10.00	3.00	-7.00	3450	1.538

Return Time: 1.538 minutes  
Total Truck Cycle Time: 14.399 minutes

## Loading Tool unit

Production 1,406.18 LCY/Hour Adjusted for job efficiency: 1,167.13 LCY/Hour

## Truck Unit

Production 323.83 LCY/Hour Adjusted for job efficiency: 268.78 LCY/Hour

Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 1,075.13 LCY/Hour

Adjusted single truck/loader team production: 1,075.13 LCY/Hour

Adjusted multiple truck/loader team production: 1,075.13 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 107.16 Hours

Unit cost: \$2.669 /LCY Total job cost: \$307,455

## TRUCK/LOADER TEAM WORK

Task description: **Replace Topsoil on D/E Pits (Truck/Excavator)**

Site: **Trapper Mine** Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 091 State: Colorado Abbreviation: None  
 Date: 2/18/2025 County: Moffat Filename: 091  
 User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

<u>Equipment Description</u>	
<u>Truck Loader Team -Truck:</u>	<u>Cat 777F</u>
<u>-Loader:</u>	<u>Cat 385C L 18'-1" Stick</u>
<u>Support Equipment -Load Area:</u>	<u>Cat D10T - 10SU</u>
<u>-Dump Area:</u>	<u>Cat D10T - 10SU</u>
<u>Road Maintenance –Motor Grader:</u>	<u>CAT 16M</u>
<u>-Water Truck:</u>	<u>Water Tanker, 2,500 Gal.</u>

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	<u>Truck</u>	<u>Excavator</u>	<u>Load Area</u>	<u>Dump Area</u>	<u>Motor Grader</u>	<u>Water Truck</u>
<u>%Utilization-machine:</u>	<u>100</u>	<u>100</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>50</u>
<u>Ownership cost/hour:</u>	<u>\$199.47</u>	<u>\$220.92</u>	<u>\$257.39</u>	<u>\$257.39</u>	<u>\$179.39</u>	<u>\$11.65</u>
<u>Operating cost/hour:</u>	<u>\$152.44</u>	<u>\$131.31</u>	<u>\$49.23</u>	<u>\$49.23</u>	<u>\$29.91</u>	<u>\$11.23</u>
<u>%Utilization-riper:</u>	<u>NA</u>	<u>0</u>	<u>15</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Ripper own. cost/hour:</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$20.05</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Ripper op. cost/hour:</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$1.90</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Operator cost/hour:</u>	<u>\$25.24</u>	<u>\$33.87</u>	<u>\$38.59</u>	<u>\$38.59</u>	<u>\$27.76</u>	<u>\$22.07</u>
<u>Unit Subtotals:</u>	<u>\$377.15</u>	<u>\$386.10</u>	<u>\$347.11</u>	<u>\$345.21</u>	<u>\$237.06</u>	<u>\$44.95</u>
<u>Number of Units:</u>	<u>3</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>Group Subtotals:</u>	<u>Work:</u>	<u>\$1,517.55</u>	<u>Support:</u>	<u>\$692.32</u>	<u>Maint:</u>	<u>\$282.01</u>

Total work team cost/hour: **\$2,491.88**

## MATERIAL QUANTITIES

Initial volume:     470,723     CCY     Swell factor:     1.000  
Loose volume:     **470,723**     LCY

Source of estimated volume:     TR124 Appendix A Table A-3.1  
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:     200,000     Pounds  
Payload Capacity:     125.00     LCY

Truck Bed (volume) Basis:

Struck Volume:     60.60     LCY  
Heaped Volume:     78.80     LCY  
Average Volume:     69.70     LCY  
Adjusted Volume:     78.80     LCY

Final Truck Volume Based on Number of Loader Passes:     **77.72**     LCY

### Loading Tool Capacity

Bucket Size Class:     Large

<u>Rated Capacity:</u>	<u>7.850</u>	<u>LCY (heaped)</u>
<u>Bucket Fill Factor:</u>	<u>1.100</u>	<u>Other - rock/dirt mixtures (100-120%) 1.100</u>
<u>Adjusted Capacity:</u>	<u><b>8.635</b></u>	<u>LCY</u>

### Job Condition Corrections: Site Altitude (ft.): 6400 feet

	<u>Truck</u>	<u>Loader</u>	<u>Source</u>
<u>Altitude Adj:</u>	<u>1.000</u>	<u>1.000</u>	<u>(CAT HB)</u>
<u>Job Efficiency:</u>	<u>0.830</u>	<u>0.830</u>	<u>(CAT HB)</u>
<u>Net Correction:</u>	<u><b>0.830</b></u>	<u><b>0.830</b></u>	

Number of Loading Tool Passes Required to     9     passes  
Fill Truck:

### Loading Tool Cycle Time:

#### Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition

Rating:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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): NA minutes

<u>Cycle Time Factors</u>		<u>Factor (min.)</u>	<u>Source</u>
<u>Material:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Stockpile:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Truck Ownership:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Operation:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Dump Target:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Net Cycle Time Adjustment:</u>		<u>NA</u>	<u>minutes</u>
<u>Adjusted Loader Cycle Time:</u>		<u><b>0.302</b></u>	<u>minutes</u>
<u>Net Load Time per Truck:</u>		<u><b>2.516</b></u>	<u>minutes</u>

### Truck Cycle Time:

<u>Truck Exchange Time:</u>	<u>0.80</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>0.800</u>	<u>Minutes</u>
<u>Truck Load Time:</u>	<u>2.516</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>2.516</u>	<u>Minutes</u>
<u>Truck Maneuver and Dump Time:</u>	<u>1.20</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>1.200</u>	<u>Minutes</u>

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

<u>Seg #</u>	<u>Haul Distance</u> <u>(Ft)</u>	<u>Grade (%)</u>	<u>Roll. Res</u> <u>(%)</u>	<u>Total Res</u> <u>(%)</u>	<u>Velocity</u> <u>(fpm)</u>	<u>Travel</u> <u>Time</u> <u>(min)</u>
<u>1</u>	<u>4788.00</u>	<u>-8.60</u>	<u>3.00</u>	<u>-5.60</u>	<u>1870</u>	<u>2.695</u>

### Return Route:

<u>Seg #</u>	<u>Haul Distance</u> <u>(Ft)</u>	<u>Grade (%)</u>	<u>Roll. Res</u> <u>(%)</u>	<u>Total</u> <u>Res (%)</u>	<u>Velocity</u> <u>(fpm)</u>	<u>Travel</u> <u>Time</u> <u>(min)</u>
<u>1</u>	<u>4788.00</u>	<u>8.60</u>	<u>3.00</u>	<u>11.60</u>	<u>1628</u>	<u>3.064</u>

Total Truck Cycle Time: **10.275** minutes

<u>Production</u>	<u>1,406.18</u>	<u>LCY/Hour</u>	<u>Adjusted for job efficiency:</u>	<u>1,167.13</u>	<u>LCY/Hour</u>
<u>Truck Unit</u>					
<u>Production</u>	<u>453.81</u>	<u>LCY/Hour</u>	<u>Adjusted for job efficiency:</u>	<u>376.66</u>	<u>LCY/Hour</u>

<u>Adjusted hourly truck team production:</u>	<u>1,129.99</u>	<u>LCY/Hour</u>
<u>Adjusted single truck/loader team production:</u>	<u>1,129.99</u>	<u>LCY/Hour</u>
<u>Adjusted multiple truck/loader team production:</u>	<b><u>1,129.99</u></b>	<u>LCY/Hour</u>

<u>Fleet size:</u>	<u>1</u>	<u>Team(s)</u>	<u>Total job time:</u>	<u><b>416.57</b></u>	<u>Hours</u>
<u>Unit cost:</u>	<u>\$2.205</u>	<u>/LCY</u>	<u>Total job cost:</u>	<u><b>\$1,038,052</b></u>	

## SCRAPER TEAM WORK

Task description: Replace Topsoil on D/E Pits (D97-1)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 091A State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 091A  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

#### Equipment Description

-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	OBSOLETE - Cat D10T - 10U
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$10.00	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$5.00	\$59.82	\$13.47
% Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$631.57	NA	\$394.44	\$53.59	\$266.97	\$25.12
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work: \$5,052.56		Support: \$448.03		Maint: \$292.09	

Total work team cost/hour: \$5,792.68



## **MATERIAL QUANTITIES**

Initial volume: 62,216 CCY      Swell factor: 1.000  
Loose volume: 62,216 LCY

Source of estimated volume: Appendix A, Table 1.4-9  
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: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:      Site Altitude: 6400 feet

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

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	1496.00	0.00	4.00	4.00	2394	0.79

Haul Time: 0.79 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	-3.00	4.00	1.00	2963	0.35

a

Return Time: 0.35 minutes

Total Scraper team cycle time:	<u>2.74</u>	minutes
Adjusted for job conditions:	<u>1,054.16</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>4,216.64</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>4,216.64</u>	LCY/Hour

Unadjusted unit production/hour: 1,270.07 LCY/Hour

Optimal Number of Scrapers per push  
dozer: \_\_\_\_\_

### **JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 14.75 Hours

Unit cost: \$1.374 /LCY Total job cost: \$85,470

## SCRAPER TEAM WORK

Task description: Replace Topsoil on D/E Pits (D1-07)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 091B State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: C010-091B  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

<u>Equipment Description</u>	
<u>-Scraper:</u>	<u>Cat 637G w/push-pull</u>
<u>-Dozer:</u>	<u>NA</u>
<u>Support Equipment -Load Area:</u>	<u>Cat D10T - 10SU</u>
<u>-Dump Area:</u>	<u>OBSOLETE - Cat D10T - 10U</u>
<u>Road Maintenance –Motor Grader:</u>	<u>CAT 16M</u>
<u>-Water Truck:</u>	<u>Water Tanker, 2,500 Gal.</u>

### Cost Breakdown: Scraper Work Team Support Equipment Maintenance Equipment

	<u>Scraper</u>	<u>Dozer</u>	<u>Load Area</u>	<u>Dump Area</u>	<u>Motor Grader</u>	<u>Water Truck</u>
<u>%Utilization-machine:</u>	<u>100</u>	<u>NA</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>60</u>
<u>Ownership cost/hour:</u>	<u>\$281.32</u>	<u>NA</u>	<u>\$257.39</u>	<u>\$10.00</u>	<u>\$179.39</u>	<u>\$11.65</u>
<u>Operating cost/hour:</u>	<u>\$319.35</u>	<u>NA</u>	<u>\$98.47</u>	<u>\$5.00</u>	<u>\$59.82</u>	<u>\$13.47</u>
<u>%Utilization-ripper:</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Ripper own. cost/hour:</u>	<u>NA</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Ripper op. cost/hour:</u>	<u>NA</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Operator cost/hour:</u>	<u>\$30.90</u>	<u>NA</u>	<u>\$38.59</u>	<u>\$38.59</u>	<u>\$27.76</u>	<u>\$0.00</u>
<u>Unit Subtotals:</u>	<u>\$631.57</u>	<u>NA</u>	<u>\$394.44</u>	<u>\$53.59</u>	<u>\$266.97</u>	<u>\$25.12</u>
<u>Number of Units:</u>	<u>8</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>Group Subtotals:</u>	<u>Work:</u>	<u>\$5,052.56</u>	<u>Support:</u>	<u>\$448.03</u>	<u>Maint:</u>	<u>\$292.09</u>

Total work team cost/hour: \$5,792.68

### MATERIAL QUANTITIES

Initial volume: 7,476 CCY Swell factor: 1.000  
Loose volume: 7,476 LCY

Source of estimated volume: Appendix A, Table 1.4-9

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

Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

	<b><u>Scraper</u></b>	<b><u>Push Dozer</u></b>	<b><u>Source</u></b>
Altitude Adj:	<u>1.000</u>	<u>NA</u>	<u>(CAT HB)</u>
Job Efficiency:	<u>0.830</u>	<u>NA</u>	<u>(CAT HB)</u>
Net Correction:	<u>0.830</u>	<u>NA</u>	

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

<b><u>Seg #</u></b>	<b><u>Haul Distance (Ft)</u></b>	<b><u>Grade (%)</u></b>	<b><u>Roll. Res (%)</u></b>	<b><u>Total Res (%)</u></b>	<b><u>Velocity (fpm)</u></b>	<b><u>Travel Time (min)</u></b>
<u>1</u>	<u>1221.00</u>	<u>3.00</u>	<u>4.00</u>	<u>7.00</u>	<u>1362</u>	<u>0.95</u>

Haul Time: 0.95 minutes

Return Route:

<b><u>Seg #</u></b>	<b><u>Haul Distance (Ft)</u></b>	<b><u>Grade (%)</u></b>	<b><u>Roll. Res (%)</u></b>	<b><u>Total Res (%)</u></b>	<b><u>Velocity (fpm)</u></b>	<b><u>Travel Time (min)</u></b>
<u>1</u>	<u>1221.00</u>	<u>-3.00</u>	<u>4.00</u>	<u>1.00</u>	<u>2963</u>	<u>0.53</u>

Return Time: 0.53 minutes

Total Scraper team cycle time:	<u>3.08</u>	<u>minutes</u>
Adjusted for job conditions:	<u>937.79</u>	<u>LCY/Hour</u>
Selected Number of Scrapers:	<u>8</u>	<u>Scraper(s)</u>
Adjusted single scraper team (unit) hourly production:	<u>3,751.17</u>	<u>LCY/Hour</u>
Adjusted multiple scraper team (fleet) hourly production:	<u>3,751.17</u>	<u>LCY/Hour</u>

Unadjusted unit production/hour:	<u>1,129.87</u>	<u>LCY/Hour</u>
Optimal Number of Scrapers per push dozer:	_____	

**JOB TIME AND COST**

Fleet size:	<u>1</u>	<u>Team(s)</u>	Total job time:	<u>1.99</u>	<u>Hours</u>
Unit cost:	<u>\$1.544</u>	<u>/LCY</u>	Total job cost:	<u>\$11,545</u>	

## SCRAPER TEAM WORK

Task description: Replace Topsoil JPE 1 to J East

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 091TR135 State: Colorado Abbreviation: None  
Date: 2/25/2025 County: Moffat Filename: 091 TR135  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

<u>Equipment Description</u>	
<u>-Scraper:</u>	<u>Cat 637G w/push-pull</u>
<u>-Dozer:</u>	<u>NA</u>
<u>Support Equipment -Load Area:</u>	<u>Cat D10T - 10SU</u>
<u>-Dump Area:</u>	<u>Cat D10T - 10SU</u>
<u>Road Maintenance –Motor Grader:</u>	<u>CAT 16M</u>
<u>-Water Truck:</u>	<u>Water Tanker, 2,500 Gal.</u>

### Cost Breakdown: Scraper Work Team Support Equipment Maintenance Equipment

	<u>Scraper</u>	<u>Dozer</u>	<u>Load Area</u>	<u>Dump Area</u>	<u>Motor Grader</u>	<u>Water Truck</u>
<u>%Utilization-machine:</u>	<u>100</u>	<u>NA</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>60</u>
<u>Ownership cost/hour:</u>	<u>\$281.32</u>	<u>NA</u>	<u>\$257.39</u>	<u>\$257.39</u>	<u>\$179.39</u>	<u>\$11.65</u>
<u>Operating cost/hour:</u>	<u>\$319.35</u>	<u>NA</u>	<u>\$98.47</u>	<u>\$98.47</u>	<u>\$59.82</u>	<u>\$13.47</u>
<u>%Utilization-ripper:</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Ripper own. cost/hour:</u>	<u>NA</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Ripper op. cost/hour:</u>	<u>NA</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Operator cost/hour:</u>	<u>\$30.90</u>	<u>NA</u>	<u>\$38.59</u>	<u>\$38.59</u>	<u>\$27.76</u>	<u>\$21.12</u>
<u>Unit Subtotals:</u>	<u>\$631.57</u>	<u>NA</u>	<u>\$394.44</u>	<u>\$394.44</u>	<u>\$266.97</u>	<u>\$46.24</u>
<u>Number of Units:</u>	<u>8</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>Group Subtotals:</u>	<u>Work:</u>	<u>\$5,052.56</u>	<u>Support:</u>	<u>\$788.88</u>	<u>Maint:</u>	<u>\$313.21</u>

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 74,052 CCY Swell factor: 1.000  
Loose volume: 74,052 LCY

Source of estimated volume:  
Source of estimated swell factor:

Appendix A, Table A-10.7  
Cat Handbook

## **HOURLY PRODUCTION**

Scraper Bowl (volume) Basis:

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

Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

	<b><u>Scraper</u></b>	<b><u>Push Dozer</u></b>	<b><u>Source</u></b>
<u>Altitude Adj:</u>	<u>1.000</u>	<u>NA</u>	<u>(CAT HB)</u>
<u>Job Efficiency:</u>	<u>0.830</u>	<u>NA</u>	<u>(CAT HB)</u>
<u>Net Correction:</u>	<u>0.830</u>	<u>NA</u>	

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

<b><u>Seg #</u></b>	<b><u>Haul Distance (Ft)</u></b>	<b><u>Grade (%)</u></b>	<b><u>Roll. Res (%)</u></b>	<b><u>Total Res (%)</u></b>	<b><u>Velocity (fpm)</u></b>	<b><u>Travel Time (min)</u></b>
<u>2</u>	<u>400.00</u>	<u>6.25</u>	<u>4.00</u>	<u>10.25</u>	<u>922</u>	<u>0.46</u>
<u>3</u>	<u>764.00</u>	<u>-3.90</u>	<u>4.00</u>	<u>0.10</u>	<u>2965</u>	<u>0.36</u>
<u>4</u>	<u>1053.00</u>	<u>-6.70</u>	<u>4.00</u>	<u>-2.70</u>	<u>2972</u>	<u>0.42</u>

Haul Time: **1.24** minutes

Return Route:

<u>Seg #</u>	<u>Haul Distance (Ft)</u>	<u>Grade (%)</u>	<u>Roll. Res (%)</u>	<u>Total Res (%)</u>	<u>Velocity (fpm)</u>	<u>Travel Time (min)</u>
<u>2</u>	<u>400.00</u>	<u>-6.25</u>	<u>4.00</u>	<u>-2.25</u>	<u>2972</u>	<u>0.19</u>
<u>3</u>	<u>764.00</u>	<u>3.90</u>	<u>4.00</u>	<u>7.90</u>	<u>1931</u>	<u>0.19</u>
<u>4</u>	<u>1053.00</u>	<u>6.70</u>	<u>4.00</u>	<u>10.70</u>	<u>1434</u>	<u>0.65</u>

Return Time: 1.03 minutes

Total Scraper team cycle time: 3.87 minutes  
Adjusted for job conditions: 746.36 LCY/Hour  
Selected Number of Scrapers: 8 Scraper(s)  
Adjusted single scraper team (unit) hourly production: 2,985.43 LCY/Hour  
Adjusted multiple scraper team (fleet) hourly production: 2,985.43 LCY/Hour

Unadjusted unit production/hour: 899.22 LCY/Hour

Optimal Number of Scrapers per push  
dozer: \_\_\_\_\_

### **JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 24.80 Hours

Unit cost: \$2.062 /LCY Total job cost: \$152,663



## SCRAPER TEAM WORK

Task description: Replace Topsoil at L Pit K Knob L23-1 to K Knob TR135

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 091ATR State: Colorado Abbreviation: None  
Date: 2/25/2025 County: Moffat Filename: 91A 135TR  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

#### Equipment Description

<u>-Scraper:</u>	<u>Cat 637G w/push-pull</u>
<u>-Dozer:</u>	<u>NA</u>
<u>Support Equipment -Load Area:</u>	<u>Cat D10T - 10SU</u>
<u>-Dump Area:</u>	<u>Cat D10T - 10SU</u>
<u>Road Maintenance –Motor Grader:</u>	<u>CAT 16M</u>
<u>-Water Truck:</u>	<u>Water Tanker, 2,500 Gal.</u>

### Cost Breakdown: Scraper Work Team Support Equipment Maintenance Equipment

	<u>Scraper</u>	<u>Dozer</u>	<u>Load Area</u>	<u>Dump Area</u>	<u>Motor Grader</u>	<u>Water Truck</u>
<u>%Utilization-machine:</u>	<u>100</u>	<u>NA</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>60</u>
<u>Ownership cost/hour:</u>	<u>\$281.32</u>	<u>NA</u>	<u>\$257.39</u>	<u>\$257.39</u>	<u>\$179.39</u>	<u>\$11.65</u>
<u>Operating cost/hour:</u>	<u>\$319.35</u>	<u>NA</u>	<u>\$98.47</u>	<u>\$98.47</u>	<u>\$59.82</u>	<u>\$13.47</u>
<u>%Utilization-ripper:</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Ripper own. cost/hour:</u>	<u>NA</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Ripper op. cost/hour:</u>	<u>NA</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Operator cost/hour:</u>	<u>\$30.90</u>	<u>NA</u>	<u>\$38.59</u>	<u>\$38.59</u>	<u>\$27.76</u>	<u>\$21.12</u>
<u>Unit Subtotals:</u>	<u>\$631.57</u>	<u>NA</u>	<u>\$394.44</u>	<u>\$394.44</u>	<u>\$266.97</u>	<u>\$46.24</u>
<u>Number of Units:</u>	<u>8</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>Group Subtotals:</u>	<u>Work:</u>	<u>\$5,052.56</u>	<u>Support:</u>	<u>\$788.88</u>	<u>Maint:</u>	<u>\$313.21</u>

Total work team cost/hour: \$6,154.65

## **MATERIAL QUANTITIES**

Initial volume:      7,920      CCY      Swell factor:      1.000  
Loose volume:      **7,920**      LCY

Source of estimated volume:      Appendix A, Table A-10.7  
Source of estimated swell factor:      Cat Handbook

