

## COST SUMMARY WORK

Task description: Cost Summary

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: C044-000

User: RAR

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
002	Plug and Seal All Wells	BOREHOLE	1	248.00	\$117,574
003	Seal and Backfill All Mine and Vent Shaft Entries	MINESEAL	1	200.00	\$263,142
008	Regrade Portal No. 5A Facilities Area	DOZER	4	278.23	\$432,273
009	Push Gravel and Rock to Box Cut at Portal No. 5A	DOZER	4	9.70	\$15,004
016	Regrade Access Road	DOZER	4	0.44	\$679
031	Regrade Ponds 5-P5, 5-P6, 5-P7 and Ramps	SCRAPER1	1	2.47	\$2,940
032	Regrade Sewage Treatment Ponds 5-P1, 5-P2 and 5-P3	DOZER	4	2.97	\$4,596
033	Regrade Pond 5A-P1	DOZER	1	8.77	\$3,052
034	Regrade Pond SHP2	DOZER	1	0.32	\$112
035	Regrade Pond SHP1	DOZER	1	2.16	\$753
037	Regrade Pond 9-P3	DOZER	1	0.27	\$95
038	Regrade Pond 9-P1	DOZER	1	0.96	\$336
040	Regrade Pond 9-P4	DOZER	1	0.11	\$39
041	Regrade Pond 9-P5	DOZER	1	0.88	\$307
042	Regrade Pond 9-P6	DOZER	1	3.68	\$1,280
043	Regrade Pond 9-P7	DOZER	1	0.36	\$126
044	Regrade Pond 9-P8	DOZER	1	0.47	\$163
046	Regrade Pond 9A-P2	DOZER	1	1.89	\$659
048	Regrade Ponds HR-P1A and HR-P1B	DOZER	1	10.08	\$3,507
051	Replace Topsoil from Stockpile to Portal Area Refuse Pile	SCRAPER1	1	5.71	\$6,800
053	Replace Topsoil from NE Stockpile to Refuse Pile	SCRAPER1	1	7.63	\$9,095
054	Replace Topsoil from #9 Berm to Refuse Pile	SCRAPER1	1	0.53	\$626
059	Replace Topsoil from Stockpile to 7-North Angle Well Area	DOZER	4	0.13	\$197
061	Replace Topsoil from Stockpile to Access Road	SCRAPER1	1	0.57	\$676
062	Seed Reclaimed Area with Rangeland/Wildlife Mix	REVEGE	1	71.00	\$126,613
063	Reseed Cropland Areas	REVEGE	1	77.00	\$109,569
064	Reseed Reclaimed Areas with Pasture Mix	REVEGE	1	98.00	\$148,655
065	Weed Spraying - 10% of 570 acres, Twice/Year for Ten Years	REVEGE	1	850.00	\$71,501
085	Site Maintenance, Pond Cleaning	SITEMAINT ENANCE	1	400.00	\$131,704
090	Mobilize/Demobilize Equipment for Initial Reclamation	MOBILIZE	1	5.00	\$15,773

091	Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	6.22	\$5,134
092	Mobilize/Demobilize Equipment for Yearly Site Maintenance	MOBILIZE	1	10.72	\$23,092
093	Mobilize/Demobilize Equipment for Pond Cleaning	MOBILIZE	1	3.33	\$2,331
<b><u>SUBTOTALS:</u></b>				<b>2307.6</b>	<b>\$1,498,403</b>

**INDIRECT COSTS****OVERHEAD AND PROFIT:**

Liability insurance:	2.02	Total =	\$30,268
Performance bond:	1.05	Total =	\$15,733
Job superintendent:	1,154.02	Total =	\$86,702
Profit:	10.00	Total =	\$149,840
		TOTAL O & P =	\$282,543
		CONTRACT AMOUNT (direct + O & P) =	\$1,780,946

**LEGAL - ENGINEERING - PROJECT MANAGEMENT:**

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	6.00	Total =	\$106,857
Reclamation management and/or administration:	4.50		\$80,143

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$470,042

**TOTAL BOND AMOUNT (direct + indirect) = \$1,968,445**

## BOREHOLE SEALING WORK

Task description: **Plug and Seal All Wells**

Site: **Williams Fork Mines**

Permit Action: **RN8**

Permit/Job#: **C1981044**

### PROJECT IDENTIFICATION

Task #:  
002

State: **Colorado**

Abbreviation: **None**

Date: **1/31/2023**

County: **Moffat**

Filename: **C044-002**

User: **RAR**

Agency or organization name: **DRMS**

### UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug - 2"Wells (11)	PVC plug - 2 in. diameter borehole	2"	NA	11.00	EA	\$24.59	\$270.49
- Fill Holes with Cement	Portland cement grout - 2 in. (labor, equip, materials)	2"	NA	62.00	LF	\$5.29	\$327.98
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	11.00	EA	\$37.50	\$412.50
Bottom Plug - 4"Wells (3)	PVC plug - 4 in. diameter borehole	4"	NA	3.00	EA	\$33.98	\$101.94
- Fill Holes with Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	4"	NA	96.00	bag	\$19.95	\$1,915.20
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$37.50	\$112.50
Bottom Plug - 6"Wells (5)	PVC plug - 6 in. diameter borehole	6"	NA	5.00	EA	\$61.43	\$307.15
- Fill Holes with Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	6"	NA	502.00	bag	\$19.95	\$10,014.90
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	5.00	EA	\$37.50	\$187.50
Bottom Plug - 8"Wells (2)	PVC plug - 8 in. diameter borehole	8"	NA	2.00	EA	\$84.15	\$168.30
- Fill Holes with Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	8"	NA	402.00	bag	\$19.95	\$8,019.90
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	2.00	EA	\$37.50	\$75.00

Bottom Plug - 18"Wells (2)	PVC plug - 12 in. diameter borehole	18"	NA	3.00	EA	\$157.96	\$473.88
- Fill Holes with Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	18"	NA	917.00	bag	\$19.95	\$18,294.15
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	2.00	EA	\$37.50	\$75.00
Drill Rig Time - All Wells	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	248.00	EA	\$261.05	\$64,740.40
Water Truck Time - All Wells	Water Tanker, 3,500 Gal.	NA	NA`	248.00	EA	\$48.30	\$11,978.40
-Cut Casing 2" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	2	.524	5.76	LF	\$3.26	\$18.78
-Cut Casing 4" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	4	1.05	3.14	LF	\$3.26	\$10.24
-Cut Casing 6" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	6	1.57	7.85	LF	\$3.26	\$25.59
-Cut Casing 8" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	8	2.09	4.19	LF	\$3.26	\$13.66
-Cut Casing 18" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	18	4.71	9.42	LF	\$3.26	\$30.71