## **HOURLY PRODUCTION**

Scraper Bowl (volume) Basis:

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

Cycle Time:

Scraper Loading Time:      1.00 Minutes  
Maneuver and Spread Time:      0.60 Minutes

Job Condition Correction:      Site Altitude: 6400 feet

	<b><u>Scraper</u></b>	<b><u>Push Dozer</u></b>	<b><u>Source</u></b>
<u>Altitude Adj:</u>	<u>1.000</u>	<u>NA</u>	<u>(CAT HB)</u>
<u>Job Efficiency:</u>	<u>0.830</u>	<u>NA</u>	<u>(CAT HB)</u>
<u>Net Correction:</u>	<u>0.830</u>	<u>NA</u>	

Travel Time:

Road Condition:      Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

<b><u>Seg #</u></b>	<b><u>Haul Distance</u></b> <b><u>(Ft)</u></b>	<b><u>Grade</u></b> <b><u>(%)</u></b>	<b><u>Roll. Res</u></b> <b><u>(%)</u></b>	<b><u>Total Res</u></b> <b><u>(%)</u></b>	<b><u>Velocity</u></b> <b><u>(fpm)</u></b>	<b><u>Travel Time</u></b> <b><u>(min)</u></b>
<u>2</u>	<u>732.00</u>	<u>-3.40</u>	<u>4.00</u>	<u>0.60</u>	<u>2952</u>	<u>0.41</u>

Haul Time:      **0.41**      minutes

Return Route:

<u>Seg #</u>	<u>Haul Distance</u> <u>(Ft)</u>	<u>Grade</u> <u>(%)</u>	<u>Roll. Res</u> <u>(%)</u>	<u>Total Res</u> <u>(%)</u>	<u>Velocity</u> <u>(fpm)</u>	<u>Travel Time</u> <u>(min)</u>
<u>1</u>	<u>732.00</u>	<u>3.40</u>	<u>4.00</u>	<u>7.40</u>	<u>2240</u>	<u>0.46</u>

Return Time: 0.46 minutes

Total Scraper team cycle time: 2.47 minutes  
 Adjusted for job conditions: 1,169.39 LCY/Hour  
 Selected Number of Scrapers: 8 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 4,677.57 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 4,677.57 LCY/Hour

Unadjusted unit production/hour: 1,408.91 LCY/Hour

Optimal Number of Scrapers per push  
dozer: \_\_\_\_\_

### **JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 1.69 Hours

Unit cost: \$1.316 /LCY Total job cost: \$10,421

## SCRAPER TEAM WORK

Task description: Replace Topsoil at C Pit Future TS Pile TR134

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 092ATR State: Colorado Abbreviation: None  
Date: 2/25/2025 County: Moffat Filename: 092A TR134  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

<u>Equipment Description</u>	
<u>-Scraper:</u>	<u>Cat 637G w/push-pull</u>
<u>-Dozer:</u>	<u>NA</u>
<u>Support Equipment -Load Area:</u>	<u>Cat D10T - 10SU</u>
<u>-Dump Area:</u>	<u>Cat D10T - 10SU</u>
<u>Road Maintenance –Motor Grader:</u>	<u>CAT 16M</u>
<u>-Water Truck:</u>	<u>Water Tanker, 2,500 Gal.</u>

### Cost Breakdown: Scraper Work Team Support Equipment Maintenance Equipment

	<u>Scraper</u>	<u>Dozer</u>	<u>Load Area</u>	<u>Dump Area</u>	<u>Motor Grader</u>	<u>Water Truck</u>
<u>%Utilization-machine:</u>	<u>100</u>	<u>NA</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>60</u>
<u>Ownership cost/hour:</u>	<u>\$281.32</u>	<u>NA</u>	<u>\$257.39</u>	<u>\$257.39</u>	<u>\$179.39</u>	<u>\$11.65</u>
<u>Operating cost/hour:</u>	<u>\$319.35</u>	<u>NA</u>	<u>\$98.47</u>	<u>\$98.47</u>	<u>\$59.82</u>	<u>\$13.47</u>
<u>%Utilization-ripper:</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Ripper own. cost/hour:</u>	<u>NA</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Ripper op. cost/hour:</u>	<u>NA</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Operator cost/hour:</u>	<u>\$30.90</u>	<u>NA</u>	<u>\$38.59</u>	<u>\$38.59</u>	<u>\$27.76</u>	<u>\$21.12</u>
<u>Unit Subtotals:</u>	<u>\$631.57</u>	<u>NA</u>	<u>\$394.44</u>	<u>\$394.44</u>	<u>\$266.97</u>	<u>\$46.24</u>
<u>Number of Units:</u>	<u>8</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>Group Subtotals:</u>	<u>Work:</u>	<u>\$5,052.56</u>	<u>Support:</u>	<u>\$788.88</u>	<u>Maint:</u>	<u>\$313.21</u>

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 122,242 CCY Swell factor: 1.000  
Loose volume: 122,242 LCY

Source of estimated volume: Appendix A, Table A-10.2

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

Cycle Time:

Scraper Loading Time:

1.00 Minutes

Maneuver and Spread Time:

0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

	<b><u>Scraper</u></b>	<b><u>Push Dozer</u></b>	<b><u>Source</u></b>
Altitude Adj:	<u>1.000</u>	<u>NA</u>	<u>(CAT HB)</u>
Job Efficiency:	<u>0.830</u>	<u>NA</u>	<u>(CAT HB)</u>
Net Correction:	<u>0.830</u>	<u>NA</u>	

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

<b><u>Seg #</u></b>	<b><u>Haul Distance (Ft)</u></b>	<b><u>Grade (%)</u></b>	<b><u>Roll. Res (%)</u></b>	<b><u>Total Res (%)</u></b>	<b><u>Velocity (fpm)</u></b>	<b><u>Travel Time (min)</u></b>
<u>1</u>	<u>2000.00</u>	<u>-4.50</u>	<u>4.00</u>	<u>-0.50</u>	<u>2972</u>	<u>0.72</u>

Haul Time: 0.72 minutes

Return Route:

<b><u>Seg #</u></b>	<b><u>Haul Distance (Ft)</u></b>	<b><u>Grade (%)</u></b>	<b><u>Roll. Res (%)</u></b>	<b><u>Total Res (%)</u></b>	<b><u>Velocity (fpm)</u></b>	<b><u>Travel Time (min)</u></b>
<u>1</u>	<u>2000.00</u>	<u>4.50</u>	<u>4.00</u>	<u>8.50</u>	<u>1931</u>	<u>1.13</u>

Return Time: 1.13 minutes

Total Scraper team cycle time:	<u>3.45</u>	<u>minutes</u>
Adjusted for job conditions:	<u>837.22</u>	<u>LCY/Hour</u>
Selected Number of Scrapers:	<u>8</u>	<u>Scraper(s)</u>
Adjusted single scraper team (unit) hourly production:	<u>3,348.87</u>	<u>LCY/Hour</u>
Adjusted multiple scraper team (fleet) hourly production:	<u>3,348.87</u>	<u>LCY/Hour</u>

Unadjusted unit production/hour:	<u>1,008.70</u>	<u>LCY/Hour</u>
Optimal Number of Scrapers per push dozer:	_____	

**JOB TIME AND COST**

Fleet size:	<u>1</u>	<u>Team(s)</u>	Total job time:	<u>36.50</u>	<u>Hours</u>
Unit cost:	<u>\$1.838</u>	<u>/LCY</u>	Total job cost:	<u>\$224,660</u>	

## SCRAPER TEAM WORK

Task description: Replace Topsoil at West Panel, BC rd, Shop (Scraper)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 096 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 096  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 66,713 CCY Swell factor: 1.000  
Loose volume: 66,713 LCY

Source of estimated volume: A-9.1

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><b>29.00</b></u>	LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

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

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	498.00	1.00	4.00	5.00	1867	0.37

Haul Time: **0.37** minutes

Return Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	498.00	-1.00	4.00	3.00	2949	0.32

Return Time: **0.32** minutes



Total Scraper team cycle time:	<u>2.29</u>	minutes
Adjusted for job conditions:	<u>1,261.31</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>5,045.24</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>5,045.24</u>	LCY/Hour

Unadjusted unit production/hour:	<u>1,519.65</u>	LCY/Hour
Optimal Number of Scrapers per push dozer:	<u>                    </u>	

**JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>13.22</u>	Hours
Unit cost:	<u>\$1.220</u>	/LCY	Total job cost:	<u>\$81,383</u>	

## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil at West Panel, BC rd, Shop (Truck/Excavator)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 096A State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 096A  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-riper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$22.07
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$44.95
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$1,517.55		Support: \$692.32		Maint: \$282.01	

Total work team cost/hour: \$2,491.88

## **MATERIAL QUANTITIES**

Initial volume:	<u>171,625</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u><b>171,625</b></u>	LCY		

Source of estimated volume:	<u>TR124 Appendix A Table A-3.1</u>
Source of estimated swell factor:	<u>Cat Handbook</u>
Material Purchase Cost:	<u>\$0.00</u>
Total Cost:	<u>\$0.00</u>

## **HOURLY PRODUCTION**

### **Truck Capacity:**

#### Truck Payload (weight) Basis:

Material weight:	<u>1,600</u>	Pounds/LCY
Description:	<u>Top Soil</u>	
Rated Payload:	<u>200,000</u>	Pounds
Payload Capacity:	<u>125.00</u>	LCY

#### Truck Bed (volume) Basis:

Struck Volume:	<u>60.60</u>	LCY
Heaped Volume:	<u>78.80</u>	LCY
Average Volume:	<u>69.70</u>	LCY
Adjusted Volume:	<u>78.80</u>	LCY

Final Truck Volume Based on Number of Loader Passes:	<u><b>77.72</b></u>	LCY
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### **Loading Tool Capacity**

Bucket Size Class:	<u>Large</u>
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Rated Capacity:	<u>7.850</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<u><b>8.635</b></u>	LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:**      Number of Loading Tool Passes Required to      9      passes  
 Fill Truck:

**Excavators and Front Shovels:**

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

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,      NA      minutes  
 maneuver):

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>2.516</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	0.80	Minutes	Adjusted for site altitude:	0.800	Minutes
Truck Load Time:	2.516	Minutes	Adjusted for site altitude:	2.516	Minutes
Truck Maneuver and Dump Time:	1.20	Minutes	Adjusted for site altitude:	1.200	Minutes

**Truck Travel (Haul & Return) 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	7375.00	-1.00	3.00	2.00	3328	2.961

Haul Time:      **2.961**      minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7375.00	1.00	3.00	4.00	3411	2.477

Return Time: 2.477 minutes  
Total Truck Cycle Time: 9.954 minutes

## Loading Tool unit

Production 1,406.18 LCY/Hour Adjusted for job efficiency: 1,167.13 LCY/Hour  
Truck Unit  
Production 468.44 LCY/Hour Adjusted for job efficiency: 388.81 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 1,166.43 LCY/Hour  
Adjusted single truck/loader team production: 1,166.43 LCY/Hour  
Adjusted multiple truck/loader team production: 1,166.43 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 147.14 Hours  
Unit cost: \$2.136 /LCY Total job cost: \$366,648

## SCRAPER TEAM WORK

Task description: Replace Topsoil at East Panel Ponds, A road (Scraper)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 097 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 097  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 114,647 CCY Swell factor: 1.000  
Loose volume: 114,647 LCY

Source of estimated volume: Appendix A, Table 1.4-9

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><b>29.00</b></u>	LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

	<b>Scraper</b>	<b>Push Dozer</b>	<b>Source</b>
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:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	390.00	-5.50	3.00	-2.50	2972	0.18

Haul Time: **0.18** minutes

Return Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	390.00	5.50	3.00	8.50	1931	0.30

Return Time: **0.30** minutes

Total Scraper team cycle time:	<u>2.08</u>	minutes
Adjusted for job conditions:	<u>1,388.65</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>5,554.62</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>5,554.62</u>	LCY/Hour

Unadjusted unit production/hour:	<u>1,673.08</u>	LCY/Hour
Optimal Number of Scrapers per push dozer:	<u>                    </u>	

**JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>20.64</u>	Hours
Unit cost:	<u>\$1.108</u>	/LCY	Total job cost:	<u>\$127,032</u>	



## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil at East Panel Ponds, A Rd (Truck/Excavator)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #:	<u>097A</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/18/2025</u>	County:	<u>Moffat</u>	Filename:	<u>097A</u>
User:	<u>RAR</u>				

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-riper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$22.07
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$44.95
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$1,517.55		Support: \$692.32		Maint: \$282.01	

Total work team cost/hour: \$2,491.88

## **MATERIAL QUANTITIES**

Initial volume:	<u>244,270</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u>244,270</u>	LCY		

Source of estimated volume:	<u>TR124 Appendix A Table A-3.1</u>
Source of estimated swell factor:	<u>Cat Handbook</u>
Material Purchase Cost:	<u>\$0.00</u>
Total Cost:	<u>\$0.00</u>

## **HOURLY PRODUCTION**

### **Truck Capacity:**

#### Truck Payload (weight) Basis:

Material weight:	<u>1,600</u>	Pounds/LCY
Description:	<u>Top Soil</u>	
Rated Payload:	<u>200,000</u>	Pounds
Payload Capacity:	<u>125.00</u>	LCY

#### Truck Bed (volume) Basis:

Struck Volume:	<u>60.60</u>	LCY
Heaped Volume:	<u>78.80</u>	LCY
Average Volume:	<u>69.70</u>	LCY
Adjusted Volume:	<u>78.80</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 77.72 LCY

### **Loading Tool Capacity**

Bucket Size Class: Large

Rated Capacity:	<u>7.850</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<u>8.635</u>	LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 9 passes

Excavators and Front Shovels:

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

ABOVE AVERAGE

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>2.516</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>2.516</u>	Minutes	Adjusted for site altitude:	<u>2.516</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	4345.00	-1.00	3.00	2.00	3328	2.050

Haul Time: 2.050 minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7375.00	1.00	3.00	4.00	3411	2.477

Return Time: 2.477 minutes  
Total Truck Cycle Time: 9.043 minutes

## Loading Tool unit

Production 1,406.18 LCY/Hour Adjusted for job efficiency: 1,167.13 LCY/Hour

## Truck Unit

Production 515.64 LCY/Hour Adjusted for job efficiency: 427.98 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 1,283.93 LCY/Hour

Adjusted single truck/loader team production: 1,167.13 LCY/Hour

Adjusted multiple truck/loader team production: 1,167.13 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 209.29 Hours

Unit cost: \$2.135 /LCY Total job cost: \$521,528

## SCRAPER TEAM WORK

Task description: Re-topsoil Johnson Coal Stockpile

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 098 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 098  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 20,360 CCY Swell factor: 1.000  
Loose volume: 20,360 LCY

Source of estimated volume: Division Estimate

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: 1.00 Minutes

Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

	<b>Scraper</b>	<b>Push Dozer</b>	<b>Source</b>
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:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	625.00	3.20	3.00	6.20	1477	0.48

Haul Time: 0.48 minutes

Return Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	625.00	-3.20	3.00	-0.20	2972	0.27

Return Time: 0.27 minutes

Total Scraper team cycle time:	<u>2.35</u>	minutes
Adjusted for job conditions:	<u>1,229.11</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>4,916.43</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>4,916.43</u>	LCY/Hour

Unadjusted unit production/hour:	<u>1,480.85</u>	LCY/Hour
Optimal Number of Scrapers per push dozer:	<u>                    </u>	

**JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>4.14</u>	Hours
Unit cost:	<u>\$1.252</u>	/LCY	Total job cost:	<u>\$25,488</u>	

## SCRAPER TEAM WORK

Task description: Re-topsoil aJ23-1 to J Pit MR 229

Site: Trapper Mine

Permit Action: PR12

Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 098MR229

State: Colorado

Abbreviation: None

Date: 2/25/2025

County: Moffat

Filename: C010-098MR229

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT

COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance -Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 29,657

CCY

Swell factor: 1.000

Loose volume: 29,657

LCY

Source of estimated volume: Division Estimate

Source of estimated swell factor: Cat Handbook



## HOURLY PRODUCTION

### Scraper Bowl (volume) Basis:

Material weight: 1,600 lbs/LCY  
Material description: Top Soil  
Rated Payload: 81,600 pounds  
Payload Capacity: 51.00 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: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

### Job Condition Correction:

Site Altitude: 6400 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	950.00	7.80	3.00	10.80	786	1.22

Haul Time: 1.22 minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	950.00	-7.80	3.00	-4.80	2972	0.39

Return Time: 0.39 minutes

Total Scraper team cycle time: 3.21 minutes

Adjusted for job conditions: 899.81 LCY/Hour

Selected Number of Scrapers: 8 Scraper(s)

Adjusted single scraper team (unit) hourly production: 3,599.25 LCY/Hour

Adjusted multiple scraper team (fleet) hourly production: 3,599.25 LCY/Hour

Unadjusted unit production/hour: 1,084.11 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

## JOB TIME AND COST

Fleet size: 1 Team(s)

Total job time: 8.24 Hours

Unit cost: \$1.710 /LCY

Total job cost: \$50,713

## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil at Dragline Walk Road (ASH4)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 099 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 099  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
% Utilization-riper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$22.07
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$44.95
Number of Units:	2	1	1	1	1	1
Group Subtotals:	Work: \$1,140.40	Support:	\$692.32	Maint:	\$282.01	

Total work team cost/hour: \$2,114.73

## **MATERIAL QUANTITIES**

Initial volume:	<u>8,695</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u>8,695</u>	LCY		

Source of estimated volume:	<u>TR124 Appendix A Table A-3.1</u>
Source of estimated swell factor:	<u>Cat Handbook</u>
Material Purchase Cost:	<u>\$0.00</u>
Total Cost:	<u>\$0.00</u>

## **HOURLY PRODUCTION**

### **Truck Capacity:**

#### Truck Payload (weight) Basis:

Material weight:	<u>1,600</u>	Pounds/LCY
Description:	<u>Top Soil</u>	
Rated Payload:	<u>200,000</u>	Pounds
Payload Capacity:	<u>125.00</u>	LCY

#### Truck Bed (volume) Basis:

Struck Volume:	<u>60.60</u>	LCY
Heaped Volume:	<u>78.80</u>	LCY
Average Volume:	<u>69.70</u>	LCY
Adjusted Volume:	<u>78.80</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 77.72 LCY

#### Loading Tool Capacity

Bucket Size Class: Large

Rated Capacity:	<u>7.850</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<u>8.635</u>	LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 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: 9 passes

Excavators and Front Shovels:

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

ABOVE AVERAGE

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>2.516</b>	minutes

### Truck Cycle Time:

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>2.516</u>	Minutes	Adjusted for site altitude:	<u>2.516</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	2288.00	2.80	3.00	5.80	1266	1.932

Haul Time: 1.932 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2288.00	-2.80	3.00	0.20	3503	0.826

Return Time: 0.826 minutes  
Total Truck Cycle Time: 7.274 minutes

Loading Tool unit  
Production 1,406.18 LCY/Hour      Adjusted for job efficiency: 1,167.13 LCY/Hour  
Truck Unit  
Production 641.04 LCY/Hour      Adjusted for job efficiency: 532.06 LCY/Hour  
Optimal No. of Trucks: 2 Truck(s)      Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 1,064.12 LCY/Hour  
Adjusted single truck/loader team production: 1,064.12 LCY/Hour  
Adjusted multiple truck/loader team production: 1,064.12 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)      Total job time: 8.17 Hours  
Unit cost: \$1.987 /LCY      Total job cost: \$17,280

## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil at Dragline Walk Road (ASH1)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 099A State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 099A  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-riper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$22.07
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$44.95
Number of Units:	2	1	1	1	1	1
Group Subtotals:	Work: \$1,140.40		Support: \$692.32		Maint: \$282.01	

Total work team cost/hour: \$2,114.73

## **MATERIAL QUANTITIES**

Initial volume:	<u>38,684</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u>38,684</u>	LCY		

Source of estimated volume:	<u>TR124 Appendix A Table A-3.1</u>
Source of estimated swell factor:	<u>Cat Handbook</u>
Material Purchase Cost:	<u>\$0.00</u>
Total Cost:	<u>\$0.00</u>

## **HOURLY PRODUCTION**

### **Truck Capacity:**

#### Truck Payload (weight) Basis:

Material weight:	<u>1,600</u>	Pounds/LCY
Description:	<u>Top Soil</u>	
Rated Payload:	<u>200,000</u>	Pounds
Payload Capacity:	<u>125.00</u>	LCY

#### Truck Bed (volume) Basis:

Struck Volume:	<u>60.60</u>	LCY
Heaped Volume:	<u>78.80</u>	LCY
Average Volume:	<u>69.70</u>	LCY
Adjusted Volume:	<u>78.80</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 77.72 LCY

### **Loading Tool Capacity**

Bucket Size Class: Large

Rated Capacity:	<u>7.850</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<u>8.635</u>	LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:**      Number of Loading Tool Passes Required to      9      passes  
 Fill Truck:

Excavators and Front Shovels:

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

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,      NA      minutes  
 maneuver):

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>2.516</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	0.80	Minutes	Adjusted for site altitude:	0.800	Minutes
Truck Load Time:	2.516	Minutes	Adjusted for site altitude:	2.516	Minutes
Truck Maneuver and Dump Time:	1.20	Minutes	Adjusted for site altitude:	1.200	Minutes

Truck Travel (Haul & Return) 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	2130.00	-3.80	3.00	-0.80	3503	0.688

Haul Time:      **0.688**      minutes



## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2130.00	3.80	3.00	6.80	2398	1.082

Return Time: 1.082 minutes  
Total Truck Cycle Time: 6.286 minutes

## Loading Tool unit

Production 1,406.18 LCY/Hour Adjusted for job efficiency: 1,167.13 LCY/Hour

## Truck Unit

Production 741.79 LCY/Hour Adjusted for job efficiency: 615.69 LCY/Hour

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

Adjusted hourly truck team production: 1,231.37 LCY/Hour

Adjusted single truck/loader team production: 1,167.13 LCY/Hour

Adjusted multiple truck/loader team production: 1,167.13 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 33.14 Hours

Unit cost: \$1.812 /LCY Total job cost: \$70,092

## REVEGETATION WORK

Task description: Facilities Area

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 100 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 100  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**JOB TIME AND COST**

No. of Acres:	75	Cost /Acre:	\$360.87
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING,SEEDING		

Initial Job Cost:	<b>\$27,065.25</b>
Reseeding Job Cost:	<b>\$4,736.42</b>
Total Job Cost:	<b>\$31,802</b>
Job Hours:	<b>75.00</b>

## REVEGETATION WORK

Task description: Seed D Pit Range A-B

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 100A State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 100A  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60

Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### **JOB TIME AND COST**

No. of Acres:	319.3	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$294,276.46</b>
Reseeding Job Cost:	<b>\$51,498.38</b>
Total Job Cost:	<b>\$345,775</b>
Job Hours:	<b>319.30</b>

## REVEGETATION WORK

Task description: Roads (including BC road) below 6700'

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 101 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 101  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**JOB TIME AND COST**

No. of Acres:	196.3	Cost /Acre:	\$360.87
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING,SEEDING		

Initial Job Cost:	<b>\$70,838.78</b>
Reseeding Job Cost:	<b>\$12,396.79</b>
Total Job Cost:	<b>\$83,236</b>
Job Hours:	<b>196.00</b>

## MOTOR GRADER WORK

Task description: Finish Grading I/J Pit

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 102 State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: 102  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 16M Horsepower: 297  
Ripper Attachment: \_\_\_\_\_ Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$179.39	NA
Operating Cost/Hour:	\$119.64	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$326.79	
Total Fleet Cost/Hour:	<b>\$653.58</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 79.94 acres

Source of estimated acreage: Appen. A; Table A-8.2A Finish Grading



## **HOURLY PRODUCTION**

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>13.90</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>11.90</u>	feet
Unadjusted Hourly Unit Production:	<u>2.1636</u>	acres/hour

Job Condition Correction Factors      Site Altitude: 7000 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production:	<u>1.8391</u>	acres/Hour
Adjusted Hourly Fleet Production:	<u><b>3.6782</b></u>	acres/Hour

## **JOB TIME AND COST**

Fleet size:	<u>2</u>	Grader(s)	Total job time:	<u><b>21.73</b></u>	Hours
Unit cost:	<u>\$177.69</u>	per acre	Total job cost:	<u><b>\$14,205</b></u>	

## REVEGETATION WORK

Task description: Ponds below 6700' (Coyote, Sage, E Buzzard)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 103 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 103  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**JOB TIME AND COST**

No. of Acres:	26	Cost /Acre:	\$360.87
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$9,382.62</b>
Reseeding Job Cost:	<b>\$1,641.96</b>
Total Job Cost:	<b>\$11,025</b>
Job Hours:	<b>26.00</b>

## REVEGETATION WORK

Task description: Johnson Coal Stockpile

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 104 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 104  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**MULCHING and MISCELLANEOUS****JOB TIME AND COST**

No. of Acres:	12.6	Cost /Acre:	\$360.87
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$4,546.96</b>
Reseeding Job Cost:	<b>\$795.72</b>
Total Job Cost:	<b>\$5,343</b>
Job Hours:	<b>12.00</b>

## REVEGETATION WORK

Task description: Topsoil piles below 6700'

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 105 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 105  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### **JOB TIME AND COST**

No. of Acres:	27.1	Cost /Acre:	\$360.87
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$9,779.58</b>
Reseeding Job Cost:	<b>\$1,711.43</b>
Total Job Cost:	<b>\$11,491</b>
Job Hours:	<b>27.00</b>

## REVEGETATION WORK

Task description: Roads: >6700 ft.-Rangeland with Shrubs

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 107 State: Colorado Abbreviation: None  
Date: 2/18/2025 County: Moffat Filename: 107  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60



Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### **JOB TIME AND COST**

No. of Acres:	54.2	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$49,952.35</b>
Reseeding Job Cost:	<b>\$8,741.66</b>
Total Job Cost:	<b>\$58,694</b>
Job Hours:	<b>54.00</b>

## REVEGETATION WORK

Task description: Ash pit.-Rangeland with Shrubs

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 108 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 108  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60

Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### **JOB TIME AND COST**

No. of Acres:	115.6	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$106,540.43</b>
Reseeding Job Cost:	<b>\$18,644.57</b>
Total Job Cost:	<b>\$125,185</b>
Job Hours:	<b>115.00</b>

## REVEGETATION WORK

Task description: Seed D/E Pit Range B

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 109 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 109  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Crested Wheatgrass - Ephraim	25.00	114.78	\$137.28
Crested Wheatgrass - Hy-Crest	25.00	114.78	\$126.20
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Slender Wheatgrass - San Luis	25.00	91.25	\$150.92
<b>Totals Seed Mix</b>	<b>76.23</b>	<b>325.57</b>	<b>\$429.45</b>

### Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### JOB TIME AND COST

No. of Acres:	15.7	Cost /Acre:	\$666.09
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$666.09
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost: **\$10,457.61**  
Reseeding Job Cost: **\$1,830.08**  
Total Job Cost: **\$12,288**  
Job Hours: **15.00**

## REVEGETATION WORK

Task description: Ponds above 6700'(Deal, Deacon, Jeffways, West Horse)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 111 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 111  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60

Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye, Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### JOB TIME AND COST

No. of Acres:	18.71	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$17,243.70</b>
Reseeding Job Cost:	<b>\$3,017.65</b>
Total Job Cost:	<b>\$20,261</b>
Job Hours:	<b>19.00</b>

## REVEGETATION WORK

Task description: Topsoil piles above 6700'

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 112 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 112  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60

Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye, Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### JOB TIME AND COST

No. of Acres:	5.1	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$4,700.31</b>
Reseeding Job Cost:	<b>\$822.55</b>
Total Job Cost:	<b>\$5,523</b>
Job Hours:	<b>5.00</b>



## BOREHOLE SEALING WORK

Task description: Seal Land Slide Monitoring Stations

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 120 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 120  
User: RAR

Agency or organization name: DRMS

### UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Plug and Seal Station 8	Portland cement grout - 6 in. (labor, equip, materials)	6	172	841.00	LF	\$9.68	\$8,142.90

Job Hours: 4.00 Total Cost: \$8,143.00

**BOREHOLE SEALING WORK**

Task description: **Plug and Seal Exploration Drill Holes**

Site: **Trapper Mine** Permit Action: PR12 Permit/Job#: C1981010

**PROJECT IDENTIFICATION**

Task #: 121 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 121  
User: RAR

Agency or organization name: DRMS

**UNIT COSTS**

<b>Borehole Description</b>	<b>Sealing/Item Method</b>	<b>Diameter</b>	<b>Length</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>
Plug and Seal Boreholes	Portland cement grout - 6 in. (labor, equip, materials)	6	4000	4,000.00	LF	\$9.68	\$38,729.60

**Job Hours:** **80.00** **Total Cost:** **\$38,730.00**

## BOREHOLE SEALING WORK

Task description: Plug and Seal Monitoring Wells

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 122 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 122  
User: RAR

Agency or organization name: DRMS

### UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
81-03A	Portland cement grout - 2 in. (labor, equip, materials)	2	650	650.00	LF	\$8.57	\$5,571.15
COY-A	Portland cement grout - 2 in. (labor, equip, materials)	2	59	59.00	LF	\$8.57	\$505.69
COY-B	Portland cement grout - 2 in. (labor, equip, materials)	2	49	49.00	LF	\$8.57	\$419.98
COY	Portland cement grout - 4 in. (labor, equip, materials)	4	54	54.00	LF	\$8.71	\$470.51
GC1	Portland cement grout - 4 in. (labor, equip, materials)	2.5	180	180.00	LF	\$8.71	\$1,568.38
GC2	Portland cement grout - 4 in. (labor, equip, materials)	2.5	165	165.00	LF	\$8.71	\$1,437.68
GC3	Portland cement grout - 4 in.	2.5	64	64.00	LF	\$8.71	\$557.64

	(labor, equip, materials)						
GC3A	Portland cement grout - 2 in. (labor, equip, materials)	2	50	50.00	LF	\$8.57	\$428.55
GC3B	Portland cement grout - 2 in. (labor, equip, materials)	2	67	67.00	LF	\$8.57	\$574.26
GD2	Portland cement grout - 4 in. (labor, equip, materials)	4	210	210.00	LF	\$8.71	\$1,829.77
GD3	Portland cement grout - 4 in. (labor, equip, materials)	4	198	198.00	LF	\$8.71	\$1,725.21
GF1	Portland cement grout - 4 in. (labor, equip, materials)	4	640	640.00	LF	\$8.71	\$5,576.45
GF4	Portland cement grout - 4 in. (labor, equip, materials)	4	270	270.00	LF	\$8.71	\$2,352.56
GF5	Portland cement grout - 6 in. (labor, equip, materials)	4.25	153.5	153.50	LF	\$9.68	\$1,486.25
GF6	Portland cement grout - 4 in. (labor, equip, materials)	4	200	200.00	LF	\$8.71	\$1,742.64
GF7	Portland cement grout - 6 in. (labor, equip, materials)	4.25	127	127.00	LF	\$9.68	\$1,229.66
GF8	Portland cement grout - 6 in. (labor, equip, materials)	4.25	220	220.00	LF	\$9.68	\$2,130.13
GP2	Portland cement grout - 4 in. (labor, equip, materials)	4	307	307.00	LF	\$8.71	\$2,674.95

GP3	Portland cement grout - 4 in. (labor, equip, materials)	4	154	154.00	LF	\$8.71	\$1,341.83
GP3A	Portland cement grout - 2 in. (labor, equip, materials)	2	143	143.00	LF	\$8.57	\$1,225.65
GP4	Portland cement grout - 4 in. (labor, equip, materials)	4	281	281.00	LF	\$8.71	\$2,448.41
GP5	Portland cement grout - 4 in. (labor, equip, materials)	4	284	284.00	LF	\$8.71	\$2,474.55
GP7	Portland cement grout - 4 in. (labor, equip, materials)	4	99	99.00	LF	\$8.71	\$862.61
GP8	Portland cement grout - 4 in. (labor, equip, materials)	4	198	198.00	LF	\$8.71	\$1,725.21
GP9	Portland cement grout - 4 in. (labor, equip, materials)	4	202	202.00	LF	\$8.71	\$1,760.07
J1	Portland cement grout - 4 in. (labor, equip, materials)	4	30	30.00	LF	\$8.71	\$261.40
P1	Portland cement grout - 4 in. (labor, equip, materials)	4	21	21.00	LF	\$8.71	\$182.98
P2	Portland cement grout - 4 in. (labor, equip, materials)	4	21	21.00	LF	\$8.71	\$182.98
P4	Portland cement grout - 4 in. (labor, equip, materials)	4	80	80.00	LF	\$8.71	\$697.06
P5	Portland cement grout - 4 in.	4	21	21.00	LF	\$8.71	\$182.98

	(labor, equip, materials)						
P6	Portland cement grout - 4 in. (labor, equip, materials)	4	51	51.00	LF	\$8.71	\$444.37
P7	Portland cement grout - 4 in. (labor, equip, materials)	4	37	37.00	LF	\$8.71	\$322.39
P8	Portland cement grout - 4 in. (labor, equip, materials)	4	33	33.00	LF	\$8.71	\$287.54
GMP-1	Portland cement grout - 4 in. (labor, equip, materials)	4	200	200.00	LF	\$8.71	\$1,742.64
GD1	Portland cement grout - 6 in. (labor, equip, materials)	6	1132	1,132.00	LF	\$9.68	\$10,960.48
GD1(2)	Portland cement grout - 6 in. (labor, equip, materials)	6	1144	1,144.00	LF	\$9.68	\$11,076.67
GLEV-1	Portland cement grout - 6 in. (labor, equip, materials)	4.25	238	238.00	LF	\$9.68	\$2,304.41
GLEV-2	Portland cement grout - 6 in. (labor, equip, materials)	4.25	27	27.00	LF	\$9.68	\$261.42
GLEV-3	Portland cement grout - 6 in. (labor, equip, materials)	4.25	45	45.00	LF	\$9.68	\$435.71
CY-A	Portland cement grout - 6 in. (labor, equip, materials)	4.25	35	35.00	LF	\$9.68	\$338.88
CY-1	Portland cement grout - 6 in. (labor, equip, materials)	4.25	165	165.00	LF	\$9.68	\$1,597.60

CY-2	Portland cement grout - 6 in. (labor, equip, materials)	4.25	285	285.00	LF	\$9.68	\$2,759.48
CY-3	Portland cement grout - 6 in. (labor, equip, materials)	4.25	430	430.00	LF	\$9.68	\$4,163.43
GX1	Portland cement grout - 6 in. (labor, equip, materials)	4.25	318	318.00	LF	\$9.68	\$3,079.00
GW-23	Portland cement grout - 6 in. (labor, equip, materials)	4.25	280	280.00	LF	\$9.68	\$2,711.07
GW-26	Portland cement grout - 6 in. (labor, equip, materials)	4.25	321	321.00	LF	\$9.68	\$3,108.05
GW-29	Portland cement grout - 6 in. (labor, equip, materials)	4.25	320	320.00	LF	\$9.68	\$3,098.37
GW-30	Portland cement grout - 6 in. (labor, equip, materials)	4.25	320	320.00	LF	\$9.68	\$3,098.37
GW-31	Portland cement grout - 6 in. (labor, equip, materials)	4.25	320	320.00	LF	\$9.68	\$3,098.37
Ks_DW-1A	Portland cement grout - 6 in. (labor, equip, materials)	4.25	188	188.00	LF	\$9.68	\$1,820.29
NP-1	Portland cement grout - 6 in. (labor, equip, materials)	4.25	185	185.00	LF	\$9.68	\$1,791.24
NP-2	Portland cement grout - 6 in. (labor, equip, materials)	4.25	135	135.00	LF	\$9.68	\$1,307.12
NP-3	Portland cement grout - 6 in.	4.25	299	299.00	LF	\$9.68	\$2,895.04

	(labor, equip, materials)						
East Pyeatt Well #1	Portland cement grout - 6 in. (labor, equip, materials)	5	700	700.00	LF	\$9.68	\$6,777.68
05-LW-17	Portland cement grout - 4 in. (labor, equip, materials)	2.375	816	816.00	LF	\$8.71	\$7,109.97
05-LW-21	Portland cement grout - 4 in. (labor, equip, materials)	2.375	1325.4	1,325.40	LF	\$8.71	\$11,548.48
05-LW-25	Portland cement grout - 4 in. (labor, equip, materials)	2.375	1358	1,358.00	LF	\$8.71	\$11,832.53
05-LW-27	Portland cement grout - 4 in. (labor, equip, materials)	2.375	1594	1,594.00	LF	\$8.71	\$13,888.84
95-LW-09	Portland cement grout - 4 in. (labor, equip, materials)	4	695	995.00	LF	\$8.71	\$8,669.63

**Job Hours:**

**185.00**

**Total Cost:**

**\$168,156.00**



## REVEGETATION WORK

Task description: Reveg for 20 x .3 acres drillholes

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 128 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 128  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60

Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### JOB TIME AND COST

No. of Acres:	6	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$5,529.78</b>
Reseeding Job Cost:	<b>\$967.71</b>
Total Job Cost:	<b>\$6,497</b>
Job Hours:	<b>6.00</b>

## BULLDOZER WORK

Task description: Regrade .3acres x 20 drill pads

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 129 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 129  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU  
Horsepower: 310  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$173.32	NA
Operating		
Cost/Hour:	\$109.71	100
Ripper own.		
Cost/Hour:	\$14.53	NA
Ripper op.		
Cost/Hour:	\$3.98	50
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$340.12	
Cost/Hour:		
Total Fleet	<b>\$340.12</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 30,000  
Swell factor: 1.000  
Loose volume: **30,000** LCY

Source of estimated volume: A-7.2  
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: Compacted fill or embankment 0.9

Average push  
gradient: 0 %  
Average site  
altitude: 7,500 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:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3537

Adjusted unit  
production: 495.18 LCY/hr

Adjusted fleet production:	<hr/> <b>495.18</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 1 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.687/LCY <hr/>

Total job time:	<hr/> <b>60.58</b> Hours <hr/>
Total job cost:	<hr/> <b>\$20,606</b> <hr/>

## DEMOLITION WORK

Task description: Demolish structures, remove materials and debris

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 130 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 130  
User: RAR

Agency or organization name: DRMS

### UNIT COSTS Location adjustment: 91.30 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Main office	31,7548 CF	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	317,548.00	CF	\$0.33	\$104,346.27
Office bldg. floor	15,288 SF	Floor, concrete, demolition only, average reinforcing - 10 in. thick	15,288.00	SF	\$1.84	\$28,094.76
Reinforced concrete floor office bldg.	251 SF	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	251.00	SF	\$2.31	\$580.59

Office footers	804 SF	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 10,000 ft. haul	804.00	LF	\$6.94	\$5,579.12
Remove fencing	700 LF	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	700.00	LF	\$3.53	\$2,471.00
Shop\Warehouse	1,925,700 CF	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,925,700.00	CF	\$0.33	\$632,785.02
Warehouse concrete floor	9,270 SF	Floor, concrete, demolition only, average reinforcing - 12 in. thick	9,270.00	SF	\$2.21	\$20,442.20
Warehouse 4" Concrete floor	7,925 SF	Floor, concrete, demolition only, average reinforcing - 4 in. thick	7,925.00	SF	\$0.74	\$5,825.67
Warehouse Footers	1,822 LF	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max.	1,822.00	LF	\$6.94	\$12,643.22

		10,000 ft. haul				
Silver storage trailer	40 X10X10	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,000.00	CF	\$0.24	\$973.60
Ble caterpillar parts trailer	35X10X8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,800.00	CF	\$0.24	\$681.52
Wash/Lube Bay	173,500 CF	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	173,500.00	CF	\$0.33	\$57,012.10
Wash bay concrete floor	9,275 SF	Floor, concrete, demolition only, average reinforcing - 6 in. thick	9,275.00	SF	\$1.10	\$10,226.62
Wash bay footers	480 LF	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	480.00	LF	\$4.63	\$2,220.53



Shop concrete floor	2,400 SF	Floor, concrete, demolition only, average reinforcing - 6 in. thick	2,400.00	SF	\$1.10	\$2,646.24
Shop Footers	290 LF	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	290.00	LF	\$4.63	\$1,341.57
Seed Trailer	30X10X8	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,400.00	CF	\$0.33	\$788.64
Pump House	4,840 CF	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,840.00	CF	\$0.33	\$1,590.42
Pump House floor	484 SF	Floor, concrete, demolition only, average reinforcing - 6 in. thick	484.00	SF	\$1.10	\$533.66
Pump House footers	88 LF	Demo. and on-site disposal in existing pit,	88.00	LF	\$4.63	\$407.10

		1.0 ft. x 2 ft. - Max. 10,000 ft. haul				
Old cars and equipment at water tanks	120X10X4	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,800.00	CF	\$0.29	\$1,380.96
Light Duty and Electrical Shop	94,500 CF	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	94,500.00	CF	\$0.29	\$27,187.65
Concrete floor	5,250 SF	Floor, concrete, demolition only, average reinforcing - 6 in. thick	5,250.00	SF	\$1.10	\$5,788.65
Footers	348 LF	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	348.00	LF	\$4.63	\$1,609.88
Break Up and Bury Parking Lot Asphalt	2,448 SY	Pavement, bituminous, demolition only - 4 in. to 6 in. thick	2,448.00	SY	\$8.66	\$21,199.68
Water Tank	80,000 Gallons	Bldg. (SN) demo./on-	10,667.00	CF	\$0.24	\$2,596.35

		site disposal in existing pit or cut - Max. 10,000 ft. haul				
Water Tank	80,000 Gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	10,667.00	CF	\$0.24	\$2,596.35
Diesel Tank	100,000 Gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	13,333.00	CF	\$0.24	\$3,245.25
Diesel Tank	100,000 Gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	13,333.00	CF	\$0.24	\$3,245.25
Diesel Tank	20,000 Gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,667.00	CF	\$0.24	\$649.15
Diesel Tank	20,000 Gallons	Bldg. (SN) demo./on-site	2,667.00	CF	\$0.24	\$649.15

		disposal in existing pit or cut - Max. 10,000 ft. haul				
Diesel Tank	20,000 Gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,667.00	CF	\$0.24	\$649.15
Diesel Tank -- Removed but onsite	20,000 Gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,667.00	CF	\$0.24	\$649.15
Diesel Tank -- Removed but onsite	20,000 Gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,667.00	CF	\$0.24	\$649.15
Gasoline Tank	15,000 Gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,000.00	CF	\$0.24	\$486.80
Concrete Pads for Storage Tank	6,500 SF	Floor, concrete, demolition only,	6,500.00	SF	\$1.10	\$7,166.90

		average reinforcing - 6 in. thick				
Fuel Tank Sludge Removal - 8 Tanks	6,300 Gallons	Remove sludge, water, and rem. product from tank - 6,000 to 8,000 gal.	1.00	EA	\$324.00	\$324.00
Disposal of Tank Sludge	26 Tons	Hazardous waste removal - Bulk liquids, large quantities (over 2,500 gal.)	6,300.00	GA L	\$1.98	\$12,480.93
Powerlines	75 330 LF	Utility Poles, Wood 35' - 45' high (each pole)	75.00	EA	\$325.00	\$24,375.00
Tire Shed-Skid Mounted	6,000 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	6,000.00	CF	\$0.24	\$1,460.40
Main Substation	6,000 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	6,000.00	CF	\$0.24	\$1,460.40
Concrete Pads	1,200 SF	Floor, concrete,	1,200.00	SF	\$1.10	\$1,323.12

		demolition only, average reinforcing - 6 in. thick				
4 Portables	4,200 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,200.00	CF	\$0.24	\$1,022.28
ANFO Silos and Emulsion Tank	10,940 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	10,940.00	CF	\$0.24	\$2,662.80
New 2007 Emulsion tank	15,000 gal	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,600.00	CF	\$0.24	\$389.44
Concrete Pad	1,642 SF	Floor, concrete, demolition only, average reinforcing - 6 in. thick	1,642.00	SF	\$1.10	\$1,810.47
Footers	52 LF	Demo. and on-site disposal in existing pit, 1.0 ft. x 2	52.00	LF	\$4.63	\$240.56

		ft. - Max. 10,000 ft. haul				
Explosive storage- 2 magazines	2 X 853.3 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,707.00	CF	\$0.24	\$415.48
Explosive Storage Trailer	2,560 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,560.00	CF	\$0.24	\$623.10
2 Large Explosives Magazines	2 X 22.5. 8X6	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,160.00	CF	\$0.24	\$525.74
Tub Pad railroad Track	2 X 312	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	624.00	CF	\$0.24	\$151.88
5 Cargo Containers	5 X 25 and 8x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max.	8,000.00	CF	\$0.24	\$1,947.20