**Job Hours: 248.00**

**Total Cost: \$117,574.00**

## SAFEGUARDING UNDERGROUND OPENINGS

Task description: Seal and Backfill All Mine and Vent Shaft Entries

Site: Williams Fork Mines Permit Action: RN8 Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None  
Date: 1/31/2023 County: Moffat Filename: C1981044  
User: RAR

Agency or organization name: DRMS

### UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Portal No. 5 Entries (5)	5@120 SF	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	600.00	SF	\$429.32	\$257,592.00
- Backfill Entries	5@ 44.4 CY	Adit closure - backfilling (per cu. yd.)	222.00	CY	\$25.00	\$5,550.00

Job Hours: 200.00

Total Cost: \$263,142.00

## BULLDOZER WORK

Task description: Regrade Portal No. 5A Facilities Area

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 008

State: Colorado

Abbreviation: None

Date: 1/31/2023

County: Moffat

Filename: C1981044

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own.		
Cost/Hour:	\$24.69	NA
Ripper op. Cost/Hour:	\$1.81	15
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$388.41	
Total Fleet Cost/Hour:	<b>\$1,553.65</b>	

### MATERIAL QUANTITIES

Initial Volume: 290,000

Swell factor: 1.165

Loose volume: **337,850** LCY

Source of estimated volume: Table 63; Map 26

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 200 feet

Unadjusted hourly production: 946.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 5 %

Average site altitude: 5,400 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(SSD-AC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit  
production: 303.57 LCY/hr

Adjusted fleet  
production: **1214.28 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)  
Unit cost: \$1.279/LCY

Total job time: **278.23 Hours**  
Total job cost: **\$432,273**

## BULLDOZER WORK

Task description: Push Gravel and Rock to Box Cut at Portal No. 5A

Site: Williams Fork Mines

Permit Action: 2020 Reclamation Full

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 009

State: Colorado

Abbreviation: None

Date: 12/16/2020

County: Moffat

Filename: 007

User: DCI

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own.		
Cost/Hour:	\$24.69	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$386.60	
Total Fleet Cost/Hour:	<b>\$1,546.41</b>	

### MATERIAL QUANTITIES

Initial Volume: 6,000

Swell factor: 1.090

Loose volume: **6,540 LCY**

Source of estimated volume: Map 26; July 1993 Inspection Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 500 feet

Unadjusted hourly production: 410.8 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: -10 %

Average site altitude: 5,400 feet

Material weight: 4,700 lbs/LCY



Weight description: Hematite," iron ore, high grade"

<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:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.489	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4102

Adjusted unit  
production: 168.51 LCY/hr

Adjusted fleet  
production: **674.04 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)  
Unit cost: \$2.294/LCY

Total job time: **9.70 Hours**  
Total job cost: **\$15,004**

## BULLDOZER WORK

Task description: Regrade Access Road

Site: Williams Fork Mines

Permit Action: 2020 Reclamation Full

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 016

State: Colorado

Abbreviation: None

Date: 12/16/2020

County: Moffat

Filename: C044-016

User: DCI

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own.		
Cost/Hour:	\$24.69	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$386.60	
Total Fleet Cost/Hour:	<b>\$1,546.41</b>	

### MATERIAL QUANTITIES

Initial Volume: 1,111

Swell factor: 1.165

Loose volume: **1,294** LCY

Source of estimated volume: Division Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 150 feet

Unadjusted hourly production: 1,243.2 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5924

Adjusted unit  
production: 736.47 LCY/hr

Adjusted fleet  
production: **2945.88** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)  
Unit cost: \$0.525/LCY

Total job time: **0.44** Hours  
Total job cost: **\$679**

## SCRAPER TEAM WORK

Task description: Regrade Ponds 5-P5, 5-P6, 5-P7 and Ramps

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 031

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: C1981044

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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

#### Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$1,191.84	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$1,191.84

### MATERIAL QUANTITIES

Initial volume: 2,090

CCY

Swell factor: 1.125

Loose volume: 2,351

LCY

Source of estimated volume: Operator Estimate; Operator Estimate; Exhibit 18 Drawing IV-

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Scraper Bowl (volume) Basis:

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

Struck Volume: 24.00 LCY  
Heaped Volume: 34.00 LCY  
Average Volume: 29.00 LCY

Payload Capacity: 30.79 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: 5400 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: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1360.00	0.00	4.00	4.00	2394	0.80

Haul Time: 0.80 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1360.00	0.00	4.00	4.00	2910	0.63

Return Time: 0.63 minutes

Total Scraper team cycle time: 3.03 minutes

Adjusted for job conditions: 953.27 LCY/Hour

Selected Number of Scrapers: 2 Scraper(s)

Adjusted single scraper team (unit) hourly production: 953.27 LCY/Hour

Adjusted multiple scraper team (fleet) hourly production: 953.27 LCY/Hour

Unadjusted unit production/hour: 1,148.51 LCY/Hour

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

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 2.47 Hours

Unit cost: \$1.250 /LCY Total job cost: \$2,940

## BULLDOZER WORK

Task description: Regrade Sewage Treatment Ponds 5-P1, 5-P2 and 5-P3

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 032

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: C1981044

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own.		
Cost/Hour:	\$24.69	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$386.60	
Total Fleet Cost/Hour:	<b>\$1,546.41</b>	

### MATERIAL QUANTITIES

Initial Volume: 7,000

Swell factor: 1.125

Loose volume: **7,875** LCY

Source of estimated volume: Operator Estimate; Exhibit 23, Task I, page 3

Source of estimated swell  
factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 200 feet

Unadjusted hourly  
production: 946.0 LCY/hr

Materials consistency  
description: Compacted fill or embankment 0.9

Average push  
gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor

		Source
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(S-BY-S)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7003

Adjusted unit  
production: 662.48 LCY/hr  
Adjusted fleet  
production: **2649.92** LCY/hr