		10,000 ft. haul				
Queen Anne Dragline Repair Pad	70'Lx70'wx.067'h	Floor, concrete, demolition only, average reinforcing - 8 in. thick	4,900.00	SF	\$1.47	\$7,203.49
Bury boneyard storage material	84,000 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	84,000.00	CF	\$0.24	\$20,445.60
Waste oil and Anit-Freeze drum disposal	50 used oil, 20 Solvent	Solid pickup - 55 gal. drums	70.00	EA	\$240.00	\$16,800.00
Waterlines and Waste Solvent Lines	Shop to waste oil pad	Pipe, sewer/water - 12 in. diameter pipe	100.00	LF	\$5.24	\$524.00
Transformer Pad	225 SF	Floor, concrete, demolition only, average reinforcing - 4 in. thick	225.00	SF	\$0.74	\$165.40
4 skid mounted substations	4'x10', 8'x20'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	6,400.00	CF	\$0.24	\$1,557.76



East Panel RL Coverall Building	86,400CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	86,400.00	CF	\$0.24	\$21,029.76
East Panel RL Concrete Slabs	4,540 SF	Floor, concrete, demolition only, average reinforcing - 10 in. thick	4,540.00	SF	\$1.84	\$8,343.16
East Panel RL Footings	60 LF	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 10,000 ft. haul	600.00	LF	\$6.94	\$4,163.52
3x50,000 Tanks	20,040 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	20,040.00	CF	\$0.24	\$4,877.74
2x20,000 Tanks	5,348 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	5,348.00	CF	\$0.24	\$1,301.70
MgCl Tank @ H Impoundment	10,000 gallons	Bldg. (SN) demo./on-site	1,005.00	CF	\$0.24	\$244.62

		disposal in existing pit or cut - Max. 10,000 ft. haul				
Red silo @ used oil storage area	15,000 gallons	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,600.00	CF	\$0.24	\$389.44
Blasters Equipment Building	45X85X22	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	76,021.88	CF	\$0.24	\$17,956.37
-Blasters Equipment Building Foundation	146 CY	Slab on grade, concrete, demolition only - No reinforcing	106.00	CY	\$104.00	\$11,024.00
Radio Tower Skid Mounted	NA	USER PROVIDE D ITEM	1.00	EA	\$1,500.00	\$1,500.00

<b>Job</b>		<b>Subtotal</b>		<b>Total Cost</b>	
<b>Hours:</b>	<u>100.00</u>	<b>(unadjusted):</b>	<u>\$1,139,678.68</u>	<b>(adjusted for location):</b>	<u>\$1,040,526.63</u>

## DEMOLITION WORK

Task description: Culvert Removal and Disposal

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #131 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 131  
User: RAR

Agency or organization name: DRMS

### UNIT COSTS Location adjustment: 91.30 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
A-1	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	240.00	LF	\$24.52	\$5,885.42
A-2	60" Diam	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	240.00	LF	\$33.06	\$7,935.02
ASH-1	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	190.00	LF	\$10.60	\$2,013.07
A-3	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	240.00	LF	\$24.52	\$5,885.42
A-4	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	210.00	LF	\$24.52	\$5,149.75
A-5	2 @ 48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	480.00	LF	\$24.52	\$11,770.85
A-7	36" Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	210.00	LF	\$16.96	\$3,561.66
A9	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	180.00	LF	\$24.52	\$4,414.07

A-10	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	240.00	LF	\$24.52	\$5,885.42
A-11	18" Diam	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	180.00	LF	\$8.10	\$1,457.50
A-12	36"Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	210.00	LF	\$16.96	\$3,561.66
A-14	36" Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	210.00	LF	\$16.96	\$3,561.66
AE-4	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	210.00	LF	\$10.60	\$2,224.97
AE-7	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	300.00	LF	\$10.60	\$3,178.53
AE-10	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	240.00	LF	\$24.52	\$5,885.42
AE-11	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	240.00	LF	\$24.52	\$5,885.42
BC-1	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	540.00	LF	\$10.60	\$5,721.35
BC-2	60" Diam	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	240.00	LF	\$33.06	\$7,935.02
BC-5	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
BC-6	36"Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	210.00	LF	\$16.96	\$3,561.66
*FEB-1	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
D-9	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	210.00	LF	\$10.60	\$2,224.97
D-10	18" Diam	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	180.00	LF	\$8.10	\$1,457.50

D-12	18" Diam	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	180.00	LF	\$8.10	\$1,457.50
D-15	36" Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	180.00	LF	\$16.96	\$3,052.85
D-16	2 @ 24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	360.00	LF	\$10.60	\$3,814.24
D-17	2 @ 24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	360.00	LF	\$10.60	\$3,814.24
FT-1	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	110.00	LF	\$10.60	\$1,165.46
EMF-1	2 @ 36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	120.00	LF	\$16.96	\$2,035.24
GRS-1	24"Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
GRS-2	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	240.00	LF	\$24.52	\$5,885.42
RW-1	12" Diam	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	180.00	LF	\$5.91	\$1,063.55
SA-1	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	240.00	LF	\$24.52	\$5,885.42
SA-7	30" Diam	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	180.00	LF	\$13.98	\$2,516.35
SAH-1	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
AE-8	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	240.00	LF	\$24.52	\$5,885.42
AE-12	36" Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	130.00	LF	\$16.96	\$2,204.84
AX-3	60" Diam	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	240.00	LF	\$33.06	\$7,935.02

AX-4	36" Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	240.00	LF	\$16.96	\$4,070.47
AX-5	36" Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	210.00	LF	\$16.96	\$3,561.66
IH-1	18"Diam	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	180.00	LF	\$8.10	\$1,457.50
IWP-1	6" Diam	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	180.00	LF	\$4.51	\$811.22
Jgag-1	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
JG-2	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
NN-5	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
OH-3	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
OH-5	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
MC-1	15" Diam	Pipe, corrugated metal (CMP) - 15 in. diameter pipe	180.00	LF	\$6.97	\$1,254.15
MC-3	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	180.00	LF	\$10.60	\$1,907.12
MC-5	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	120.00	LF	\$8.10	\$971.66
A-15	48" Diam	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	223.00	LF	\$24.52	\$5,468.54
AE-13A	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	175.00	LF	\$10.60	\$1,854.14
AE-13B	36" Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	170.00	LF	\$16.96	\$2,883.25

BC-7	36"Diam	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	192.00	LF	\$16.96	\$3,256.38
OH-6	18" Diam	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	78.00	LF	\$8.10	\$631.58
A-13	24" Diam	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	210.00	LF	\$10.60	\$2,224.97

<b>Job</b>		<b>Subtotal</b>		<b>Total Cost</b>	
<b>Hours:</b>	<b>60.00</b>	<b>(unadjusted):</b>	<b>\$193,388.61</b>	<b>(adjusted for location):</b>	<b>\$176,563.80</b>

## EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mobilize and Demobilize from Hayden, CO

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 132 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: 132  
User: RAR

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:

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

### 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 D11T - 11U	134.12	\$496.62	\$125.64	10	\$6,222.60	\$1,256.40	\$2,000.00
Cat D10T - 10SU	84.53	\$257.39	\$125.64	4	\$1,532.12	\$502.56	\$1,000.00
Light plant, 30 ft. tower, 4	1.46	\$4.76	\$59.44	4	\$256.80	\$237.76	\$1,000.00



lights - 13.5 HP							
Cat 637G w/push-pull	59.59	\$281.32	\$125.64	8	\$3,255.68	\$1,005.12	\$2,500.00
Altas Capco DM25SP - 6-3/4"	0.00	\$394.50	\$59.44	1	\$453.94	\$59.44	\$250.00
KOM45.00U 830E	244.00	\$209.47	\$125.64	4	\$1,340.44	\$502.56	\$1,500.00
CAT 16M	28.73	\$179.39	\$122.78	4	\$1,208.68	\$491.12	\$1,000.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	1	\$100.46	\$59.44	\$250.00
CAT 6090	1,078.00	\$302.35	\$125.64	1	\$427.99	\$125.64	\$250.00
Water Tanker, 5,000 Gal.	15.00	\$51.70	\$59.44	1	\$111.14	\$59.44	\$250.00

Subtotals:

<b>\$14,909.85</b>	<b>\$4,299.48</b>	<b>\$10,000.00</b>
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### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 2,500 Gal.	\$55.22	2	\$110.44	\$110.44
Fuel Tanker, 6x4, 210 HP	\$75.02	1	\$75.02	\$75.02
Lube Truck, 6x4, 250 HP	\$75.02	1	\$75.02	\$75.02

Subtotals:

<b>\$260.48</b>	<b>\$260.48</b>
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### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:

HAYDEN

Total one-way travel distance:

25.00

miles

Average Travel Speed:

45.00

mph

Total Non-Roadable Mob/Demob Cost \*

\$87,862.43

\* two round trips with haul rig:

Total Roadable Mob/Demob Cost \*\*

\$289.42

\*\* one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.56	0.56
Return Time (Hours):	0.56	0.56
Loading Time (Hours):	1.00	NA
Unloading Time (Hours):	0.56	NA
Subtotals:	2.67	1.11

**JOB TIME AND COST**

Total job time: 5.34 Hours

Total job cost: \$88,152

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:407,200

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L01 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L01  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 93,302  
Swell factor: 1.000  
Loose volume: **93,302 LCY**

Source of estimated volume: Table A-4.3  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 400 feet  
Unadjusted hourly production: 810.5 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -20 %  
Average site altitude: 6,950 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7535

Adjusted unit production: 610.71 LCY/hr

Adjusted fleet production:	<hr/> <b>2442.84</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.409/LCY <hr/>

Total job time:	<hr/> <b>38.19</b> Hours <hr/>
Total job cost:	<hr/> <b>\$131,442</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:406,700

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L02 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L02  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 222,222  
Swell factor: 1.000  
Loose volume: 222,222 LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 425 feet  
Unadjusted hourly  
production: 765.7 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: -20 %  
Average site  
altitude: 7,050 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<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>1.200</u>	<u>(S-BY-S)</u>
Visibility:	<u>0.800</u>	<u>(POOR)</u>
Job efficiency:	<u>0.790</u>	<u>(3 SHIFTS/DAY)</u>
Spoil pile:	<u>1.000</u>	<u>(DOZ-OC)</u>
Push gradient:	<u>1.426</u>	<u>(CAT HB)</u>
Altitude:	<u>1.000</u>	<u>(CAT HB)</u>
Material Weight:	<u>0.929</u>	<u>(CAT HB)</u>
Blade type:	<u>1.000</u>	<u>(PAT)</u>

Net correction: 0.7535

Adjusted unit  
production: 576.95 LCY/hr

Adjusted fleet production:	<hr/> <b>2307.8</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.491/LCY <hr/>

Total job time:	<hr/> <b>96.29</b> Hours <hr/>
Total job cost:	<hr/> <b>\$331,380</b> <hr/>



## BULLDOZER WORK

Task description: Regrade L Pit X-sec:406,200

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #:	<u>L03</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/19/2025</u>	County:	<u>Moffat</u>	Filename:	<u>L03</u>
User:	<u>RAR</u>				

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine:	<u>Cat D11T - 11U</u>
Horsepower:	<u>850</u>
Blade Type:	<u>Universal</u>
Attachment:	<u>NA</u>
Shift Basis:	<u>3 per day</u>
Data Source:	<u>(CRG)</u>

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 141,481  
Swell factor: 1.000  
Loose volume: **141,481** LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 400 feet  
Unadjusted hourly production: 810.5 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -25 %  
Average site altitude: 7,050 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750 (AVG.)
Material consistency:	1.000 (CAT HB)
Dozing method:	1.200 (S-BY-S)
Visibility:	0.800 (POOR)
Job efficiency:	0.790 (3 SHIFTS/DAY)
Spoil pile:	1.000 (DOZ-OC)
Push gradient:	1.516 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.929 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.8011

Adjusted unit production: 649.29 LCY/hr

Adjusted fleet production:	<hr/> <b>2597.16</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.325/LCY <hr/>

Total job time:	<hr/> <b>54.48</b> Hours <hr/>
Total job cost:	<hr/> <b>\$187,472</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:405700

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

## PROJECT IDENTIFICATION

Task #:	<u>L04</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/19/2025</u>	County:	<u>Moffat</u>	Filename:	<u>L04</u>
User:	<u>RAR</u>				

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine:	<u>Cat D11T - 11U</u>
Horsepower:	<u>850</u>
Blade Type:	<u>Universal</u>
Attachment:	<u>NA</u>
Shift Basis:	<u>3 per day</u>
Data Source:	<u>(CRG)</u>

## Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 148,574  
Swell factor: 1.000  
Loose volume: **148,574** LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 500 feet  
Unadjusted hourly production: 650.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -25 %  
Average site altitude: 7,000 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8011

Adjusted unit production: 520.72 LCY/hr  
Adjusted fleet production: **2082.88** LCY/hr

### **JOB TIME AND COST**

Fleet size:	<u>4 Dozer(s)</u>
Unit cost:	<u>\$1.652/LCY</u>
Total job time:	<u><b>71.33</b> Hours</u>
Total job cost:	<u><b>\$245,480</b></u>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:405,200

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L05 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L05  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 402,666  
Swell factor: 1.000  
Loose volume: **402,666** LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 520 feet  
Unadjusted hourly production: 627.8 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 10 %  
Average site altitude: 7,150 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750 (AVG.)
Material consistency:	1.000 (CAT HB)
Dozing method:	1.200 (S-BY-S)
Visibility:	0.800 (POOR)
Job efficiency:	0.790 (3 SHIFTS/DAY)
Spoil pile:	1.000 (DOZ-OC)
Push gradient:	0.786 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.929 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.4153

Adjusted unit production: 260.73 LCY/hr



Adjusted fleet production:	<hr/> <b>1042.92</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$3.300/LCY <hr/>

Total job time:	<hr/> <b>386.09</b> Hours <hr/>
Total job cost:	<hr/> <b>\$1,328,715</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:404,700

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L06 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L06  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 718,834  
Swell factor: 1.000  
Loose volume: **718,834** LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 590 feet  
Unadjusted hourly  
production: 556.8 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: -20 %  
Average site  
altitude: 7,050 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7535

Adjusted unit  
production: 419.55 LCY/hr

Adjusted fleet production:	<hr/> <b>1678.2</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$2.051/LCY <hr/>

Total job time:	<hr/> <b>428.34</b> Hours <hr/>
Total job cost:	<hr/> <b>\$1,474,086</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:404,200

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L07 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L07  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 475,815  
Swell factor: 1.000  
Loose volume: **475,815** LCY

Source of estimated volume: Table A-4.5  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 560 feet  
Unadjusted hourly production: 585.9 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -20 %  
Average site altitude: 7,200 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7535

Adjusted unit production: 441.48 LCY/hr

Adjusted fleet production:	<hr/> <b>1765.92</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.949/LCY <hr/>

Total job time:	<hr/> <b>269.44</b> Hours <hr/>
Total job cost:	<hr/> <b>\$927,267</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:403,700

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L08 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L08  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		



## **MATERIAL QUANTITIES**

Initial  
Volume: 102,185  
Swell factor: 1.000  
Loose volume: **102,185** LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 600 feet  
Unadjusted hourly  
production: 546.0 LCY/hr

Materials consistency  
description: Consolidated stockpile 1.0

Average push  
gradient: -25 %  
Average site  
altitude: 7,250 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750 (AVG.)
Material consistency:	1.000 (CAT HB)
Dozing method:	1.200 (S-BY-S)
Visibility:	0.800 (POOR)
Job efficiency:	0.790 (3 SHIFTS/DAY)
Spoil pile:	1.000 (DOZ-OC)
Push gradient:	1.516 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.929 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.8011

Adjusted unit  
production: 437.40 LCY/hr

Adjusted fleet production:	<hr/> <b>1749.6</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.967/LCY <hr/>

Total job time:	<hr/> <b>58.40</b> Hours <hr/>
Total job cost:	<hr/> <b>\$200,995</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:403,200

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L09 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L09  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 101,945  
Swell factor: 1.000  
Loose volume: **101,945** LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 550 feet  
Unadjusted hourly production: 594.6 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -15 %  
Average site altitude: 7,250 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<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:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7315

Adjusted unit production: 434.95 LCY/hr

Adjusted fleet production:	<hr/> <b>1739.8</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.978/LCY <hr/>

Total job time:	<hr/> <b>58.60</b> Hours <hr/>
Total job cost:	<hr/> <b>\$201,653</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:402,700

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L10 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L10  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 430,259  
Swell factor: 1.000  
Loose volume: **430,259** LCY

Source of estimated volume: Table A-4.5  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 405 feet  
Unadjusted hourly production: 801.6 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -20 %  
Average site altitude: 7,350 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750 (AVG.)
Material consistency:	1.000 (CAT HB)
Dozing method:	1.200 (S-BY-S)
Visibility:	0.800 (POOR)
Job efficiency:	0.790 (3 SHIFTS/DAY)
Spoil pile:	1.000 (DOZ-OC)
Push gradient:	1.426 (CAT HB)
Altitude:	1.000 (CAT HB)
Material Weight:	0.929 (CAT HB)
Blade type:	1.000 (PAT)

Net correction: 0.7535

Adjusted unit production: 604.01 LCY/hr

Adjusted fleet production:	<hr/> <b>2416.04</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.424/LCY <hr/>

Total job time:	<hr/> <b>178.08</b> Hours <hr/>
Total job cost:	<hr/> <b>\$612,863</b> <hr/>



## BULLDOZER WORK

Task description: Regrade L Pit X-sec:402,200

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L11 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L11  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

### MATERIAL QUANTITIES

Initial Volume:	572,536
Swell factor:	1.000
Loose volume:	<b>572,536</b> LCY

Source of estimated volume:	Table A-4.3
Source of estimated swell factor:	Cat Handbook

## **HOURLY PRODUCTION**

Average push distance:	525 feet
Unadjusted hourly production:	622.2 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push gradient:	-20 %
Average site altitude:	7,400 feet

Material weight:	2,475 lbs/LCY
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Weight description:	User Provided
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<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction:	0.6782
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Adjusted unit production:	421.98 LCY/hr
Adjusted fleet production:	<b>1687.92</b> LCY/hr

### **JOB TIME AND COST**

Fleet size:	<u>4 Dozer(s)</u>
Unit cost:	<u>\$2.039/LCY</u>

Total job time:	<u><b>339.20</b> Hours</u>
Total job cost:	<u><b>\$1,167,317</b></u>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:401,700

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L12 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L12  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 173,389  
Swell factor: 1.000  
Loose volume: **173,389** LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 450 feet  
Unadjusted hourly production: 725.7 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -20 %  
Average site altitude: 7,400 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6782

Adjusted unit production: 492.17 LCY/hr

Adjusted fleet production:	<hr/> <b>1968.68</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$1.748/LCY <hr/>

Total job time:	<hr/> <b>88.07</b> Hours <hr/>
Total job cost:	<hr/> <b>\$303,099</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-sec:401,200

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L13 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L13  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 273,425  
Swell factor: 1.000  
Loose volume: 273,425 LCY

Source of estimated volume: Table A-4.5  
Source of estimated swell  
factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 205 feet  
Unadjusted hourly  
production: 1,529.1 LCY/hr

Materials consistency  
description: Compacted fill or embankment 0.9

Average push  
gradient: -25 %  
Average site  
altitude: 7,500 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7210

Adjusted unit  
production: 1,102.48 LCY/hr



Adjusted fleet production:	<hr/> <b>4409.92</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.780/LCY <hr/>

Total job time:	<hr/> <b>62.00</b> Hours <hr/>
Total job cost:	<hr/> <b>\$213,376</b> <hr/>

## BULLDOZER WORK

Task description: Regrade L Pit X-secs:400,700 and 400,200

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #:	<u>L14</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/19/2025</u>	County:	<u>Moffat</u>	Filename:	<u>L14</u>
User:	<u>RAR</u>				

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine:	<u>Cat D11T - 11U</u>
Horsepower:	<u>850</u>
Blade Type:	<u>Universal</u>
Attachment:	<u>NA</u>
Shift Basis:	<u>3 per day</u>
Data Source:	<u>(CRG)</u>

### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.84	NA
Total unit	\$860.36	
Cost/Hour:		
Total Fleet	<b>\$3,441.42</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 271,815  
Swell factor: 1.000  
Loose volume: 271,815 LCY

Source of estimated volume: Table A-4.3  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 150 feet  
Unadjusted hourly production: 2,036.8 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -30 %  
Average site altitude: 7,550 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition Correction Factor</u>	<u>Source</u>	
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.601	(CAT HB)
Altitude:	0.930	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7081

Adjusted unit production: 1,442.26 LCY/hr

Adjusted fleet production:	<hr/> <b>5769.04</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 4 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.597/LCY <hr/>

Total job time:	<hr/> <b>47.12</b> Hours <hr/>
Total job cost:	<hr/> <b>\$162,147</b> <hr/>

## TRUCK/LOADER TEAM WORK

Task description: Regrade L Plt (Truck/Excavator)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L15 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L15  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	KOMATSU 830E
-Loader:	CAT 6090
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 14,000 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Shovel	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$209.47	\$302.35	\$257.39	\$257.39	\$179.39	\$130.32
Operating cost/hour:	\$274.17	\$501.45	\$49.23	\$49.23	\$29.91	\$70.88
%Utilization-riper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$508.88	\$837.67	\$347.11	\$345.21	\$237.06	\$201.20
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$2,364.31	Support: \$692.32	Maint: \$438.26			

Total work team cost/hour: \$3,494.89

## **MATERIAL QUANTITIES**

Initial volume:	<u>1,647,275</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u>1,647,275</u>	LCY		

Source of estimated volume:	<u>TR124 Appendix A Table A-3.1</u>
Source of estimated swell factor:	<u>Cat Handbook</u>
Material Purchase Cost:	<u>\$0.00</u>
Total Cost:	<u>\$0.00</u>

## **HOURLY PRODUCTION**

### **Truck Capacity:**

#### **Truck Payload (weight) Basis:**

Material weight:	<u>3,300</u>	Pounds/LCY
Description:	<u>Decomposed rock - 75% Rock, 25% Earth</u>	
Rated Payload:	<u>492,200</u>	Pounds
Payload Capacity:	<u>149.15</u>	LCY

#### **Truck Bed (volume) Basis:**

Struck Volume:	<u>153.00</u>	LCY
Heaped Volume:	<u>192.00</u>	LCY
Average Volume:	<u>172.50</u>	LCY
Adjusted Volume:	<u>149.15</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 129.58 LCY

### **Loading Tool Capacity**

Bucket Size Class: NA

Rated Capacity:	<u>58.900</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<u>64.790</u>	LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**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:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		<u>NA</u>	minutes
Adjusted Loader Cycle Time:		<b><u>0.498</u></b>	minutes
Net Load Time per Truck:		<b><u>0.996</u></b>	minutes

### Truck Cycle Time:

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>0.996</u>	Minutes	Adjusted for site altitude:	<u>0.996</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	1841.00	-8.00	3.00	-5.00	1870	1.139

Haul Time: **1.139** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1502.00	8.00	3.00	11.00	1734	1.269

Return Time: 1.269 minutes  
Total Truck Cycle Time: 5.404 minutes

Loading Tool unit

Production 4,328.95 LCY/Hour Adjusted for job efficiency: 3,593.03 LCY/Hour

Truck Unit

Production 1,438.71 LCY/Hour Adjusted for job efficiency: 1,194.13 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 3,582.39 LCY/Hour  
Adjusted single truck/loader team production: 3,582.39 LCY/Hour  
Adjusted multiple truck/loader team production: 3,582.39 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 459.83 Hours

Unit cost: \$0.976 /LCY Total job cost: \$1,607,039



## TRUCK/LOADER TEAM WORK

Task description: **Regrade Jennings Pit (Truck/Excavator) TR 135**

Site: **Trapper Mine** Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L15ATR State: Colorado Abbreviation: None  
 Date: 2/25/2025 County: Moffat Filename: L15A TR135  
 User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

<u>Equipment Description</u>	
<u>Truck Loader Team -Truck:</u>	<u>KOMATSU 830E</u>
<u>-Loader:</u>	<u>CAT 6090</u>
<u>Support Equipment -Load Area:</u>	<u>Cat D10T - 10SU</u>
<u>-Dump Area:</u>	<u>Cat D10T - 10SU</u>
<u>Road Maintenance –Motor Grader:</u>	<u>CAT 16M</u>
<u>-Water Truck:</u>	<u>Water Tanker, 14,000 Gal.</u>

**Cost Breakdown:** Truck/Loader Team Support Equipment Maintenance Equipment

	<u>Truck</u>	<u>Shovel</u>	<u>Load Area</u>	<u>Dump Area</u>	<u>Motor Grader</u>	<u>Water Truck</u>
<u>%Utilization-machine:</u>	<u>100</u>	<u>100</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>50</u>
<u>Ownership cost/hour:</u>	<u>\$209.47</u>	<u>\$302.35</u>	<u>\$257.39</u>	<u>\$257.39</u>	<u>\$179.39</u>	<u>\$130.32</u>
<u>Operating cost/hour:</u>	<u>\$274.17</u>	<u>\$501.45</u>	<u>\$49.23</u>	<u>\$49.23</u>	<u>\$29.91</u>	<u>\$70.88</u>
<u>%Utilization-riper:</u>	<u>NA</u>	<u>0</u>	<u>15</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Ripper own. cost/hour:</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$20.05</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Ripper op. cost/hour:</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$1.90</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Operator cost/hour:</u>	<u>\$25.24</u>	<u>\$33.87</u>	<u>\$38.59</u>	<u>\$38.59</u>	<u>\$27.76</u>	<u>\$0.00</u>
<u>Unit Subtotals:</u>	<u>\$508.88</u>	<u>\$837.67</u>	<u>\$347.11</u>	<u>\$345.21</u>	<u>\$237.06</u>	<u>\$201.20</u>
<u>Number of Units:</u>	<u>12</u>	<u>4</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>Group Subtotals:</u>	<u>Work: \$9,457.24</u>		<u>Support: \$692.32</u>		<u>Maint: \$438.26</u>	

Total work team cost/hour: **\$10,587.82**

## **MATERIAL QUANTITIES**

Initial volume:     1,227,754     CCY     Swell factor:     1.000  
Loose volume:     **1,227,754**     LCY

Source of estimated volume:     TR135 Appendix A Table A-1.1  
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:     3,300     Pounds/LCY  
Description:     Decomposed rock - 75% Rock, 25% Earth  
Rated Payload:     492,200     Pounds  
Payload Capacity:     149.15     LCY

Truck Bed (volume) Basis:

Struck Volume:     153.00     LCY  
Heaped Volume:     192.00     LCY  
Average Volume:     172.50     LCY  
Adjusted Volume:     149.15     LCY

Final Truck Volume Based on Number of Loader Passes:     **129.58**     LCY

Loading Tool Capacity

Bucket Size Class:     NA

Rated Capacity:     58.900     LCY (heaped)  
Bucket Fill Factor:     1.100     Other - rock/dirt mixtures (100-120%) 1.100  
Adjusted Capacity:     **64.790**     LCY

**Job Condition Corrections:** Site Altitude (ft.): 6400 feet

	<b><u>Truck</u></b>	<b><u>Loader</u></b>	<b><u>Source</u></b>
<u>Altitude Adj:</u>	<u>1.000</u>	<u>1.000</u>	<u>(CAT HB)</u>
<u>Job Efficiency:</u>	<u>0.830</u>	<u>0.830</u>	<u>(CAT HB)</u>
<u>Net Correction:</u>	<u><b>0.830</b></u>	<u><b>0.830</b></u>	

**Loading Tool Cycle Time:**      Number of Loading Tool Passes Required      2      passes  
to Fill Truck:

Excavators and Front  
Shovels:

Machine Cycle Time vs. Job Condition  
Rating:      ABOVE AVERAGE

Selected Value within this Basic Rating:      AVERAGE

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):      NA      minutes

<u>Cycle Time Factors</u>		<u>Factor (min.)</u>	<u>Source</u>
<u>Material:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Stockpile:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Truck Ownership:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Operation:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Dump Target:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
	<u>Net Cycle Time Adjustment:</u>	<u>NA</u>	<u>minutes</u>
	<u>Adjusted Loader Cycle Time:</u>	<u>0.498</u>	<u>minutes</u>
	<u>Net Load Time per Truck:</u>	<u>0.996</u>	<u>minutes</u>

**Truck Cycle Time:**

<u>Truck Exchange Time:</u>	<u>0.80</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>0.800</u>	<u>Minutes</u>
<u>Truck Load Time:</u>	<u>0.996</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>0.996</u>	<u>Minutes</u>
<u>Truck Maneuver and</u>	<u>1.20</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>1.200</u>	<u>Minutes</u>
<u>Dump Time:</u>	_____			_____	

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced,  
watered, maintained 3.0

**Haul Route:**

<u>Seg #</u>	<u>Haul Distance</u> <u>(Ft)</u>	<u>Grade</u> <u>(%)</u>	<u>Roll.</u> <u>Res (%)</u>	<u>Total</u> <u>Res (%)</u>	<u>Velocity</u> <u>(fpm)</u>	<u>Travel</u> <u>Time</u> <u>(min)</u>
<u>1</u>	<u>3448.00</u>	<u>-1.80</u>	<u>3.00</u>	<u>1.20</u>	<u>3503</u>	<u>1.633</u>

**Haul Time:**      **1.633**      minutes

**Return Route:**

<u>Seg #</u>	<u>Haul Distance</u> <u>(Ft)</u>	<u>Grade</u> <u>(%)</u>	<u>Roll.</u> <u>Res (%)</u>	<u>Total</u> <u>Res (%)</u>	<u>Velocity</u> <u>(fpm)</u>	<u>Travel</u> <u>Time</u> <u>(min)</u>
<u>1</u>	<u>3448.00</u>	<u>1.80</u>	<u>3.00</u>	<u>4.80</u>	<u>3296</u>	<u>1.636</u>

**Return Time:**      **1.636**      minutes  
**Total Truck Cycle Time:**      **6.265**      minutes

**Loading Tool unit**

Production      4,328.95      LCY/Hour      Adjusted for job efficiency:      3,593.03      LCY/Hour

**Truck Unit**

Production      1,240.99      LCY/Hour      Adjusted for job efficiency:      1,030.02      LCY/Hour

Optimal No. of      3      Truck(s)      Selected Number of Trucks:      3      Truck(s)  
Trucks:      \_\_\_\_\_

Adjusted hourly truck team production:      3,090.06      LCY/Hour  
Adjusted single truck/loader team production:      3,090.06      LCY/Hour  
Adjusted multiple truck/loader team production:      **12,360.26**      LCY/Hour

**JOB TIME AND COST**

Fleet size:      4      Team(s)      Total job time:      **99.33**      Hours

Unit cost:      \$0.857      /LCY      Total job cost:      **\$1,051,696**

## TRUCK/LOADER TEAM WORK

Task description: Regrade L Pit K Knob (Truck/Excavator) TR135

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L15TR135 State: Colorado Abbreviation: None  
Date: 2/25/2025 County: Moffat Filename: C010-  
L15TR135  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

<u>Equipment Description</u>	
<u>Truck Loader Team -Truck:</u>	<u>KOMATSU 830E</u>
<u>-Loader:</u>	<u>CAT 6090</u>
<u>Support Equipment -Load Area:</u>	<u>Cat D10T - 10SU</u>
<u>-Dump Area:</u>	<u>Cat D10T - 10SU</u>
<u>Road Maintenance –Motor Grader:</u>	<u>CAT 16M</u>
<u>-Water Truck:</u>	<u>Water Tanker, 14,000 Gal.</u>

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	<u>Truck</u>	<u>Shovel</u>	<u>Load Area</u>	<u>Dump Area</u>	<u>Motor Grader</u>	<u>Water Truck</u>
<u>%Utilization-machine:</u>	<u>100</u>	<u>100</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>50</u>
<u>Ownership cost/hour:</u>	<u>\$209.47</u>	<u>\$302.35</u>	<u>\$257.39</u>	<u>\$257.39</u>	<u>\$179.39</u>	<u>\$130.32</u>
<u>Operating cost/hour:</u>	<u>\$274.17</u>	<u>\$501.45</u>	<u>\$49.23</u>	<u>\$49.23</u>	<u>\$29.91</u>	<u>\$70.88</u>
<u>%Utilization-riper:</u>	<u>NA</u>	<u>0</u>	<u>15</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Ripper own. cost/hour:</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$20.05</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Ripper op. cost/hour:</u>	<u>NA</u>	<u>\$0.00</u>	<u>\$1.90</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
<u>Operator cost/hour:</u>	<u>\$25.24</u>	<u>\$33.87</u>	<u>\$38.59</u>	<u>\$38.59</u>	<u>\$27.76</u>	<u>\$0.00</u>
<u>Unit Subtotals:</u>	<u>\$508.88</u>	<u>\$837.67</u>	<u>\$347.11</u>	<u>\$345.21</u>	<u>\$237.06</u>	<u>\$201.20</u>
<u>Number of Units:</u>	<u>12</u>	<u>4</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>Group Subtotals:</u>	<u>Work:</u>	<u>\$9,457.24</u>	<u>Support:</u>	<u>\$692.32</u>	<u>Maint:</u>	<u>\$438.26</u>

Total work team cost/hour: \$10,587.82

## **MATERIAL QUANTITIES**

Initial volume:     6,083,510     CCY     Swell factor:     1.000  
Loose volume:     **6,083,510**     LCY

Source of estimated volume:     TR135 Appendix A Table A-1.1  
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:     3,300     Pounds/LCY  
Description:     Decomposed rock - 75% Rock, 25% Earth  
Rated Payload:     492,200     Pounds  
Payload Capacity:     149.15     LCY

Truck Bed (volume) Basis:

Struck Volume:     153.00     LCY  
Heaped Volume:     192.00     LCY  
Average Volume:     172.50     LCY  
Adjusted Volume:     149.15     LCY

Final Truck Volume Based on Number of Loader Passes:     **129.58**     LCY

### **Loading Tool Capacity**

Bucket Size Class:     NA

Rated Capacity:     58.900     LCY (heaped)  
Bucket Fill Factor:     1.100     Other - rock/dirt mixtures (100-120%) 1.100  
Adjusted Capacity:     **64.790**     LCY

### **Job Condition Corrections: Site Altitude (ft.): 6400 feet**

	<b><u>Truck</u></b>	<b><u>Loader</u></b>	<b><u>Source</u></b>
<u>Altitude Adj:</u>	<u>1.000</u>	<u>1.000</u>	<u>(CAT HB)</u>
<u>Job Efficiency:</u>	<u>0.830</u>	<u>0.830</u>	<u>(CAT HB)</u>
<u>Net Correction:</u>	<u><b>0.830</b></u>	<u><b>0.830</b></u>	

**Loading Tool Cycle Time:**     Number of Loading Tool Passes Required to     2     passes  
Fill Truck:



Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition

Rating:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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): NA minutes

<u>Cycle Time Factors</u>		<u>Factor (min.)</u>	<u>Source</u>
<u>Material:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Stockpile:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Truck Ownership:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Operation:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Dump Target:</u>	<u>NA</u>	<u>NA</u>	<u>(Cat HB)</u>
<u>Net Cycle Time Adjustment:</u>		<u>NA</u>	<u>minutes</u>
<u>Adjusted Loader Cycle Time:</u>		<u>0.498</u>	<u>minutes</u>
<u>Net Load Time per Truck:</u>		<u>0.996</u>	<u>minutes</u>

Truck Cycle Time:

<u>Truck Exchange Time:</u>	<u>0.80</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>0.800</u>	<u>Minutes</u>
<u>Truck Load Time:</u>	<u>0.996</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>0.996</u>	<u>Minutes</u>
<u>Truck Maneuver and Dump Time:</u>	<u>1.20</u>	<u>Minutes</u>	<u>Adjusted for site altitude:</u>	<u>1.200</u>	<u>Minutes</u>

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

<u>Seg #</u>	<u>Haul Distance (Ft)</u>	<u>Grade (%)</u>	<u>Roll. Res (%)</u>	<u>Total Res (%)</u>	<u>Velocity (fpm)</u>	<u>Travel Time (min)</u>
<u>1</u>	<u>3711.00</u>	<u>-3.15</u>	<u>3.00</u>	<u>-0.15</u>	<u>3503</u>	<u>1.144</u>

Haul Time: 1.144 minutes

Return Route:

<u>Seg #</u>	<u>Haul Distance (Ft)</u>	<u>Grade (%)</u>	<u>Roll. Res (%)</u>	<u>Total Res (%)</u>	<u>Velocity (fpm)</u>	<u>Travel Time (min)</u>



<u>1</u>	<u>3711.00</u>	<u>3.15</u>	<u>3.00</u>	<u>6.15</u>	<u>2853</u>	<u>1.901</u>
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Return Time: 1.901 minutes  
Total Truck Cycle Time: 6.041 minutes

Loading Tool unit

Production 4,328.95 LCY/Hour Adjusted for job efficiency: 3,593.03 LCY/Hour

Truck Unit  
Production 1,287.01 LCY/Hour Adjusted for job efficiency: 1,068.21 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 3,204.64 LCY/Hour  
Adjusted single truck/loader team production: 3,204.64 LCY/Hour  
Adjusted multiple truck/loader team production: 12,818.57 LCY/Hour

**JOB TIME AND COST**

Fleet size: 4 Team(s) Total job time: 474.59 Hours

Unit cost: \$0.826 /LCY Total job cost: \$5,024,826

## REVEGETATION WORK

Task description: Seed L Pit: Rangeland with Shrubs

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L16 State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: L16  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60

Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye, Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### **JOB TIME AND COST**

No. of Acres:	803.9	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$740,898.36</b>
Reseeding Job Cost:	<b>\$129,657.21</b>
Total Job Cost:	<b>\$870,556</b>
Job Hours:	<b>804.00</b>



## REVEGETATION WORK

Task description: Seed L Pit diversion: Rangeland with Shrubs MR228

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L16MR228 State: Colorado Abbreviation: None  
Date: 2/24/2025 County: Moffat Filename: C010-L16MR228  
User: RAR

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60

Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### **JOB TIME AND COST**

No. of Acres:	2.3	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$2,119.75</b>
Reseeding Job Cost:	<b>\$370.96</b>
Total Job Cost:	<b>\$2,491</b>
Job Hours:	<b>2.30</b>

## BULLDOZER WORK

Task description: Regrade L Pit North Haul road.6.5 ac X 9 ft th.