**JOB TIME AND COST**

Fleet size: 4 Dozer(s)  
Unit cost: \$0.584/LCY

Total job time: **2.97** Hours  
Total job cost: **\$4,596**

## BULLDOZER WORK

Task description: Regrade Pond 5A-P1

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 033

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 033

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$146.30</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$141.41</u>	<u>100</u>
Ripper own.		
Cost/Hour:	<u>\$19.06</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$348.07</u>	
Total Fleet Cost/Hour:	<u>\$348.07</u>	

### MATERIAL QUANTITIES

Initial Volume: 8,000

Swell factor: 1.125

Loose volume: 9,000 LCY

Source of estimated volume: Operator Estimate; Exhibit 23, Task II, Page 4

Source of estimated swell  
factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly  
production: 2,110.5 LCY/hr

Materials consistency  
description: Compacted fill or embankment 0.9

Average push  
gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY



Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit  
production: 1,026.34 LCY/hr

Adjusted fleet  
production: **1026.34 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **8.77 Hours**  
Total job cost: **\$3,052**

## BULLDOZER WORK

Task description: Regrade Pond SHP2

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 034

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 034

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 264

Swell factor: 1.125

Loose volume: 297 LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 5 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4391

Adjusted unit  
production: 926.72 LCY/hr

Adjusted fleet  
production: **926.72 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.376/LCY

Total job time: **0.32 Hours**  
Total job cost: **\$112**

## BULLDOZER WORK

Task description: Regrade Pond SHP1

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 035

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 035

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 1,578

Swell factor: 1.125

Loose volume: **1,775** LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 15 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor

		Source
Operator Skill:	0.900	(AB.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:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3886

Adjusted unit  
production: 820.14 LCY/hr

Adjusted fleet  
production: **820.14** LCY/hr

**JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.424/LCY

Total job time: **2.16** Hours  
Total job cost: **\$753**

## BULLDOZER WORK

Task description: Regrade Pond 9-P3

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 037

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 037

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 298

Swell factor: 1.125

Loose volume: 335 LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor

		Source
Operator Skill:	0.900	(AB.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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5836

Adjusted unit  
production: 1,231.69 LCY/hr

Adjusted fleet  
production: **1231.69** LCY/hr

**JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.283/LCY

Total job time: **0.27** Hours  
Total job cost: **\$95**

## BULLDOZER WORK

Task description: Regrade Pond 9-P1

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 038

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 038

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 518

Swell factor: 1.125

Loose volume: **583** LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 100 feet

Unadjusted hourly production: 1,243.2 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY



Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit  
production: 604.57 LCY/hr

Adjusted fleet  
production: **604.57** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.576/LCY

Total job time: **0.96** Hours  
Total job cost: **\$336**

## BULLDOZER WORK

Task description: Regrade Pond 9-P4

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 040

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 040

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 101

Swell factor: 1.125

Loose volume: 114 LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit  
production: 1,026.34 LCY/hr

Adjusted fleet  
production: **1026.34** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **0.11** Hours  
Total job cost: **\$39**

## BULLDOZER WORK

Task description: Regrade Pond 9-P5

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 041

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 041

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 483

Swell factor: 1.125

Loose volume: **543** LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2918

Adjusted unit  
production: 615.84 LCY/hr

Adjusted fleet  
production: **615.84** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.565/LCY

Total job time: **0.88** Hours  
Total job cost: **\$307**

## BULLDOZER WORK

Task description: Regrade Pond 9-P6

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 042

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 042

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 3,356

Swell factor: 1.125

Loose volume: **3,776** LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit  
production: 1,026.34 LCY/hr

Adjusted fleet  
production: **1026.34 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **3.68 Hours**  
Total job cost: **\$1,280**

## BULLDOZER WORK

Task description: Regrade Pond 9-P8

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 044

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 044

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 426

Swell factor: 1.125

Loose volume: 479 LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY



Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit  
production: 1,026.34 LCY/hr

Adjusted fleet  
production: **1026.34 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **0.47 Hours**  
Total job cost: **\$163**

## BULLDOZER WORK

Task description: Regrade Pond 9A-P2

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 046

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 046

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 1,726

Swell factor: 1.125

Loose volume: **1,942 LCY**

Source of estimated volume: Operator Estimate

Source of estimated swell  
factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 50 feet

Unadjusted hourly  
production: 2,110.5 LCY/hr

Materials consistency  
description: Compacted fill or embankment 0.9

Average push  
gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit  
production: 1,026.34 LCY/hr

Adjusted fleet  
production: **1026.34** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **1.89** Hours  
Total job cost: **\$659**

## BULLDOZER WORK

Task description: Regrade Ponds HR-P1A and HR-P1B

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 048

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 008

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$348.07	
Total Fleet Cost/Hour:	<b>\$348.07</b>	

### MATERIAL QUANTITIES

Initial Volume: 5,415

Swell factor: 1.125

Loose volume: **6,092** LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Average push distance: 100 feet

Unadjusted hourly production: 1,243.2 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %

Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

<u>Job Condition Correction Factor</u>		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit  
production: 604.57 LCY/hr

Adjusted fleet  
production: **604.57** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.576/LCY

Total job time: **10.08** Hours  
Total job cost: **\$3,507**

## SCRAPER TEAM WORK

Task description: Replace Topsoil from Stockpile to Portal Area Refuse Pile

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 051

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 051

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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

#### Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$1,191.84	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$1,191.84

### MATERIAL QUANTITIES

Initial volume: 6,453

CCY

Swell factor: 1.125

Loose volume: 7,260

LCY

Source of estimated volume: Operator Estimate

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>29.00</u>	LCY

Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	400.00	0.00	5.00	5.00	1867	0.35

Haul Time: 0.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	400.00	0.00	5.00	5.00	2795	0.32

Return Time: 0.32 minutes

Total Scraper team cycle time: 2.27 minutes  
 Adjusted for job conditions: 1,272.42 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 1,272.42 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 1,272.42 LCY/Hour

Unadjusted unit production/hour: 1,533.04 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 5.71 Hours  
 Unit cost: \$0.937 /LCY Total job cost: \$6,800

## SCRAPER TEAM WORK

Task description: Replace Topsoil from NE Stockpile to Refuse Pile

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 053

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 053

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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

#### Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$1,191.84	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$1,191.84

### MATERIAL QUANTITIES

Initial volume: 6,687

CCY

Swell factor: 1.125

Loose volume: 7,523

LCY

Source of estimated volume: Operator Estimate

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>29.00</u>	LCY



Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	3.00	8.00	11.00	786	0.91

Haul Time: 0.91 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	-3.00	8.00	5.00	2795	0.42

Return Time: 0.42 minutes

Total Scraper team cycle time: 2.93 minutes  
Adjusted for job conditions: 985.80 LCY/Hour  
Selected Number of Scrapers: 2 Scraper(s)  
Adjusted single scraper team (unit) hourly production: 985.80 LCY/Hour  
Adjusted multiple scraper team (fleet) hourly production: 985.80 LCY/Hour

Unadjusted unit production/hour: 1,187.71 LCY/Hour  
Optimal Number of Scrapers per push  
dozer: \_\_\_\_\_

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 7.63 Hours  
Unit cost: \$1.209 /LCY Total job cost: \$9,095

## SCRAPER TEAM WORK

Task description: Replace Topsoil from #9 Berm to Refuse Pile

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 054

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 054

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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

#### Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$1,191.84	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$1,191.84

### MATERIAL QUANTITIES

Initial volume: 427

CCY

Swell factor: 1.125

Loose volume: 480

LCY

Source of estimated volume: Operator Estimate

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>29.00</u>	LCY

Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	-2.50	5.00	2.50	2939	0.75

Haul Time: 0.75 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	2.50	5.00	7.50	1931	0.81

Return Time: 0.81 minutes

Total Scraper team cycle time: 3.16 minutes  
Adjusted for job conditions: 914.05 LCY/Hour  
Selected Number of Scrapers: 2 Scraper(s)  
Adjusted single scraper team (unit) hourly production: 914.05 LCY/Hour  
Adjusted multiple scraper team (fleet) hourly production: 914.05 LCY/Hour

Unadjusted unit production/hour: 1,101.27 LCY/Hour  
Optimal Number of Scrapers per push  
dozer: \_\_\_\_\_

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 0.53 Hours  
Unit cost: \$1.304 /LCY Total job cost: \$626

## BULLDOZER WORK

Task description: Replace Topsoil from Stockpile to 7-North Angle Well Area

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 059

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 059

User: RAR

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Blade Type: Semi-Universal

Attachment: 1-shank ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own.		
Cost/Hour:	\$24.69	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$386.60	
Total Fleet Cost/Hour:	<b>\$1,546.41</b>	

### MATERIAL QUANTITIES

Initial Volume: 560

Swell factor: 1.125

Loose volume: **630** LCY

Source of estimated volume: Operator Estimate; Exhibit 25, Task VI, Page 8

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: Consolidated stockpile 1.0

Average push gradient: 0 %

Average site altitude: 5,400 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	(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: 0.4492

Adjusted unit  
production: 1,234.72 LCY/hr

Adjusted fleet  
production: **4938.88** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)  
Unit cost: \$0.313/LCY

Total job time: **0.13** Hours  
Total job cost: **\$197**

## SCRAPER TEAM WORK

Task description: Replace Topsoil from Stockpile to Access Road

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 061

State: Colorado

Abbreviation: None

Date: 3/8/2023

County: Moffat

Filename: 061

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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

#### Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$1,191.84	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$1,191.84

### MATERIAL QUANTITIES

Initial volume: 556

CCY

Swell factor: 1.125

Loose volume: 626

LCY

Source of estimated volume: Operator Estimate; Exhibit 25, Task XXIII, Page 27

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>29.00</u>	LCY

Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	1867	0.56

Haul Time: 0.56 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	2795	0.46

Return Time: 0.46 minutes

Total Scraper team cycle time: 2.62 minutes  
 Adjusted for job conditions: 1,102.44 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 1,102.44 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 1,102.44 LCY/Hour

Unadjusted unit production/hour: 1,328.24 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 0.57 Hours  
 Unit cost: \$1.081 /LCY Total job cost: \$676

## REVEGETATION WORK

Task description: Seed Reclaimed Area with Rangeland/Wildlife Mix

Site: Williams Fork Mines

Permit Action: RN8

Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 062  
Date: 3/8/2023  
User: RAR

State: Colorado  
County: Moffat

Abbreviation: None  
Filename: 007

Agency or organization name: DRMS

### FERTILIZING

#### Materials

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

#### Application

Description	Cost / Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

### TILLING

Description	Cost / Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.18
<b>Total Tilling Cost/Acre</b>	<b>\$117.18</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Birdsfoot Trefoil - Empire	0.50	4.80	\$5.18
Alkali Sacaton	1.00	39.03	\$28.48
Indian Ricegrass - Paloma	0.50	1.62	\$5.56
Bitterbrush, Antelope	0.25	0.08	\$4.88
Sand Dropseed	0.25	29.84	\$2.44
Great Basin Wildrye - Magnar	1.00	4.06	\$11.55
Hard Fescue - Durar	1.50	19.46	\$4.39
Pubescent Wheatgrass - Luna	2.00	4.13	\$6.80
Milk Vetch, Cicer - Monarch	0.50	1.66	\$4.10



Streambank Wheatgrass - Sodar	2.00	6.52	\$11.40
Mahogany, Mountain	0.50	0.68	\$18.40
Western Wheatgrass - Arriba	3.00	7.58	\$19.50
Rabbitbrush, Rubber	0.50	7.45	\$32.15
Daisy, Englemann's	0.25	1.23	\$31.85
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Daisy or Sunflower, Maximillians	0.25	1.42	\$14.00
Sagebrush, Mountain or Big	0.50	26.40	\$9.88
Globemallow, Scarlet (or copper)	0.25	2.83	\$33.88
Penstemon, Rocky Mountain	0.25	3.92	\$7.38
<b>Totals Seed Mix</b>	<b>17.00</b>	<b>171.01</b>	<b>\$275.34</b>

#### Application

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

### MULCHING and MISCELLANEOUS

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
<b>Total Mulch Materials Cost/Acre</b>				<b>\$842.72</b>

#### Application

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
<b>Total Mulch Application Cost/Acre</b>	<b>\$214.57</b>

### NURSERY STOCK PLANTING

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

### JOB TIME AND COST

No. of Acres:	71	Cost / Acre:	\$1,681.81
Estimated Failure Rate:	20%	Cost / Acre*:	\$507.34
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$119,408.51</b>
Reseeding Job Cost:	<b>\$7,204.23</b>
Total Job Cost:	<b>\$126,613</b>
Job Hours:	<b>71.00</b>