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L17 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: L17  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership		
Cost/Hour:	\$496.62	NA
Operating		
Cost/Hour:	\$324.90	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op.		
Cost/Hour:	\$0.00	10
Operator		
Cost/Hour:	\$38.59	NA
Total unit	\$860.11	
Cost/Hour:		
Total Fleet	<b>\$1,720.21</b>	
Cost/Hour:		

## **MATERIAL QUANTITIES**

Initial  
Volume: 94,772  
Swell factor: 1.150  
Loose volume: **108,988** LCY

Source of estimated volume: Map M9 sh.3/3  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Average push distance: 75 feet  
Unadjusted hourly production: 3,584.2 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 5 %  
Average site altitude: 7,000 feet

Material weight: 2,475 lbs/LCY

Weight description: User Provided

<u>Job Condition</u>	<u>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:	1.000	(DOZ-OC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4700

Adjusted unit production: 1,684.57 LCY/hr



Adjusted fleet production:	<hr/> <b>3369.14</b> LCY/hr <hr/>
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**JOB TIME AND COST**

Fleet size:	<hr/> 2 Dozer(s) <hr/>
Unit cost:	<hr/> \$0.511/LCY <hr/>

Total job time:	<hr/> <b>32.35</b> Hours <hr/>
Total job cost:	<hr/> <b>\$55,647</b> <hr/>

## SCRAPER TEAM WORK

Task description: Replace Topsoil on L Pit (Scraper)

Site: Trapper Mine Permit Action: L18PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: L18 State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: L18  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 470,247 CCY Swell factor: 1.000  
Loose volume: 470,247 LCY

Source of estimated volume: A-9.1

Source of estimated swell factor:

Cat Handbook

## **HOURLY PRODUCTION**

### Scraper Bowl (volume) Basis:

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Earth - Dry packed</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>32.00 LCY</u>	Adjusted Capacity:	<u><b>29.00</b></u>	LCY

### Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

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

### Travel Time:

Road Condition: Hard, smooth, stabilized, surfaced, watered, maintained 2.0

### Haul Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	2334.00	4.20	2.00	6.20	1477	1.66

Haul Time: **1.66** minutes

### Return Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	2334.00	-4.20	2.00	-2.20	2972	0.83

Return Time: **0.83** minutes

Total Scraper team cycle time: **4.09** minutes

Adjusted for job conditions:	<u>706.21</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>2,824.84</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u><b>2,824.84</b></u>	LCY/Hour

Unadjusted unit production/hour:	<u>850.86</u>	LCY/Hour
Optimal Number of Scrapers per push dozer:	<u>                    </u>	

### **JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u><b>166.47</b></u>	Hours
Unit cost:	<u>\$2.179</u>	/LCY	Total job cost:	<u><b>\$1,024,555</b></u>	

## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil on L Pit (Truck/Excavator)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #:	<u>L19</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/19/2025</u>	County:	<u>Moffat</u>	Filename:	<u>L19</u>
User:	<u>RAR</u>				

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
% Utilization-ripper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$22.07
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$44.95
Number of Units:	4	1	1	1	1	1
Group Subtotals:	Work: \$1,894.70	Support:	\$692.32	Maint:	\$282.01	

Total work team cost/hour: **\$2,869.03**

## **MATERIAL QUANTITIES**

Initial volume:	<u>826,774</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u>826,774</u>	LCY		

Source of estimated volume:	<u>TR124 Appendix A Table A-3.1</u>
Source of estimated swell factor:	<u>Cat Handbook</u>
Material Purchase Cost:	<u>\$0.00</u>
Total Cost:	<u>\$0.00</u>

## **HOURLY PRODUCTION**

### **Truck Capacity:**

#### Truck Payload (weight) Basis:

Material weight:	<u>1,600</u>	Pounds/LCY
Description:	<u>Top Soil</u>	
Rated Payload:	<u>200,000</u>	Pounds
Payload Capacity:	<u>125.00</u>	LCY

#### Truck Bed (volume) Basis:

Struck Volume:	<u>60.60</u>	LCY
Heaped Volume:	<u>78.80</u>	LCY
Average Volume:	<u>69.70</u>	LCY
Adjusted Volume:	<u>78.80</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 77.72 LCY

### **Loading Tool Capacity**

Bucket Size Class: Large

Rated Capacity:	<u>7.850</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<u>8.635</u>	LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 9 passes

Excavators and Front Shovels:

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

ABOVE AVERAGE

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>2.516</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>2.516</u>	Minutes	Adjusted for site altitude:	<u>2.516</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	5925.00	4.40	3.00	7.40	1160	5.267

Haul Time: 5.267 minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4788.00	8.60	3.00	11.60	1628	3.064

Return Time: 3.064 minutes  
Total Truck Cycle Time: 12.847 minutes

## Loading Tool unit

Production 1,406.18 LCY/Hour Adjusted for job efficiency: 1,167.13 LCY/Hour

## Truck Unit

Production 362.96 LCY/Hour Adjusted for job efficiency: 301.25 LCY/Hour

Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 1,205.02 LCY/Hour

Adjusted single truck/loader team production: 1,167.13 LCY/Hour

Adjusted multiple truck/loader team production: 1,167.13 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 708.38 Hours

Unit cost: \$2.458 /LCY Total job cost: \$2,032,367



## SITE MAINTENANCE

Task description: Site Maintenance; Rill and Gully Repair and Pond Cleaning

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task LN20 State: Colorado Abbreviation: None  
#: \_\_\_\_\_  
Date: 2/20/2025 County: Moffat Filename: LN20  
User: RAR

Agency or organization name: DRMS

### UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Rill/Gully Repair 32hrs/year for 1st 5 years	32.00	Cat D7R DS Series II LGP	160.00	EA	\$207.78	\$33,244.80
Rill/Gully Repair32hrs/year for 1st 5 years	32.00	Cat 324D L 9'-8" Stick	160.00	EA	\$517.75	\$82,840.00
Rill/Gully Repair 16hrs/year for last 5 years	15.00	Cat D3K XL - 3P	80.00	EA	\$84.69	\$6,775.20
Pond Cleaning 1st Year, 8 Weeks	320.00	Cat 324D L 9'-8" Stick	320.00	EA	\$517.75	\$165,680.00
Pond Cleaning 2nd Year, 3 Weeks	120.00	Cat 324D L 9'-8" Stick	120.00	EA	\$517.75	\$62,130.00
Haul Truck Cleaning 1st Year	320.00	Cat 725	320.00	EA	\$217.29	\$69,532.80
Haul Truck Cleaning 2nd Year	320.00	Cat 725	120.00	EA	\$217.29	\$26,074.80

Job Hours: 600.00

Total Cost: \$446,277.60

## SITE MAINTENANCE

Task description: Site Maintenance; Drainage Stabilization TR134

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: LN20ATR State: Colorado Abbreviation: None  
Date: 2/25/2025 County: Moffat Filename: LN20A TR134  
User: RAR

Agency or organization name: DRMS

### UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Rill/Gully Repair 32hrs/year for 1st 5 years	24.00	Cat 324D L 9'-8" Stick	105.00	EA	\$517.75	\$54,363.75

#### **Job**

**Hours:** 600.00

**Total Cost:** \$54,363.75

## BULLDOZER WORK

Task description: Regrade N Pit

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N01 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: N01  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$496.62	NA
Operating Cost/Hour:	\$324.90	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	10
Operator Cost/Hour:	\$38.84	NA
Total unit Cost/Hour:	\$860.36	
Total Fleet Cost/Hour:	<b>\$1,720.71</b>	

### MATERIAL QUANTITIES

Initial  
Volume: 1,364,789  
Swell factor: 1.000  
Loose  
volume: **1,364,789** LCY

Source of estimated volume:	Table A-4.5
Source of estimated swell factor:	Cat Handbook

### **HOURLY PRODUCTION**

Average push distance:	325 feet
Unadjusted hourly production:	984.2 LCY/hr

Materials consistency description:	Consolidated stockpile 1.0
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Average push gradient:	-10 %
Average site altitude:	6,700 feet

Material weight:	2,475 lbs/LCY
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Weight description:	User Provided
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<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction:	0.6473
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Adjusted unit production:	637.07 LCY/hr
Adjusted fleet production:	<b>1274.14 LCY/hr</b>

### **JOB TIME AND COST**

Fleet size:	2 Dozer(s)
Unit cost:	\$1.350/LCY

Total job time: 1,071.15 Hours  
Total job cost: \$1,843,131

TRUCK/LOADER TEAM WORK

Task description: Backfill and Grading N Pit

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

**PROJECT IDENTIFICATION**

Task #: N02 State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: N02  
User: RAR

Agency or organization name: DRMS

**HOURLY EQUIPMENT COST** Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	KOMATSU 830E
-Loader:	CAT 6090
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 14,000 Gal.

**Cost Breakdown:** Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Shovel	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$209.47	\$302.35	\$257.39	\$257.39	\$179.39	\$130.32
Operating cost/hour:	\$274.17	\$501.45	\$49.23	\$49.23	\$29.91	\$70.88
%Utilization-riper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$508.88	\$837.67	\$347.11	\$345.21	\$237.06	\$201.20
Number of Units:	4	1	1	1	1	1
Group Subtotals:	Work: \$2,873.19	Support: \$692.32	Maint: \$438.26			

Total work team cost/hour: \$4,003.77



## **MATERIAL QUANTITIES**

Initial volume: 2,519,470 CCY Swell factor: 1.000  
Loose volume: **2,519,470** LCY

Source of estimated volume: TR124 Appendix A Table A-3.1  
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 Pounds/LCY  
Description: User Provided  
Rated Payload: 492,200 Pounds  
Payload Capacity: 492,200.00 LCY

#### **Truck Bed (volume) Basis:**

Struck Volume: 153.00 LCY  
Heaped Volume: 192.00 LCY  
Average Volume: 172.50 LCY  
Adjusted Volume: 192.00 LCY

Final Truck Volume Based on Number of Loader Passes: **194.37** LCY

### **Loading Tool Capacity**

Bucket Size Class: NA

Rated Capacity: 58.900 LCY (heaped)  
Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100  
Adjusted Capacity: **64.790** LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 3 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: ABOVE AVERAGE

Selected Value within this Basic Rating: AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.498</b>	minutes
Net Load Time per Truck:		<b>1.494</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>1.494</u>	Minutes	Adjusted for site altitude:	<u>1.494</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	4737.00	-8.00	3.00	-5.00	1870	2.666

Haul Time: 2.666 minutes



Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4737.00	8.00	3.00	11.00	1734	3.135

Return Time: 3.135 minutes  
Total Truck Cycle Time: 9.295 minutes

Loading Tool unit

Production 5,083.78 LCY/Hour Adjusted for job efficiency: 4,219.54 LCY/Hour

Truck Unit

Production 1,254.67 LCY/Hour Adjusted for job efficiency: 1,041.38 LCY/Hour

Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 4,165.52 LCY/Hour  
Adjusted single truck/loader team production: 4,165.52 LCY/Hour  
Adjusted multiple truck/loader team production: 4,165.52 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 604.84 Hours

Unit cost: \$0.961 /LCY Total job cost: \$2,421,638

## TRUCK/LOADER TEAM WORK

Task description: Backfill and Grading I Pit

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N02A State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: N02A  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	KOMATSU 830E
-Loader:	CAT 6090
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 14,000 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Shovel	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$209.47	\$302.35	\$257.39	\$257.39	\$179.39	\$130.32
Operating cost/hour:	\$274.17	\$501.45	\$49.23	\$49.23	\$29.91	\$70.88
%Utilization-ripper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$508.88	\$837.67	\$347.11	\$345.21	\$237.06	\$201.20
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$2,364.31	Support: \$692.32	Maint: \$438.26			

Total work team cost/hour: \$3,494.89

## **MATERIAL QUANTITIES**

Initial volume: 477,772 CCY    Swell factor: 1.000  
Loose volume: 477,772 LCY

Source of estimated volume: Appendix A Tables A-3.1  
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: 3,300 Pounds/LCY  
Description: Decomposed rock - 75% Rock, 25% Earth  
Rated Payload: 492,200 Pounds  
Payload Capacity: 149.15 LCY

#### **Truck Bed (volume) Basis:**

Struck Volume: 153.00 LCY  
Heaped Volume: 192.00 LCY  
Average Volume: 172.50 LCY  
Adjusted Volume: 149.15 LCY

Final Truck Volume Based on Number of Loader Passes: 145.78 LCY

### **Loading Tool Capacity**

Rated Capacity: 58.900 LCY (heaped)    Bucket Size Class: NA  
Bucket Fill Factor: 0.825    Blasted rock - avg. blasted (75 - 90%) 0.825  
Adjusted Capacity: 48.593 LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

Number of Loading Tool Passes Required to Fill Truck: 3 passes

### **Loading Tool Cycle Time:**

#### **Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition  
Rating:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.498</b>	minutes
Net Load Time per Truck:		<b>1.494</b>	minutes

### **Truck Cycle Time:**

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>1.494</u>	Minutes	Adjusted for site altitude:	<u>1.494</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	4063.00	-2.00	3.00	1.00	3503	1.751

Haul Time: **1.751** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4063.00	2.00	3.00	5.00	3296	1.884

Return Time: 1.884 minutes  
Total Truck Cycle Time: 7.129 minutes

## Loading Tool unit

Production 3,812.84 LCY/Hour Adjusted for job efficiency: 3,164.66 LCY/Hour

## Truck Unit

Production 1,226.91 LCY/Hour Adjusted for job efficiency: 1,018.34 LCY/Hour

Optimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 3,055.01 LCY/Hour  
Adjusted single truck/loader team production: 3,055.01 LCY/Hour  
Adjusted multiple truck/loader team production: 3,055.01 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 156.39 Hours

Unit cost: \$1.144 /LCY Total job cost: \$546,565

## BULLDOZER WORK

Task description: Backfill and Grading J Pit

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N02B State: Colorado Abbreviation: None  
Date: 2/19/2025 County: Moffat Filename: C010-N02B  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic  
Machine: Cat D11T - 11U  
Horsepower: 850  
Blade Type: Universal  
Attachment: NA  
Shift Basis: 3 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$496.62	NA
Operating Cost/Hour:	\$324.90	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	10
Operator Cost/Hour:	\$38.84	NA
Total unit Cost/Hour:	\$860.36	
Total Fleet Cost/Hour:	<b>\$1,720.71</b>	

### MATERIAL QUANTITIES

Initial  
Volume: 668,037  
Swell factor: 1.000  
Loose  
volume: **668,037** LCY

Source of estimated volume:	Table A-4.5
Source of estimated swell factor:	Cat Handbook

## **HOURLY PRODUCTION**

Average push distance:	325 feet
Unadjusted hourly production:	984.2 LCY/hr

Materials consistency description:	Consolidated stockpile 1.0
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Average push gradient:	-20 %
Average site altitude:	6,700 feet

Material weight:	2,475 lbs/LCY
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Weight description:	User Provided
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<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(S-BY-S)
Visibility:	0.800	(POOR)
Job efficiency:	0.790	(3 SHIFTS/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.929	(CAT HB)
Blade type:	1.000	(PAT)

Net correction:	0.7535
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Adjusted unit production:	741.59 LCY/hr
Adjusted fleet production:	<b>1483.18 LCY/hr</b>

### **JOB TIME AND COST**

Fleet size:	<u>2 Dozer(s)</u>
Unit cost:	<u>\$1.160/LCY</u>

Total job time:	<u><b>450.41</b> Hours</u>
Total job cost:	<u><b>\$775,023</b></u>



## SCRAPER TEAM WORK

Task description: Replace Topsoil on C Pit

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N13 State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: N13  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: \$6,154.65

### MATERIAL QUANTITIES

Initial volume: 304,436 CCY Swell factor: 1.000  
Loose volume: 304,436 LCY

Source of estimated volume: A-10.2  
Source of estimated swell factor: Cat Handbook

## **HOURLY PRODUCTION**

Scraper Bowl (volume) Basis:

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Earth - Dry packed</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>32.00 LCY</u>	Adjusted Capacity:	<u><b>29.00</b></u>	LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 6400 feet

	<b>Scraper</b>	<b>Push Dozer</b>	<b>Source</b>
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:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	2000.00	-4.50	3.00	-1.50	2972	0.72

Haul Time: **0.72** minutes

Return Route:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	2000.00	4.50	3.00	7.50	1931	1.12

Return Time: **1.12** minutes

Total Scraper team cycle time:	<u>3.44</u>	minutes
Adjusted for job conditions:	<u>839.65</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>3,358.60</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>3,358.60</u>	LCY/Hour

Unadjusted unit production/hour:	<u>1,011.63</u>	LCY/Hour
Optimal Number of Scrapers per push dozer:	<u>                    </u>	

### **JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>90.64</u>	Hours
Unit cost:	<u>\$1.833</u>	/LCY	Total job cost:	<u>\$557,880</u>	

## SCRAPER TEAM WORK

Task description: Replace Topsoil on N Pit (Scraper)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N14 State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: N14  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: **\$6,154.65**

## **MATERIAL QUANTITIES**

Initial volume: 329,830 CCY    Swell factor: 1.000  
Loose volume: **329,830** LCY

Source of estimated volume: A-9.1  
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><b>29.00</b></u>	LCY

### Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:    Site Altitude: 6400 feet

	<b>Scraper</b>	<b>Push Dozer</b>	<b>Source</b>
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:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	2667.00	8.00	3.00	11.00	786	3.41

Haul Time: **3.41** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2667.00	-8.00	3.00	-5.00	2972	0.94

Return Time: 0.94 minutes

Total Scraper team cycle time: 5.95 minutes  
Adjusted for job conditions: 485.45 LCY/Hour  
Selected Number of Scrapers: 8 Scraper(s)  
Adjusted single scraper team (unit) hourly production: 1,941.78 LCY/Hour  
Adjusted multiple scraper team (fleet) hourly production: 1,941.78 LCY/Hour

Unadjusted unit production/hour: 584.87 LCY/Hour  
Optimal Number of Scrapers per push dozer: \_\_\_\_\_

### **JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 169.86 Hours

Unit cost: \$3.170 /LCY Total job cost: \$1,045,426

## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil on N Pit (Truck/Excavator)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N14A State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: C010-N14A  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-ripper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$22.88
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$1,517.55	Support: \$692.32	Maint: \$259.94			

Total work team cost/hour: **\$2,469.81**

## **MATERIAL QUANTITIES**

Initial volume: 135,503 CCY    Swell factor: 1.000  
Loose volume: 135,503 LCY

Source of estimated volume: Appendix A Tables A-10.8  
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: 200,000 Pounds  
Payload Capacity: 125.00 LCY

#### **Truck Bed (volume) Basis:**

Struck Volume: 60.60 LCY  
Heaped Volume: 78.80 LCY  
Average Volume: 69.70 LCY  
Adjusted Volume: 78.80 LCY

Final Truck Volume Based on Number of Loader Passes: 77.72 LCY

### **Loading Tool Capacity**

Bucket Size Class: Large

Rated Capacity: 7.850 LCY (heaped)  
Bucket Fill Factor: 0.825 Blasted rock - avg. blasted (75 - 90%) 0.825  
Adjusted Capacity: 6.476 LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:**    Number of Loading Tool Passes Required to Fill Truck: 12 passes



Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition

Rating:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>3.422</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>3.422</u>	Minutes	Adjusted for site altitude:	<u>3.422</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	4114.00	7.00	3.00	10.00	795	5.237

Haul Time: **5.237** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4114.00	-7.00	3.00	-4.00	3450	1.229

**1.229** minutes

Return Time:  
Total Truck Cycle Time: 11.888 minutes

Loading Tool unit					
Production	<u>1,104.43</u>	LCY/Hour	Adjusted for job efficiency:	<u>916.68</u>	LCY/Hour
Truck Unit					
Production	<u>392.24</u>	LCY/Hour	Adjusted for job efficiency:	<u>325.56</u>	LCY/Hour
Optimal No. of Trucks:	<u>3</u>	Truck(s)	Selected Number of Trucks:	<u>3</u>	Truck(s)

Adjusted hourly truck team production:	<u>976.67</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>916.68</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>916.68</u>	LCY/Hour

### **JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>147.82</u>	Hours
Unit cost:	<u>\$2.694</u>	/LCY	Total job cost:	<u>\$365,087</u>	

## SCRAPER TEAM WORK

Task description: Replace Topsoil in I Pit

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N15 State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: N15  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: **\$6,154.65**

## **MATERIAL QUANTITIES**

Initial volume: 56,983 CCY    Swell factor: 1.000  
Loose volume: **56,983** LCY

Source of estimated volume: PR10 Tables A-9.1, A-10.4 and TALPACS  
Summary (TMI)

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><b>29.00</b></u>	LCY

### Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:    Site Altitude: 6400 feet

	<b>Scraper</b>	<b>Push Dozer</b>	<b>Source</b>
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:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	958.00	2.70	3.00	5.70	1477	0.70

Haul Time: **0.70** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	958.00	-2.70	3.00	0.30	2965	0.43

Return Time: 0.43 minutes

Total Scraper team cycle time:	<u>2.73</u>	minutes
Adjusted for job conditions:	<u>1,058.02</u>	LCY/Hour
Selected Number of Scrapers:	<u>8</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>4,232.09</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>4,232.09</u>	LCY/Hour

Unadjusted unit production/hour: 1,274.73 LCY/Hour

Optimal Number of Scrapers per  
push dozer: \_\_\_\_\_

### **JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 13.46 Hours

Unit cost: \$1.454 /LCY Total job cost: \$82,869

## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil on J Pit (Truck/Excavator)

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N16 State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: N16  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-ripper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$22.88
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$1,517.55	Support: \$692.32	Maint: \$259.94			

Total work team cost/hour: \$2,469.81

## **MATERIAL QUANTITIES**

Initial volume: 94,623 CCY Swell factor: 1.000  
Loose volume: **94,623** LCY

Source of estimated volume: Appendix A Tables A-10.5A  
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: 200,000 Pounds  
Payload Capacity: 125.00 LCY

#### **Truck Bed (volume) Basis:**

Struck Volume: 60.60 LCY  
Heaped Volume: 78.80 LCY  
Average Volume: 69.70 LCY  
Adjusted Volume: 78.80 LCY

Final Truck Volume Based on Number of Loader Passes: **77.72** LCY

### **Loading Tool Capacity**

Bucket Size Class: Large

Rated Capacity: 7.850 LCY (heaped)  
Bucket Fill Factor: 0.825 Blasted rock - avg. blasted (75 - 90%) 0.825  
Adjusted Capacity: **6.476** LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 12 passes

### Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition

Rating:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		<u>NA</u>	minutes
Adjusted Loader Cycle Time:		<u><b>0.302</b></u>	minutes
Net Load Time per Truck:		<u><b>3.422</b></u>	minutes

### Truck Cycle Time:

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>3.422</u>	Minutes	Adjusted for site altitude:	<u>3.422</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	7866.00	-3.30	3.00	-0.30	3503	2.364

Haul Time: **2.364** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7866.00	3.30	3.00	6.30	2853	3.080

Return Time:	<u><b>3.080</b></u>	minutes
Total Truck Cycle Time:	<u><b>10.866</b></u>	minutes



Loading Tool unit					
Production	<u>1,104.43</u>	LCY/Hour	Adjusted for job efficiency:	<u>916.68</u>	LCY/Hour
Truck Unit					
Production	<u>429.13</u>	LCY/Hour	Adjusted for job efficiency:	<u>356.18</u>	LCY/Hour
Optimal No. of Trucks:	<u>3</u>	Truck(s)	Selected Number of Trucks:	<u>3</u>	Truck(s)

Adjusted hourly truck team production:	<u>1,068.53</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>916.68</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u><b>916.68</b></u>	LCY/Hour

### **JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u><b>103.22</b></u>	Hours
Unit cost:	<u>\$2.694</u>	/LCY	Total job cost:	<u><b>\$254,944</b></u>	

## SCRAPER TEAM WORK

Task description: **Replace Topsoil in J Pit (Scraper)**

Site: **Trapper Mine** Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N16A State: Colorado Abbreviation: None  
Date: 2/20/2025 County: Moffat Filename: C010-N16A  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 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	50	50	60
Ownership cost/hour:	\$281.32	NA	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$319.35	NA	\$98.47	\$98.47	\$59.82	\$13.47
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	\$38.59	\$38.59	\$27.76	\$21.12
Unit Subtotals:	\$631.57	NA	\$394.44	\$394.44	\$266.97	\$46.24
Number of Units:	8	0	1	1	1	1
Group Subtotals:	Work:	\$5,052.56	Support:	\$788.88	Maint:	\$313.21

Total work team cost/hour: **\$6,154.65**

## **MATERIAL QUANTITIES**

Initial volume: 11,260 CCY    Swell factor: 1.000  
Loose volume: **11,260** LCY

Source of estimated volume: PR10 Tables A-9.1, A-10.4 and TALPACS  
Summary (TMI)

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><b>29.00</b></u>	LCY

### Cycle Time:

Scraper Loading Time: 1.00 Minutes  
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:    Site Altitude: 6400 feet

	<b>Scraper</b>	<b>Push Dozer</b>	<b>Source</b>
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:

<b>Seg #</b>	<b>Haul Distance (Ft)</b>	<b>Grade (%)</b>	<b>Roll. Res (%)</b>	<b>Total Res (%)</b>	<b>Velocity (fpm)</b>	<b>Travel Time (min)</b>
1	2938.00	-1.50	3.00	1.50	2939	1.18

Haul Time: **1.18** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2938.00	1.50	3.00	4.50	2910	1.19

Return Time: 1.19 minutes

Total Scraper team cycle time: 3.97 minutes  
Adjusted for job conditions: 727.56 LCY/Hour  
Selected Number of Scrapers: 8 Scraper(s)  
Adjusted single scraper team (unit) hourly production: 2,910.23 LCY/Hour  
Adjusted multiple scraper team (fleet) hourly production: 2,910.23 LCY/Hour

Unadjusted unit production/hour: 876.57 LCY/Hour  
Optimal Number of Scrapers per  
push dozer: \_\_\_\_\_

### **JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 3.87 Hours  
Unit cost: \$2.115 /LCY Total job cost: \$23,813

## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil on J Pit A91-8 to J Pit TR134

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N16ATR State: Colorado Abbreviation: None  
Date: 2/25/2025 County: Moffat Filename: N16A TR134  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-ripper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$22.88
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$1,517.55	Support: \$692.32	Maint: \$259.94			

Total work team cost/hour: **\$2,469.81**

## **MATERIAL QUANTITIES**

Initial volume: 21,038 CCY    Swell factor: 1.000  
Loose volume: **21,038** LCY

Source of estimated volume: Appendix A Tables A-10.5A  
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: 200,000 Pounds  
Payload Capacity: 125.00 LCY

#### **Truck Bed (volume) Basis:**

Struck Volume: 60.60 LCY  
Heaped Volume: 78.80 LCY  
Average Volume: 69.70 LCY  
Adjusted Volume: 78.80 LCY

Final Truck Volume Based on Number of Loader Passes: **77.72** LCY

### **Loading Tool Capacity**

Bucket Size Class: Large  
Rated Capacity: 7.850 LCY (heaped)  
Bucket Fill Factor: 0.825 Blasted rock - avg. blasted (75 - 90%) 0.825  
Adjusted Capacity: **6.476** LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

Number of Loading Tool Passes Required  
to Fill Truck: 12 passes

**Loading Tool Cycle Time:****Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition

Rating:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>3.422</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>3.422</u>	Minutes	Adjusted for site altitude:	<u>3.422</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

**Truck Travel (Haul & Return) 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	7749.00	-2.60	3.00	0.40	3503	2.639

Haul Time: **2.639** minutes**Return Route:**

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7749.00	2.60	3.00	5.60	2853	2.981

Return Time:	<u>2.981</u>	minutes
Total Truck Cycle Time:	<u>11.042</u>	minutes

Loading Tool unit					
Production	<u>1,104.43</u>	LCY/Hour	Adjusted for job efficiency:	<u>916.68</u>	LCY/Hour
Truck Unit					
Production	<u>422.29</u>	LCY/Hour	Adjusted for job efficiency:	<u>350.50</u>	LCY/Hour
Optimal No. of Trucks:	<u>3</u>	Truck(s)	Selected Number of Trucks:	<u>3</u>	Truck(s)

Adjusted hourly truck team production:	<u>1,051.50</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>916.68</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>916.68</u>	LCY/Hour

### **JOB TIME AND COST**

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>22.95</u>	Hours
Unit cost:	<u>\$2.694</u>	/LCY	Total job cost:	<u>\$56,683</u>	



## TRUCK/LOADER TEAM WORK

Task description: Replace Topsoil on J Pit ASH-1 to J Pit TR134

Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: N16AATR State: Colorado Abbreviation: None  
Date: 2/25/2025 County: Moffat Filename: N16AA TR134  
User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

### Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-ripper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$22.88
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$1,517.55	Support: \$692.32	Maint: \$259.94			

Total work team cost/hour: **\$2,469.81**

## **MATERIAL QUANTITIES**

Initial volume: 34,913 CCY    Swell factor: 1.000  
Loose volume: **34,913** LCY

Source of estimated volume: Appendix A Tables A-10.5A  
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: 200,000 Pounds  
Payload Capacity: 125.00 LCY

#### **Truck Bed (volume) Basis:**

Struck Volume: 60.60 LCY  
Heaped Volume: 78.80 LCY  
Average Volume: 69.70 LCY  
Adjusted Volume: 78.80 LCY

Final Truck Volume Based on Number of Loader Passes: **77.72** LCY

### **Loading Tool Capacity**

Bucket Size Class: Large

Rated Capacity: 7.850 LCY (heaped)  
Bucket Fill Factor: 0.825 Blasted rock - avg. blasted (75 - 90%) 0.825  
Adjusted Capacity: **6.476** LCY

### **Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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



## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7908.00	-3.50	3.00	-0.50	3503	2.376

Haul Time: **2.376** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	7908.00	3.50	3.00	6.50	2853	3.115

Return Time: **3.115** minutesTotal Truck Cycle Time: **10.913** minutes

## Loading Tool unit

Production 1,104.43 LCY/Hour Adjusted for job efficiency: 916.68 LCY/Hour

## Truck Unit

Production 427.28 LCY/Hour Adjusted for job efficiency: 354.64 LCY/Hour

Optimal No. of Trucks: \_\_\_\_\_

3

Truck(s)

Selected Number of Trucks:

3

Truck(s)

Adjusted hourly truck team production:

1,063.93 LCY/Hour

Adjusted single truck/loader team production:

916.68 LCY/Hour

Adjusted multiple truck/loader team production:

**916.68** LCY/Hour**JOB TIME AND COST**Fleet size: 1 Team(s) Total job time: **38.09** HoursUnit cost: \$2.694 /LCY Total job cost: **\$94,066**

REVEGETATION WORKTask description: Seed L Pit, K Nob: >6700 ft.-Rangeland with Shrubs TR135Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010PROJECT IDENTIFICATION

Task #: N16TR135 State: Colorado Abbreviation: None  
 Date: 2/25/2025 County: Moffat Filename: C010-N16TR135  
 User: RAR

Agency or organization name: DRMSSEEDING

<u>Seed Mix</u>	<u>Rate – PLS LBS / Acre</u>	<u>Seeds per SQ. FT</u>	<u>Cost /Acre</u>
<u>Arrowleaf Balsamroot</u>	<u>0.40</u>	<u>0.50</u>	<u>\$39.81</u>
<u>Beardless Wheatgrass - Whitmar</u>	<u>0.31</u>	<u>1.01</u>	<u>\$4.29</u>
<u>Bitterbrush, Antelope</u>	<u>4.40</u>	<u>1.35</u>	<u>\$248.66</u>
<u>Mountain Brome - Bromar</u>	<u>0.72</u>	<u>1.16</u>	<u>\$4.33</u>
<u>Great Basin Wildrye - Magnar</u>	<u>0.92</u>	<u>3.74</u>	<u>\$10.75</u>
<u>Kentucky Bluegrass - Ginger</u>	<u>0.06</u>	<u>2.96</u>	<u>\$0.25</u>
<u>Alfalfa - Ladak (inoculated)</u>	<u>0.10</u>	<u>0.48</u>	<u>\$0.40</u>
<u>Chokecherry</u>	<u>3.00</u>	<u>0.21</u>	<u>\$148.37</u>
<u>Burnett, Small (or Little) - Delar</u>	<u>0.40</u>	<u>0.51</u>	<u>\$1.78</u>
<u>Sheep Fescue - Covar</u>	<u>0.15</u>	<u>2.34</u>	<u>\$0.92</u>
<u>Milk Vetch, Cicer - Lutana</u>	<u>0.30</u>	<u>1.00</u>	<u>\$2.94</u>
<u>Slender Wheatgrass - San Luis</u>	<u>0.28</u>	<u>1.02</u>	<u>\$1.69</u>
<u>Streambank Wheatgrass - Sodar</u>	<u>0.26</u>	<u>0.85</u>	<u>\$2.16</u>
<u>Thickspike Wheatgrass - Critana</u>	<u>0.28</u>	<u>0.99</u>	<u>\$2.28</u>
<u>Western Wheatgrass - Arriba</u>	<u>0.38</u>	<u>0.96</u>	<u>\$3.43</u>
<u>Rabbitbrush, Rubber</u>	<u>0.26</u>	<u>3.87</u>	<u>\$21.68</u>
<u>Needlegrass, Green - Lodorm</u>	<u>0.24</u>	<u>1.00</u>	<u>\$2.07</u>
<u>Rose, Wood's</u>	<u>0.96</u>	<u>0.00</u>	<u>\$51.24</u>
<u>Sagebrush, Mountain or Big</u>	<u>0.07</u>	<u>3.70</u>	<u>\$5.79</u>
<u>Flax, Lewis Blue</u>	<u>0.30</u>	<u>1.99</u>	<u>\$12.69</u>
<u>Red Top</u>	<u>0.02</u>	<u>2.29</u>	<u>\$0.21</u>
<u>Sagebrush, Silver</u>	<u>0.10</u>	<u>1.94</u>	<u>\$6.81</u>
<u>Saltbush, Four Wing</u>	<u>0.62</u>	<u>0.85</u>	<u>\$12.32</u>
<u>Serviceberry</u>	<u>0.29</u>	<u>0.53</u>	<u>\$31.62</u>
<u>Snowberry, Mountain</u>	<u>0.58</u>	<u>1.00</u>	<u>\$34.25</u>
<u>Penstemon, Rocky Mountain</u>	<u>0.14</u>	<u>2.19</u>	<u>\$8.60</u>

<u>Yarrow, Western</u>	<u>0.07</u>	<u>4.26</u>	<u>\$3.38</u>
<u>Globemallow, Munro</u>	<u>0.08</u>	<u>0.91</u>	<u>\$10.31</u>
<u>Aster, Pacific</u>	<u>0.02</u>	<u>0.35</u>	<u>\$2.80</u>
<u>Goldeneye - Showy</u>	<u>0.08</u>	<u>0.92</u>	<u>\$9.13</u>
<b><u>Totals Seed Mix</u></b>	<b><u>15.79</u></b>	<b><u>44.87</u></b>	<b><u>\$684.99</u></b>

**Application**

<b><u>Description</u></b>	<b><u>Cost /Acre</u></b>
<u>Drill Seeding (DRMS Survey Cost)</u>	<u>\$236.64</u>
<b><u>Total Seed Application Cost/Acre</u></b>	<b><u>\$236.64</u></b>

**JOB TIME AND COST**

<u>No. of Acres:</u>	<u>4.9</u>	<u>Cost /Acre:</u>	<u>\$921.63</u>
<u>Estimated Failure Rate:</u>	<u>17.5%</u>	<u>Cost /Acre*:</u>	<u>\$921.63</u>
<u>*Selected Replanting Work Items:</u>	<u>SEEDING</u>		

<u>Initial Job Cost:</u>	<b><u>\$4,515.99</u></b>
<u>Reseeding Job Cost:</u>	<b><u>\$790.30</u></b>
<u>Total Job Cost:</u>	<b><u>\$5,306</u></b>
<u>Job Hours:</u>	<b><u>3.50</u></b>

**TRUCK/LOADER TEAM WORK**Task description: **Replace Topsoil on I/J Pit**Site: **Trapper Mine** Permit Action: **PR12** Permit/Job#: **C1981010****PROJECT IDENTIFICATION**

Task #:	<u>N17</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/20/2025</u>	County:	<u>Moffat</u>	Filename:	<u>N17</u>
User:	<u>RAR</u>				

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

Equipment Description	
Truck Loader Team -Truck:	Cat 777F
-Loader:	Cat 385C L 18'-1" Stick
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 2,500 Gal.

**Cost Breakdown:** Truck/Loader Team Support Equipment Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	25	25	25	50
Ownership cost/hour:	\$199.47	\$220.92	\$257.39	\$257.39	\$179.39	\$11.65
Operating cost/hour:	\$152.44	\$131.31	\$49.23	\$49.23	\$29.91	\$11.23
%Utilization-riper:	NA	0	15	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$20.05	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$1.90	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.24	\$33.87	\$38.59	\$38.59	\$27.76	\$0.00
Unit Subtotals:	\$377.15	\$386.10	\$347.11	\$345.21	\$237.06	\$22.88
Number of Units:	2	1	1	1	1	1
Group Subtotals:	Work: \$1,140.40		Support: \$692.32		Maint: \$259.94	

Total work team cost/hour: **\$2,092.66**

**MATERIAL QUANTITIES**

Initial volume:	<u>49,788</u>	CCY	Swell factor:	<u>1.000</u>
Loose volume:	<u><b>49,788</b></u>	LCY		

Source of estimated volume:	<u>Appendix A Tables A-10.6</u>
Source of estimated swell factor:	<u>Cat Handbook</u>
Material Purchase Cost:	<u>\$0.00</u>
Total Cost:	<u>\$0.00</u>

**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**

Material weight:	<u>1,600</u>	Pounds/LCY
Description:	<u>Top Soil</u>	
Rated Payload:	<u>200,000</u>	Pounds
Payload Capacity:	<u>125.00</u>	LCY

**Truck Bed (volume) Basis:**

Struck Volume:	<u>60.60</u>	LCY
Heaped Volume:	<u>78.80</u>	LCY
Average Volume:	<u>69.70</u>	LCY
Adjusted Volume:	<u>78.80</u>	LCY

Final Truck Volume Based on Number of Loader Passes:	<u><b>77.72</b></u>	LCY
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**Loading Tool Capacity**

		Bucket Size Class:	<u>Large</u>
Rated Capacity:	<u>7.850</u>	LCY (heaped)	
Bucket Fill Factor:	<u>0.825</u>	Blasted rock - avg. blasted (75 - 90%)	<u>0.825</u>
Adjusted Capacity:	<u><b>6.476</b></u>	LCY	

**Job Condition Corrections:** Site Altitude (ft.): 6400 feet

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

**Loading Tool Cycle Time:**

Number of Loading Tool Passes Required to Fill Truck:	<u>12</u>	passes
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Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition

Rating:

ABOVE AVERAGE

Selected Value within this Basic Rating:

AVERAGE

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):

NA

minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.302</b>	minutes
Net Load Time per Truck:		<b>3.422</b>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes
Truck Load Time:	<u>3.422</u>	Minutes	Adjusted for site altitude:	<u>3.422</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.20</u>	Minutes	Adjusted for site altitude:	<u>1.200</u>	Minutes

Truck Travel (Haul & Return) 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	3851.00	-4.00	3.00	-1.00	3503	1.180

Haul Time: **1.180** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3851.00	4.00	3.00	7.00	2398	1.809

Return Time: 1.809 minutes  
Total Truck Cycle Time: 8.411 minutes

## Loading Tool unit

Production 1,104.43 LCY/Hour      Adjusted for job efficiency: 916.68 LCY/Hour

## Truck Unit

Production 554.38 LCY/Hour      Adjusted for job efficiency: 460.14 LCY/Hour

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

Adjusted hourly truck team production: 920.27 LCY/Hour

Adjusted single truck/loader team production: 916.68 LCY/Hour

Adjusted multiple truck/loader team production: 916.68 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)      Total job time: 54.31 Hours

Unit cost: \$2.283 /LCY      Total job cost: \$113,660

**REVEGETATION WORK**Task description: Seed N Pit Rangeland w/o shrubs (<6700 ft.)Site: Trapper MinePermit Action: PR12Permit/Job#: C1981010**PROJECT IDENTIFICATION**

Task #: N18 State: Colorado Abbreviation: None  
 Date: 2/20/2025 County: Moffat Filename: C010-N18  
 User: RAR

Agency or organization name: DRMS**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**JOB TIME AND COST**

No. of Acres:	44.1	Cost /Acre:	\$360.87
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$15,914.37</b>
Reseeding Job Cost:	<b>\$2,785.01</b>
Total Job Cost:	<b>\$18,699</b>
Job Hours:	<b>44.00</b>

**REVEGETATION WORK**Task description: Seed N Pit: >6700 ft.-Rangeland with ShrubsSite: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010**PROJECT IDENTIFICATION**

Task #: N18A State: Colorado Abbreviation: None  
 Date: 2/20/2025 County: Moffat Filename: C010-N18A  
 User: RAR

Agency or organization name: DRMS**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Bitterbrush, Antelope	4.40	1.35	\$248.66
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Chokecherry	3.00	0.21	\$148.37
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Rabbitbrush, Rubber	0.26	3.87	\$21.68
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Rose, Wood's	0.96	0.00	\$51.24
Sagebrush, Mountain or Big	0.07	3.70	\$5.79
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	0.62	0.85	\$12.32
Serviceberry	0.29	0.53	\$31.62
Snowberry, Mountain	0.58	1.00	\$34.25
Penstemon, Rocky Mountain	0.14	2.19	\$8.60

Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	15.79	44.87	<b>\$684.99</b>

### Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

### JOB TIME AND COST

No. of Acres:	244.4	Cost /Acre:	\$921.63
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$921.63
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$225,246.37</b>
Reseeding Job Cost:	<b>\$39,418.12</b>
Total Job Cost:	<b>\$264,664</b>
Job Hours:	<b>244.00</b>

**REVEGETATION WORK**Task description: Seed J Pit without shrubs (Range C)Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010**PROJECT IDENTIFICATION**

Task #:	<u>N19</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>2/20/2025</u>	County:	<u>Moffat</u>	Filename:	<u>N19</u>
User:	<u>RAR</u>				

Agency or organization name: DRMS**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**JOB TIME AND COST**

No. of Acres:	65.8	Cost /Acre:	\$360.87
Estimated Failure Rate:	17.5%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$23,745.25</b>
Reseeding Job Cost:	<b>\$4,155.42</b>
Total Job Cost:	<b>\$27,901</b>
Job Hours:	<b>66.00</b>



REVEGETATION WORKTask description: Seed J Pit without shrubs (Range C) TR135Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010PROJECT IDENTIFICATION

Task #: N19TR134 State: Colorado Abbreviation: None  
 Date: 2/25/2025 County: Moffat Filename: N19 TR134  
 User: RAR

Agency or organization name: DRMSSEEDING

<u>Seed Mix</u>	<u>Rate – PLS LBS / Acre</u>	<u>Seeds per SQ. FT</u>	<u>Cost /Acre</u>
<u>Arrowleaf Balsamroot</u>	<u>0.40</u>	<u>0.50</u>	<u>\$39.81</u>
<u>Beardless Wheatgrass - Whitmar</u>	<u>0.31</u>	<u>1.01</u>	<u>\$4.29</u>
<u>Mountain Brome - Bromar</u>	<u>0.72</u>	<u>1.16</u>	<u>\$4.33</u>
<u>Great Basin Wildrye - Magnar</u>	<u>0.92</u>	<u>3.74</u>	<u>\$10.75</u>
<u>Kentucky Bluegrass - Ginger</u>	<u>0.06</u>	<u>2.96</u>	<u>\$0.25</u>
<u>Alfalfa - Ladak (inoculated)</u>	<u>0.10</u>	<u>0.48</u>	<u>\$0.40</u>
<u>Burnett, Small (or Little) - Delar</u>	<u>0.40</u>	<u>0.51</u>	<u>\$1.78</u>
<u>Sheep Fescue - Covar</u>	<u>0.15</u>	<u>2.34</u>	<u>\$0.92</u>
<u>Milk Vetch, Cicer - Lutana</u>	<u>0.30</u>	<u>1.00</u>	<u>\$2.94</u>
<u>Slender Wheatgrass - San Luis</u>	<u>0.28</u>	<u>1.02</u>	<u>\$1.69</u>
<u>Streambank Wheatgrass - Sodar</u>	<u>0.26</u>	<u>0.85</u>	<u>\$2.16</u>
<u>Thickspike Wheatgrass - Critana</u>	<u>0.28</u>	<u>0.99</u>	<u>\$2.28</u>
<u>Western Wheatgrass - Arriba</u>	<u>0.38</u>	<u>0.96</u>	<u>\$3.43</u>
<u>Needlegrass, Green - Lodorm</u>	<u>0.24</u>	<u>1.00</u>	<u>\$2.07</u>
<u>Flax, Lewis Blue</u>	<u>0.30</u>	<u>1.99</u>	<u>\$12.69</u>
<u>Red Top</u>	<u>0.02</u>	<u>2.29</u>	<u>\$0.21</u>
<u>Penstemon, Rocky Mountain</u>	<u>0.14</u>	<u>2.19</u>	<u>\$8.60</u>
<u>Yarrow, Western</u>	<u>0.07</u>	<u>4.26</u>	<u>\$3.38</u>
<u>Globemallow, Munro</u>	<u>0.08</u>	<u>0.91</u>	<u>\$10.31</u>
<u>Aster, Pacific</u>	<u>0.02</u>	<u>0.35</u>	<u>\$2.80</u>
<u>Goldeneye - Showy</u>	<u>0.08</u>	<u>0.92</u>	<u>\$9.13</u>
<u>Totals Seed Mix</u>	<u>5.51</u>	<u>31.41</u>	<u>\$124.23</u>

**Application**

<b><u>Description</u></b>	<b><u>Cost /Acre</u></b>
<u>Drill Seeding (DRMS Survey Cost)</u>	<u>\$236.64</u>
<b><u>Total Seed Application Cost/Acre</u></b>	<b><u>\$236.64</u></b>