## REVEGETATION WORK

Task description: Reseed Cropland Areas

Site: Williams Fork Mines Permit Action: RN8 Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 063 State: Colorado Abbreviation: None  
Date: 3/8/2023 County: Moffat Filename: 063  
User: RAR

Agency or organization name: DRMS

### FERTILIZING

#### Materials

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

#### Application

Description	Cost / Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

### TILLING

Description	Cost / Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.18
<b>Total Tilling Cost/Acre</b>	<b>\$117.18</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Wheat, Spring - Westbred 926	60.00	55.10	\$16.50
<b>Totals Seed Mix</b>	<b>60.00</b>	<b>55.10</b>	<b>\$16.50</b>

#### Application

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

<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>
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## **MULCHING and MISCELLANEOUS**

### **Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost / Acre</b>
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
<b>Total Mulch Materials Cost/Acre</b>				<b>\$842.72</b>

### **Application**

<b>Description</b>	<b>Cost / Acre</b>
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
<b>Total Mulch Application Cost/Acre</b>	<b>\$214.57</b>

## **NURSERY STOCK PLANTING**

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

## **JOB TIME AND COST**

No. of Acres:	77	Cost /Acre:	\$1,422.97
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost:	<b>\$109,568.69</b>
Reseeding Job Cost:	<b>\$0.00</b>
Total Job Cost:	<b>\$109,569</b>
Job Hours:	<b>77.00</b>

## REVEGETATION WORK

Task description: Reseed Reclaimed Areas with Pasture Mix

Site: Williams Fork Mines Permit Action: RN8 Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 064 State: Colorado Abbreviation: None  
Date: 3/8/2023 County: Moffat Filename: 064  
User: RAR

Agency or organization name: DRMS

### FERTILIZING

#### Materials

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

#### Application

Description	Cost / Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

### TILLING

Description	Cost / Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.18
<b>Total Tilling Cost/Acre</b>	<b>\$117.18</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Crested Wheatgrass - Fairway	3.00	13.77	\$12.08
Smooth Brome - Manchar	7.00	23.30	\$23.28
Intermediate Wheatgrass - Tegmar	6.00	12.81	\$18.00
<b>Totals Seed Mix</b>	<b>16.00</b>	<b>49.89</b>	<b>\$53.35</b>

**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
<b>Total Mulch Materials Cost/Acre</b>				<b>\$842.72</b>

**Application**

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
<b>Total Mulch Application Cost/Acre</b>	<b>\$214.57</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	98	Cost / Acre:	\$1,459.82
Estimated Failure Rate:	20%	Cost / Acre*:	\$285.35
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$143,062.36</b>
Reseeding Job Cost:	<b>\$5,592.86</b>
Total Job Cost:	<b>\$148,655</b>
Job Hours:	<b>98.00</b>

## REVEGETATION WORK

Task description: Weed Spraying - 10% of 570 acres, Twice/Year for Ten Years

Site: Williams Fork Mines Permit Action: RN8 Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task #: 065 State: Colorado Abbreviation: None  
Date: 3/8/2023 County: Moffat Filename: 065  
User: RAR

Agency or organization name: DRMS

### FERTILIZING

#### Materials

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

#### Application

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

### TILLING

Description	Cost /Acre
	\$
<b>Total Tilling Cost/Acre</b>	<b>\$0.00</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
<b>Totals Seed Mix</b>	0.00	0.00	<b>\$0.00</b>

**Application**

Description	Cost / Acre
	\$
<b>Total Seed Application Cost/Acre</b>	<b>\$0.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
	2.00		\$0.00	\$0.00
	2.00		\$0.00	\$0.00
<b>Total Mulch Materials Cost/Acre</b>				<b>\$0.00</b>

**Application**

Description	Cost / Acre
Weed spray, truck, aquatic area, nox. [DMG]	\$62.72
<b>Total Mulch Application Cost/Acre</b>	<b>\$62.72</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	1140	Cost /Acre:	\$62.72
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost:	<b>\$71,500.80</b>
Reseeding Job Cost:	<b>\$0.00</b>
Total Job Cost:	<b>\$71,501</b>
Job Hours:	<b>850.00</b>



## SITE MAINTENANCE

Task description: Site Maintenance, Pond Cleaning

Site: Williams Fork Mines Permit Action: RN8 Permit/Job#: C1981044

### PROJECT IDENTIFICATION

Task 085 State: Colorado Abbreviation: None  
#: \_\_\_\_\_  
Date: 3/8/2023 County: Moffat Filename: 085  
User: RAR

Agency or organization name: DRMS

### UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
CAT D3C Dozer	40.00	Cat D3K LGP - 3P	400.00	EA	\$106.51	\$42,604.00
CAT14M Grader	40.00	CAT 14M	400.00	EA	\$222.75	\$89,100.00

Job Hours: 400.00

Total Cost: \$131,704.00

## EQUIPMENT MOBILIZATION/DEMobilIZATION

Task description: **Mobilize/Demobilize Equipment for Initial Reclamation**

Site: **Williams Fork Mines** Permit Action: **RN8** Permit/Job#: **C1981044**

### **PROJECT IDENTIFICATION**

Task #: **090** State: **Colorado** Abbreviation: **None**  
Date: **3/8/2023** County: **Moffat** Filename: **090**  
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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

### **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 D10T - 10SU	84.53	\$153.67	\$136.92	4	\$1,162.36	\$547.68	\$1,000.00
ATLAS COPCO ROC D7-11,4.0 in.	0.00	\$137.40	\$68.22	1	\$205.62	\$68.22	\$250.00
CAT 14M	23.57	\$114.80	\$68.22	1	\$183.02	\$68.22	\$250.00
Cat 637G	57.28	\$264.49	\$136.92	2	\$802.82	\$273.84	\$500.00
Water Tanker, 5,000 Gal.	15.00	\$37.19	\$68.22	1	\$105.41	\$68.22	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00

Subtotals: **\$2,533.70** **\$1,094.40** **\$2,500.00**

**ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 6x4, 210 HP	\$48.30	1	\$48.30	\$48.30
Lube Truck, 6x4, 250 HP	\$48.30	1	\$48.30	\$48.30
Flatbed Truck, 6x4, 45K GVW	\$54.51	1	\$54.51	\$54.51
Light Duty Pickup, 4x4, 1 T. Crew	\$24.30	1	\$24.30	\$24.30

Subtotals:	<b>\$175.41</b>	<b>\$175.41</b>
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**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>HAYDEN</u>	
Total one-way travel distance:	<u>30.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$15,509.55</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$263.12</u>
'** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.75</u>	<u>0.75</u>
Return Time (Hours):	<u>0.75</u>	<u>0.75</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>2.50</u>	<u>1.50</u>

**JOB TIME AND COST**

Total job time:	<u>5.00</u>	Hours
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Total job cost:	<u>\$15,773</u>
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**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Pond Removal**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **091**  
Date: **3/8/2023**  
User: **RAR**State: **Colorado**  
County: **Moffat**Abbreviation: **None**  
Filename: **091**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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

**NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	\$146.30	\$136.92	1	\$283.22	\$136.92	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00
CAT 908H	7.12	\$25.38	\$68.22	1	\$93.60	\$68.22	\$0.00
Cat 315D L 8'-6" Stick	19.05	\$68.58	\$68.22	1	\$136.80	\$68.22	\$250.00

Subtotals: **\$588.09** **\$341.58** **\$750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	\$54.51	1	\$54.51	\$54.51
Generic 15-18 cy, 6x4	\$126.28	1	\$126.28	\$126.28

Subtotals: **\$180.79** **\$180.79**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: CRAIG  
 Total one-way travel distance: 9.00 miles  
 Average Travel Speed: 50.00 mph

Total Non-Roadable Mob/Demob Cost \* \$5,069.18  
 '\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$65.08  
 '\*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.18</u>	<u>0.18</u>
Return Time (Hours):	<u>0.18</u>	<u>0.18</u>
Loading Time (Hours):	<u>1.75</u>	<u>NA</u>
Unloading Time (Hours):	<u>1.00</u>	<u>NA</u>
Subtotals:	<u>3.11</u>	<u>0.36</u>

**JOB TIME AND COST**

Total job time: 6.22 Hours

Total job cost: \$5,134

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Yearly Site Maintenance**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 092State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 092User: RARAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per day  
Cost Data Source: CRG DataTruck 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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

**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 D3K LGP - 3P	9.20	\$35.48	\$68.22	10	\$1,037.00	\$682.20	\$0.00
CAT 14M	23.57	\$114.80	\$68.22	5	\$915.10	\$341.10	\$1,250.00

Subtotals: **\$1,952.10** **\$1,023.30** **\$1,250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
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Subtotals: **\$0.00** **\$0.00**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>CRAIG</u>	
Total one-way travel distance:	<u>9.00</u>	miles
Average Travel Speed:	<u>50.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$23,092.14</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
'** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.18</u>	<u>0.18</u>
Return Time (Hours):	<u>0.18</u>	<u>0.18</u>
Loading Time (Hours):	<u>2.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>2.50</u>	<u>NA</u>
Subtotals:	<u>5.36</u>	<u>0.36</u>

**JOB TIME AND COST**

Total job time:	<u>10.72</u>	Hours
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Total job cost:	<u>\$23,092</u>
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**EQUIPMENT MOBILIZATION/DEMobilIZATION**Task description: **Mobilize/Demobilize Equipment for Pond Cleaning**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 093State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 093User: RARAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per day  
Cost Data Source: CRG DataTruck 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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

**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 336D L 10'-6" Stick	32.23	\$83.53	\$101.82	1	\$185.35	\$101.82	\$250.00
Cat D7R DS Series II LGP	34.57	\$92.78	\$101.82	1	\$194.60	\$101.82	\$250.00

Subtotals: **\$379.95** **\$203.64** **\$500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 8-10 cy, 6x4	\$91.11	3	\$273.33	\$273.33

Subtotals: **\$273.33** **\$273.33**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: CRAIG  
 Total one-way travel distance: 10.00 miles  
 Average Travel Speed: 30.00 mph

Total Non-Roadable Mob/Demob Cost \* \$2,148.96  
 '\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$182.22  
 '\*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.33</u>	<u>0.33</u>
Return Time (Hours):	<u>0.33</u>	<u>0.33</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.67</u>	<u>0.67</u>

**JOB TIME AND COST**

Total job time: 3.33 Hours

Total job cost: \$2,331

**BOREHOLE SEALING WORK**Task description: **Plug and Seal All Wells**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **1/31/2023**County: **Moffat**Filename: **C044-002**User: **RAR**Agency or organization name: **DRMS****UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug - 2"Wells (11)	PVC plug - 2 in. diameter borehole	2"	NA	11.00	EA	\$24.59	\$270.49
- Fill Holes with Cement	Portland cement grout - 2 in. (labor, equip, materials)	2"	NA	62.00	LF	\$5.29	\$327.98
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	11.00	EA	\$37.50	\$412.50
Bottom Plug - 4"Wells (3)	PVC plug - 4 in. diameter borehole	4"	NA	3.00	EA	\$33.98	\$101.94
- Fill Holes with Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	4"	NA	96.00	bag	\$19.95	\$1,915.20
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$37.50	\$112.50
Bottom Plug - 6"Wells (5)	PVC plug - 6 in. diameter borehole	6"	NA	5.00	EA	\$61.43	\$307.15
- Fill Holes with Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	6"	NA	502.00	bag	\$19.95	\$10,014.90
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	5.00	EA	\$37.50	\$187.50
Bottom Plug - 8"Wells (2)	PVC plug - 8 in. diameter borehole	8"	NA	2.00	EA	\$84.15	\$168.30
- Fill Holes with Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	8"	NA	402.00	bag	\$19.95	\$8,019.90
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	2.00	EA	\$37.50	\$75.00
Bottom Plug - 18"Wells (2)	PVC plug - 12 in. diameter borehole	18"	NA	3.00	EA	\$157.96	\$473.88

- Fill Holes with Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	18"	NA	917.00	bag	\$19.95	\$18,294.15
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	2.00	EA	\$37.50	\$75.00
Drill Rig Time - All Wells	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	248.00	EA	\$261.05	\$64,740.40
Water Truck Time - All Wells	Water Tanker, 3,500 Gal.	NA	NA`	248.00	EA	\$48.30	\$11,978.40
-Cut Casing 2" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	2	.524	5.76	LF	\$3.26	\$18.78
-Cut Casing 4" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	4	1.05	3.14	LF	\$3.26	\$10.24
-Cut Casing 6" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	6	1.57	7.85	LF	\$3.26	\$25.59
-Cut Casing 8" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	8	2.09	4.19	LF	\$3.26	\$13.66
-Cut Casing 18" Wells	Exposed casing removal - Calculate Circumference in Linear Feet	18	4.71	9.42	LF	\$3.26	\$30.71