**JOB TIME AND COST**

<u>No. of Acres:</u>	<u>34.7</u>	<u>Cost /Acre:</u>	<u>\$360.87</u>
<u>Estimated Failure Rate:</u>	<u>17.5%</u>	<u>Cost /Acre*:</u>	<u>\$360.87</u>
<u>*Selected Replanting Work Items:</u>	<u>TILLING, SEEDING</u>		

<u>Initial Job Cost:</u>	<u>\$12,522.19</u>
<u>Reseeding Job Cost:</u>	<u>\$2,191.38</u>
<u>Total Job Cost:</u>	<u>\$14,714</u>
<u>Job Hours:</u>	<u>66.00</u>

**REVEGETATION WORK**Task description: Seed I Pit without ShrubsSite: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010**PROJECT IDENTIFICATION**

Task #: N20 State: Colorado Abbreviation: None  
 Date: 2/20/2025 County: Moffat Filename: N20  
 User: RAR

Agency or organization name: DRMS**SEEDING**

<b>Seed Mix</b>	<b>Rate – PLS LBS / Acre</b>	<b>Seeds per SQ. FT</b>	<b>Cost /Acre</b>
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**JOB TIME AND COST**

No. of Acres:	35.3	Cost /Acre:	\$360.87
Estimated Failure Rate:	17%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$12,738.71</b>
Reseeding Job Cost:	<b>\$2,165.58</b>
Total Job Cost:	<b>\$14,904</b>
Job Hours:	<b>35.00</b>

**REVEGETATION WORK**Task description: Seed I/J Pits no shrubs (Range C)Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010**PROJECT IDENTIFICATION**

Task #: N21 State: Colorado Abbreviation: None  
 Date: 2/20/2025 County: Moffat Filename: N21  
 User: RAR

Agency or organization name: DRMS**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye, Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**JOB TIME AND COST**

No. of Acres:	30.9	Cost /Acre:	\$360.87
Estimated Failure Rate:	17%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$11,150.88</b>
Reseeding Job Cost:	<b>\$1,895.65</b>
Total Job Cost:	<b>\$13,047</b>
Job Hours:	<b>31.00</b>

**REVEGETATION WORK**Task description: Seed J Pits no shrubs (Range C) MR229Site: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010**PROJECT IDENTIFICATION**

Task #: N21AMR State: Colorado Abbreviation: None  
 Date: 2/24/2025 County: Moffat Filename: MR229  
 User: RAR

Agency or organization name: DRMS**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

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<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>



**JOB TIME AND COST**

No. of Acres:	12.3	Cost /Acre:	\$360.87
Estimated Failure Rate:	17%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$4,438.70</b>
Reseeding Job Cost:	<b>\$754.58</b>
Total Job Cost:	<b>\$5,193</b>
Job Hours:	<b>31.00</b>

**REVEGETATION WORK**Task description: Seed C Pit No ShrubsSite: Trapper Mine Permit Action: PR12 Permit/Job#: C1981010**PROJECT IDENTIFICATION**

Task #: N22 State: Colorado Abbreviation: None  
 Date: 2/20/2025 County: Moffat Filename: N22  
 User: RAR

Agency or organization name: DRMS**SEEDING**

<b>Seed Mix</b>	<b>Rate – PLS LBS / Acre</b>	<b>Seeds per SQ. FT</b>	<b>Cost /Acre</b>
Arrowleaf Balsamroot	0.40	0.50	\$39.81
Beardless Wheatgrass - Whitmar	0.31	1.01	\$4.29
Mountain Brome - Bromar	0.72	1.16	\$4.33
Great Basin Wildrye - Magnar	0.92	3.74	\$10.75
Kentucky Bluegrass - Ginger	0.06	2.96	\$0.25
Alfalfa - Ladak (inoculated)	0.10	0.48	\$0.40
Burnett, Small (or Little) - Delar	0.40	0.51	\$1.78
Sheep Fescue - Covar	0.15	2.34	\$0.92
Milk Vetch, Cicer - Lutana	0.30	1.00	\$2.94
Slender Wheatgrass - San Luis	0.28	1.02	\$1.69
Streambank Wheatgrass - Sodar	0.26	0.85	\$2.16
Thickspike Wheatgrass - Critana	0.28	0.99	\$2.28
Western Wheatgrass - Arriba	0.38	0.96	\$3.43
Needlegrass, Green - Lodorm	0.24	1.00	\$2.07
Flax, Lewis Blue	0.30	1.99	\$12.69
Red Top	0.02	2.29	\$0.21
Penstemon, Rocky Mountain	0.14	2.19	\$8.60
Yarrow, Western	0.07	4.26	\$3.38
Globemallow, Munro	0.08	0.91	\$10.31
Aster, Pacific	0.02	0.35	\$2.80
Goldeneye - Showy	0.08	0.92	\$9.13
<b>Totals Seed Mix</b>	<b>5.51</b>	<b>31.41</b>	<b>\$124.23</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$236.64
<b>Total Seed Application Cost/Acre</b>	<b>\$236.64</b>

**JOB TIME AND COST**

No. of Acres:	188.7	Cost /Acre:	\$360.87
Estimated Failure Rate:	17%	Cost /Acre*:	\$360.87
*Selected Replanting Work Items:	TILLING, SEEDING		

Initial Job Cost:	<b>\$68,096.17</b>
Reseeding Job Cost:	<b>\$11,576.35</b>
Total Job Cost:	<b>\$79,673</b>
Job Hours:	<b>189.00</b>

## COST SUMMARY WORK

Task description: PR 12 Reclamation Cost Estimate

Site: Trapper Mine

Permit Action: PR12

Permit/Job#: C1981010

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 2/6/2025

County: Moffat

Filename: C010-000

User: RAR

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Ash Disposal Pit Regrade (NW section)	DOZER	2	11.75	\$20,213
001B	Load/Haul Section E1,423,800	TRUCK1	1	40.89	\$295,196
002	Ash Disposal Pit Regrade (Section 1)	DOZER	2	25.26	\$43,472
002B	Ash Disposal Pit Regrade (Section 2)	DOZER	2	32.20	\$55,407
003	Ash Disposal Pit Regrade (Section 3-1)	DOZER	2	2.27	\$3,907
003B	Ash Disposal Pit Regrade (Section 3-2)	DOZER	2	77.54	\$133,424
004	Regrade Johnson Coal Stockpile	DOZER	1	13.37	\$11,503
004A	D/E Pit Regrade (Spoil Side East)	DOZER	8	91.64	\$630,752
005A	D/E Pit Regrade (West)	DOZER	6	117.26	\$605,313
030	Regrade BC Road	DOZER	4	72.55	\$143,032
031	Regrade D-Main Road	DOZER	4	53.06	\$104,620
032	Regrade East and West Ash Roads	DOZER	4	87.61	\$172,730
033	Regrade LOM Roads	DOZER	4	158.24	\$311,985
034	Regrade A Roads (Middle A and North A N pit)	DOZER	4	58.27	\$114,879
035	Regrade N Pit Roads (old LOM, cross-over, ash pit)	DOZER	4	21.12	\$72,671
036	Regrade C Pit Haul Road	DOZER	4	59.52	\$117,360
039	Regrade East A Haul Roads (East A and East ASplit, BridgeRd)	DOZER	4	56.52	\$111,429
040	Regrade I/J Roads (I/J Spoil, I Mid, I West)	DOZER	4	26.16	\$51,598
041	Regrade K Pit Haul Roads (K1 EPRL K3)	DOZER	4	64.71	\$127,584
042	Regrade Mine Access Road	DOZER	4	23.58	\$46,481
044	Regrade No Name Access Roads #2, #4, 5R	DOZER	4	10.79	\$21,268
045	Regrade Potable Water Well Access Road	DOZER	4	1.79	\$3,522
046	Regrade West Pyeatt Access Road (1 and 2)	DOZER	4	7.14	\$14,085
047	Regrade Middle Pyeatt Access Road (1, 2 and 3)	DOZER	4	6.61	\$13,028
048	Regrade East Pyeatt Access Road (1, 2 and 3)	DOZER	4	9.23	\$18,205
049	Regrade Grouse Access Road	DOZER	4	4.57	\$9,015
050	Regrade West Flume Access Road	DOZER	4	2.68	\$5,282
051	Regrade East Flume Access Road	DOZER	4	2.68	\$5,282
052	Regrade Deal Access Road	DOZER	4	2.68	\$5,282
053	Regrade Horse Access Roads (Horse and Horsel)	DOZER	4	6.07	\$11,973
054	Regrade West Horse Access Road	DOZER	4	2.68	\$5,282
055	Regrade Middle Flume Access Roads (1 and 3)	DOZER	4	4.60	\$9,068
056	Regrade Oak Access Roads	DOZER	4	3.65	\$7,197
057	Regrade Sage Access Roads	DOZER	4	4.46	\$8,803
058	Regrade Johnson Access Road	DOZER	4	11.07	\$21,832
063	Rip BC Walk Road	RIPPER	4	2.24	\$4,755
064	Rip D-main Pit Haul Roads	RIPPER	4	8.40	\$17,814

065	Rip West Ash Haulroads (West Ash, West Ash1 and West Ash 2)	RIPPER	4	5.98	\$12,679
066	Rip LOM Haul Roads (F2 and F2-G5)	RIPPER	4	8.76	\$18,575
067	Rip A Pit Haul Roads (Middle A and North A)	RIPPER	4	6.43	\$13,630
068	Rip N Pit Haul Roads	RIPPER	4	5.38	\$11,411
072	Rip East A Haul Roads (East A and East A Split)	RIPPER	4	2.96	\$6,276
074	Rip Access Road (Tasks 042-059)	RIPPER	4	3.11	\$6,593
075	Rip K Pit Haul Roads (KMain, K1, K2 , K3)	RIPPER	4	2.12	\$4,501
077	Rip I/J Roads (I/J Spoil, I Mid, I West)	RIPPER	4	4.55	\$9,655
078	Regrade Coyote Impoundment	DOZER	2	288.69	\$284,597
079	Regrade Middle Pyeatt Impoundments Impoundment (1,2, 3)	DOZER	1	68.98	\$33,999
080	Regrade Far East Buzzard Impoundment	DOZER	1	0.56	\$278
081	Regrade Sage Impoundments (1 and 2)	DOZER	1	18.91	\$9,322
082	Regrade West Horse Impoundment	DOZER	1	3.52	\$1,733
083	Regrade Impoundment H	DOZER	1	7.29	\$3,591
084	Regrade Industrial Waste Pond	DOZER	1	7.47	\$3,682
085	Regrade Deal 1 and 2	DOZER	1	9.83	\$5,148
086	Regrade Deacon 1,2 and Jeffway 1,2 impoundments	DOZER	1	94.72	\$49,616
087	Regrade W. Buzzard #4 Impoundment	DOZER	1	6.00	\$3,145
088	Regrade E. Buzzard #3 Impoundment	DOZER	1	7.04	\$3,687
089	Regrade Diversions	DOZER	1	61.42	\$20,891
089M R228	Regrade Diversions	DOZER	1	1.18	\$400
090	Replace Topsoil on Ash Pits (ASH1)	SCRAPER1	1	5.20	\$32,014
090A	Replace Topsoil on Ash Pits (ASH2)	SCRAPER1	1	12.78	\$78,627
090B	Replace Topsoil on Ash Pits (A92-4 to Pit)	TRUCK1	1	107.16	\$307,455
091	Replace Topsoil on D/E Pits (Truck/Excavator)	TRUCK1	1	416.57	\$1,038,052
091A	Replace Topsoil on D/E Pits (D97-1)	SCRAPER1	1	14.75	\$85,470
091A TR	Replace Topsoil at L Pit K Knob L23-1 to K Knob	SCRAPER1	1	1.69	\$10,421
091B	Replace Topsoil on D/E Pits (D1-07)	SCRAPER1	1	1.99	\$11,545
091T R135	Replace Topsoil JPE 1 to J East	SCRAPER1	1	24.80	\$152,663
092A TR	Replace Topsoil at C Pit Future TS Pile TR134	SCRAPER1	1	36.50	\$224,660
096	Replace Topsoil at West Panel, BC rd, Shop (Scraper)	SCRAPER1	1	13.22	\$81,383
096A	Replace Topsoil at West Panel, BC rd, Shop (Truck/Excavator)	TRUCK1	1	147.14	\$366,648
097	Replace Topsoil at East Panel Ponds, A road (Scraper)	SCRAPER1	1	20.64	\$127,032
097A	Replace Topsoil at East Panel Ponds, A Rd (Truck/Excavator)	TRUCK1	1	209.29	\$521,528
098	Re-topsoil Johnson Coal Stockpile	SCRAPER1	1	4.14	\$25,488
098M R229	Re-topsoil aJ23-1 to J Pit	SCRAPER1	1	8.24	\$50,713
099	Replace Topsoil at Dragline Walk Road (ASH4)	TRUCK1	1	8.17	\$17,280
099A	Replace Topsoil at Dragline Walk Road (ASH1)	TRUCK1	1	33.14	\$70,092
100	Facilities Area	REVEGE	1	75.00	\$31,802
100A	Seed D Pit Range A-B	REVEGE	1	319.30	\$345,775
101	Roads (including BC road) below 6700'	REVEGE	1	196.00	\$83,236
102	Finish Grading I/J Pit	GRADER	2	21.73	\$14,205
103	Ponds below 6700' (Coyote, Sage, E Buzzard)	REVEGE	1	26.00	\$11,025

104	Johnson Coal Stockpile	REVEGE	1	12.00	\$5,343
105	topsoil piles below 6700'	REVEGE	1	27.00	\$11,491
107	Roads: >6700 ft.-Rangeland with Shrubs	REVEGE	1	54.00	\$58,694
108	Ash pit.-Rangeland with Shrubs	REVEGE	1	115.00	\$125,185
109	Seed D/E Pit Range B	REVEGE	1	15.00	\$12,288
111	Ponds above 6700'(Deal, Deacon, Jeffways, West Horse)	REVEGE	1	19.00	\$20,261
112	topsoil piles above 6700'	REVEGE	1	5.00	\$5,523
113	Shrub Transplants as per operator	NA	1	40.00	\$155,204
120	Seal Land Slide Monitoring Stations	BOREHOLE	1	4.00	\$8,143
121	Plug and Seal Exploration Drill Holes	BOREHOLE	1	80.00	\$38,730
122	Plug and Seal Monitoring Wells	BOREHOLE	1	185.00	\$168,156
128	Reveg for 20 x .3 acres drillholes	REVEGE	1	6.00	\$6,497
129	Regrade .3acres x 20 drill pads	DOZER	1	60.58	\$20,606
130	Demolish structures, remove materials and debris	DEMOLISH	1	100.00	\$1,040,527
131	Culvert Removal and Disposal	DEMOLISH	1	60.00	\$176,564
132	Mobilize and Demobilize from Hayden, CO	MOBILIZE	1	5.34	\$88,152
133	Drill and Blast L Pit 1,776,482 BCY	NA	3	407.00	\$640,555
134	Drill and Blast Ash Pit 106,474 BCY	NA	3	37.75	\$43,232
135	Drill and Blast J Pit 513,911 BCY	NA	3	142.00	\$193,985
91AT R	Replace Topsoil at L Pit K Knob L23-1 to K Knob	SCRAPER1	1	1.69	\$10,421
EC	Erosion Control Ditches 3 Acres TR134	NA	1	1.00	\$931
L01	Regrade L Pit X-sec:407,200	DOZER	4	38.19	\$131,442
L02	Regrade L Pit X-sec:406,700	DOZER	4	96.29	\$331,380
L03	Regrade L Pit X-sec:406,200	DOZER	4	54.48	\$187,472
L04	Regrade L Pit X-sec:405700	DOZER	4	71.33	\$245,480
L05	Regrade L Pit X-sec:405,200	DOZER	4	386.09	\$1,328,715
L06	Regrade L Pit X-sec:404,700	DOZER	4	428.34	\$1,474,086
L07	Regrade L Pit X-sec:404,200	DOZER	4	269.44	\$927,267
L08	Regrade L Pit X-sec:403,700	DOZER	4	58.40	\$200,995
L09	Regrade L Pit X-sec:403,200	DOZER	4	58.60	\$201,653
L10	Regrade L Pit X-sec:402,700	DOZER	4	178.08	\$612,863
L11	Regrade L Pit X-sec:402,200	DOZER	4	339.20	\$1,167,317
L12	Regrade L Pit X-sec:401,700	DOZER	4	88.07	\$303,099
L13	Regrade L Pit X-sec:401,200	DOZER	4	62.00	\$213,376
L14	Regrade L Pit X-secs:400,700 and 400,200	DOZER	4	47.12	\$162,147
L15	Regrade L Pit (Truck/Excavator)	TRUCK1	1	459.83	\$1,607,039
L15A TR	Regrade Jennings Pit (Truck/Excavator)	TRUCK1	4	99.33	\$1,051,696
L15T R135	Regrade L Pit K Knob (Truck/Excavator)	TRUCK1	4	474.59	\$5,024,826
L16	Seed L Pit: Rangeland with Shrubs	REVEGE	1	804.00	\$870,556
L16M R228	Seed L Pit diversion: Rangeland with Shrubs	REVEGE	1	2.30	\$2,491
L17	Regrade L Pit North Haul road.6.5 ac X 9 ft th.	DOZER	2	32.35	\$55,647
L18	Replace Topsoil on L Pit (Scraper)	SCRAPER1	1	166.47	\$1,024,555
L19	Replace Topsoil on L Pit (Truck/Excavator)	TRUCK1	1	708.38	\$2,032,367
LN20	Site Maintenance; Rill and Gully Repair and Pond Cleaning	SITEMAINT ENANCE	1	600.00	\$446,278
LN20 ATR	Site Maintenance; Drainage Stabilization	SITEMAINT ENANCE	1	600.00	\$54,364
N01	Regrade N Pit	DOZER	2	1,071.15	\$1,843,131
N02	Backfill and Grading N Pit	TRUCK1	1	604.84	\$2,421,638

N02A	Backfill and Grading I Pit	TRUCK1	1	156.39	\$546,565
N02B	Backfill and Grading J Pit	DOZER	2	450.41	\$775,023
N13	Replace Topsoil on C Pit	SCRAPER1	1	90.64	\$557,880
N14	Replace Topsoil on N Pit (Scraper)	SCRAPER1	1	169.86	\$1,045,426
N14A	Replace Topsoil on N Pit (Truck/Excavator)	TRUCK1	1	147.82	\$365,087
N15	Replace Topsoil in I Pit	SCRAPER1	1	13.46	\$82,869
N16	Replace Topsoil on J Pit (Truck/Excavator)	TRUCK1	1	103.22	\$254,944
N16A	Replace Topsoil in J Pit (Scraper)	SCRAPER1	1	3.87	\$23,813
N16A ATR	Replace Topsoil on J Pit ASH-1 to J Pit	TRUCK1	1	38.09	\$94,066
N16A TR	Replace Topsoil on J Pit A91-8 to J Pit	TRUCK1	1	22.95	\$56,683
N16T R135	Seed L Pit, K Nob: >6700 ft.-Rangeland with Shrubs	REVEGE	1	3.50	\$5,306
N17	Replace Topsoil on I/J Pit	TRUCK1	1	54.31	\$113,660
n18	Seed N Pit Rangeland w/o shrubs (<6700 ft.)	REVEGE	1	44.00	\$18,699
N18A	Seed N Pit: >6700 ft.-Rangeland with Shrubs	REVEGE	1	244.00	\$264,664
N19	Seed J Pit without shrubs (Range C)	REVEGE	1	66.00	\$27,901
N19T R134	Seed J Pit without shrubs (Range C)	REVEGE	1	66.00	\$14,714
N20	Seed I Pit without Shrubs	REVEGE	1	35.00	\$14,904
N21	Seed I/J Pits no shrubs (Range C)	REVEGE	1	31.00	\$13,047
N21A MR	Seed J Pits no shrubs (Range C) MR229	REVEGE	1	31.00	\$5,193
N22	Seed C Pit No Shrubs	REVEGE	1	189.00	\$79,673
RCN BR	Reclamation Not Bond Released	NA	1	305.04	\$213,391
<b><u>SUBTOTALS:</u></b>				<b>14945</b>	<b>\$38,871,648</b>

**INDIRECT COSTS****OVERHEAD AND PROFIT:**

Liability insurance:	2.02	Total =	\$785,207
Performance bond:	1.05	Total =	\$408,152
Job superintendent:	540.76	Total =	\$42,866
Profit:	10.00	Total =	\$3,887,165
		TOTAL O & P =	\$5,123,390
		CONTRACT AMOUNT (direct + O & P) =	\$43,995,038

**LEGAL - ENGINEERING - PROJECT MANAGEMENT:**

Financial warranty processing (legal/related costs):	\$0	Total =	\$0
Engineering work and/or contract/bid preparation:	4.25	Total =	\$1,869,789
Reclamation management and/or administration:	2.50		\$1,099,876
CONTINGENCY:	0.00	Total =	\$0

TOTAL INDIRECT COST = \$8,093,056

**TOTAL BOND AMOUNT (direct + indirect) = \$46,964,704**

PR12 Estimate

Phase Bond Release Area Cost Accounting			Liability	Acres	Cost /Acre	%	Phase Bond Release	Acreage
	<b>Worst Case Bond</b>		\$46,964,704.00	2636.60	\$17,812.60	100%	Phase 1	4585.9
	Phase I Bond Release		\$ 2,288,562.99	321.20	\$7,125.04	40%	Phase 2	4264.7
	Phase II Bond Release		\$ 1,921,623.40	719.20	\$2,671.89	15%	Phase 3	3545.5
	<b>Total</b>	<b>TOTAL</b>	<b>\$51,174,890</b>	<b>3677.0</b>				