Job Hours: 248.00Total Cost: \$117,574.00

**SAFEGUARDING UNDERGROUND OPENINGS**Task description: **Seal and Backfill All Mine and Vent Shaft Entries**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 1/31/2023County: MoffatFilename: C1981044User: RARAgency or organization name: DRMS**UNIT COSTS**

<b>Opening Description</b>	<b>Dimensions</b>	<b>Closure Method</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>
Portal No. 5 Entries (5)	5@120 SF	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	600.00	SF	\$429.32	\$257,592.00
- Backfill Entries	5@ 44.4 CY	Adit closure - backfilling (per cu. yd.)	222.00	CY	\$25.00	\$5,550.00

**Job Hours:** 200.00**Total Cost:** \$263,142.00

**BULLDOZER WORK**Task description: **Regrade Portal No. 5A Facilities Area**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **008**State: **Colorado**Abbreviation: **None**Date: **1/31/2023**County: **Moffat**Filename: **C1981044**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$24.69	NA
Ripper op. Cost/Hour:	\$1.81	15
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$388.41**Total Fleet Cost/Hour: **\$1,553.65****MATERIAL QUANTITIES**Initial Volume: **290,000**Swell factor: **1.165**Loose volume: **337,850 LCY**Source of estimated volume: **Table 63; Map 26**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **946.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **5,400 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 303.57 LCY/hr  
Adjusted fleet production: **1214.28** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)  
Unit cost: \$1.279/LCY

Total job time: **278.23** Hours  
Total job cost: **\$432,273**

**SCRAPER TEAM WORK**Task description: **Regrade Ponds 5-P5, 5-P6, 5-P7 and Ramps**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 031State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: C1981044User: RARAgency 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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,191.84		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,191.84****MATERIAL QUANTITIES**Initial volume: 2,090

CCY

Swell factor: 1.125Loose volume: **2,351**

LCY

Source of estimated volume: Operator Estimate; Operator Estimate; Exhibit 18 Drawing IV-Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,650 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Decomposed rock - 25% Rock, 75% Earth</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>30.79 LCY</u>	Adjusted Capacity:	<b><u>29.00</u></b>	LCY



Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1360.00	0.00	4.00	4.00	2394	0.80

Haul Time: 0.80 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1360.00	0.00	4.00	4.00	2910	0.63

Return Time: 0.63 minutes

Total Scraper team cycle time: 3.03 minutes  
 Adjusted for job conditions: 953.27 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 953.27 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 953.27 LCY/Hour

Unadjusted unit production/hour: 1,148.51 LCY/Hour

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

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 2.47 HoursUnit cost: \$1.250 /LCYTotal job cost: \$2,940

**BULLDOZER WORK**Task description: **Regrade Sewage Treatment Ponds 5-P1, 5-P2 and 5-P3**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **032**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **C1981044**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$24.69	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$386.60**Total Fleet Cost/Hour: **\$1,546.41****MATERIAL QUANTITIES**Initial Volume: **7,000**Swell factor: **1.125**Loose volume: **7,875 LCY**Source of estimated volume: **Operator Estimate; Exhibit 23, Task I, page 3**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **946.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(S-BY-S)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7003

Adjusted unit production: 662.48 LCY/hr  
Adjusted fleet production: **2649.92** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)  
Unit cost: \$0.584/LCY

Total job time: **2.97** Hours  
Total job cost: **\$4,596**

**BULLDOZER WORK**Task description: **Regrade Pond 5A-P1**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **033**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **033**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **8,000**Swell factor: **1.125**Loose volume: **9,000 LCY**Source of estimated volume: **Operator Estimate; Exhibit 23, Task II, Page 4**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit production: 1,026.34 LCY/hr  
Adjusted fleet production: **1026.34** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **8.77** Hours  
Total job cost: **\$3,052**

**BULLDOZER WORK**Task description: **Regrade Pond SHP2**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **034**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **034**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **264**Swell factor: **1.125**Loose volume: **297 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4391

Adjusted unit production: 926.72 LCY/hr  
Adjusted fleet production: **926.72** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.376/LCY

Total job time: **0.32** Hours  
Total job cost: **\$112**

**BULLDOZER WORK**Task description: **Regrade Pond SHP1**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **035**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **035**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **1,578**Swell factor: **1.125**Loose volume: **1,775 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **15 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.900	(AB.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:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3886

Adjusted unit production: 820.14 LCY/hr  
 Adjusted fleet production: **820.14** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
 Unit cost: \$0.424/LCY

Total job time: **2.16** Hours  
 Total job cost: **\$753**

**BULLDOZER WORK**Task description: **Regrade Pond 9-P3**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **037**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **037**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **298**Swell factor: **1.125**Loose volume: **335 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.900	(AB.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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5836

Adjusted unit production: 1,231.69 LCY/hr  
Adjusted fleet production: **1231.69** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.283/LCY

Total job time: **0.27** Hours  
Total job cost: **\$95**

**BULLDOZER WORK**Task description: **Regrade Pond 9-P1**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **038**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **038**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **518**Swell factor: **1.125**Loose volume: **583 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit production: 604.57 LCY/hr  
Adjusted fleet production: **604.57** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.576/LCY

Total job time: **0.96** Hours  
Total job cost: **\$336**

**BULLDOZER WORK**Task description: **Regrade Pond 9-P4**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **040**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **040**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **101**Swell factor: **1.125**Loose volume: **114 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit production: 1,026.34 LCY/hr  
Adjusted fleet production: **1026.34** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **0.11** Hours  
Total job cost: **\$39**

**BULLDOZER WORK**Task description: **Regrade Pond 9-P5**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **041**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **041**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **483**Swell factor: **1.125**Loose volume: **543 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	0.600	(FND-SF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2918

Adjusted unit production: 615.84 LCY/hr  
Adjusted fleet production: **615.84** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.565/LCY

Total job time: **0.88** Hours  
Total job cost: **\$307**

**BULLDOZER WORK**Task description: **Regrade Pond 9-P6**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **042**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **042**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **3,356**Swell factor: **1.125**Loose volume: **3,776 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit production: 1,026.34 LCY/hr  
Adjusted fleet production: **1026.34** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **3.68** Hours  
Total job cost: **\$1,280**

**BULLDOZER WORK**Task description: **Regrade Pond 9-P8**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **044**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **044**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **426**Swell factor: **1.125**Loose volume: **479 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit production: 1,026.34 LCY/hr  
Adjusted fleet production: **1026.34** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **0.47** Hours  
Total job cost: **\$163**

**BULLDOZER WORK**Task description: **Regrade Pond 9A-P2**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **046**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **046**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **1,726**Swell factor: **1.125**Loose volume: **1,942 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit production: 1,026.34 LCY/hr  
Adjusted fleet production: **1026.34** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.339/LCY

Total job time: **1.89** Hours  
Total job cost: **\$659**

**BULLDOZER WORK**Task description: **Regrade Ponds HR-P1A and HR-P1B**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**Task #: **048**State: **Colorado**Abbreviation: **None**Date: **3/8/2023**County: **Moffat**Filename: **008**User: **RAR**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **1-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$348.07**Total Fleet Cost/Hour: **\$348.07****MATERIAL QUANTITIES**Initial Volume: **5,415**Swell factor: **1.125**Loose volume: **6,092 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,400 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4863

Adjusted unit production: 604.57 LCY/hr  
Adjusted fleet production: **604.57** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.576/LCY

Total job time: **10.08** Hours  
Total job cost: **\$3,507**

**SCRAPER TEAM WORK**Task description: **Replace Topsoil from Stockpile to Portal Area Refuse Pile**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 051State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 051User: RARAgency 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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,191.84		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,191.84****MATERIAL QUANTITIES**Initial volume: 6,453

CCY

Swell factor: 1.125Loose volume: 7,260

LCY

Source of estimated volume: Operator EstimateSource 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>29.00</u>	LCY

Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	400.00	0.00	5.00	5.00	1867	0.35

Haul Time: 0.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	400.00	0.00	5.00	5.00	2795	0.32

Return Time: 0.32 minutes

Total Scraper team cycle time: 2.27 minutes  
 Adjusted for job conditions: 1,272.42 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 1,272.42 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 1,272.42 LCY/Hour

Unadjusted unit production/hour: 1,533.04 LCY/Hour

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

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 5.71 HoursUnit cost: \$0.937 /LCYTotal job cost: \$6,800

**SCRAPER TEAM WORK**Task description: **Replace Topsoil from NE Stockpile to Refuse Pile**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 053State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 053User: RARAgency 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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,191.84		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,191.84****MATERIAL QUANTITIES**Initial volume: 6,687

CCY

Swell factor: 1.125Loose volume: **7,523**

LCY

Source of estimated volume: Operator EstimateSource 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:	<b><u>29.00</u></b>	LCY

Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	3.00	8.00	11.00	786	0.91

Haul Time: 0.91 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	-3.00	8.00	5.00	2795	0.42

Return Time: 0.42 minutes

Total Scraper team cycle time: 2.93 minutes  
 Adjusted for job conditions: 985.80 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 985.80 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 985.80 LCY/Hour

Unadjusted unit production/hour: 1,187.71 LCY/Hour

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

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 7.63 HoursUnit cost: \$1.209 /LCYTotal job cost: \$9,095

SCRAPER TEAM WORKTask description: Replace Topsoil from #9 Berm to Refuse PileSite: Williams Fork MinesPermit Action: RN8Permit/Job#: C1981044PROJECT IDENTIFICATIONTask #: 054State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 054User: RARAgency or organization name: DRMSHOURLY EQUIPMENTCOST Shift basis: 1 per dayEquipment Description

-Scraper:	Cat 637G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:Scraper Work TeamSupport EquipmentMaintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,191.84		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$1,191.84MATERIAL QUANTITIESInitial volume: 427

CCY

Swell factor: 1.125Loose volume: 480

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat HandbookHOURLY PRODUCTIONScraper 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>29.00</u>	LCY

Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	-2.50	5.00	2.50	2939	0.75

Haul Time: 0.75 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	2.50	5.00	7.50	1931	0.81

Return Time: 0.81 minutes

Total Scraper team cycle time: 3.16 minutes  
 Adjusted for job conditions: 914.05 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 914.05 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 914.05 LCY/Hour

Unadjusted unit production/hour: 1,101.27 LCY/Hour

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

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 0.53 HoursUnit cost: \$1.304 /LCYTotal job cost: \$626

**BULLDOZER WORK**Task description: **Replace Topsoil from Stockpile to 7-North Angle Well Area**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 059State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 059User: RARAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 1-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$24.69	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$386.60Total Fleet Cost/Hour: **\$1,546.41****MATERIAL QUANTITIES**Initial Volume: 560Swell factor: 1.125Loose volume: **630 LCY**Source of estimated volume: Operator Estimate; Exhibit 25, Task VI, Page 8Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 2,748.7 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 5,400 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4492

Adjusted unit production: 1,234.72 LCY/hr  
Adjusted fleet production: **4938.88** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)  
Unit cost: \$0.313/LCY

Total job time: **0.13** Hours  
Total job cost: **\$197**

**SCRAPER TEAM WORK**Task description: **Replace Topsoil from Stockpile to Access Road**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 061State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 061User: RARAgency 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:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$287.19	NA	NA	NA	NA	NA
Operating cost/hour:	\$277.83	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$595.92	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,191.84		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,191.84****MATERIAL QUANTITIES**Initial volume: 556

CCY

Swell factor: 1.125Loose volume: 626

LCY

Source of estimated volume: Operator Estimate; Exhibit 25, Task XXIII, Page 27Source 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>29.00</u>	LCY

Cycle Time:

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

Job Condition Correction:

Site Altitude: 5400 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	1867	0.56

Haul Time: 0.56 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	5.00	5.00	2795	0.46

Return Time: 0.46 minutes

Total Scraper team cycle time: 2.62 minutes  
 Adjusted for job conditions: 1,102.44 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 1,102.44 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 1,102.44 LCY/Hour

Unadjusted unit production/hour: 1,328.24 LCY/Hour

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

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 0.57 HoursUnit cost: \$1.081 /LCYTotal job cost: \$676

REVEGETATION WORKTask description: Seed Reclaimed Area with Rangeland/Wildlife MixSite: Williams Fork MinesPermit Action: RN8Permit/Job#: C1981044PROJECT IDENTIFICATIONTask #: 062State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 007User: RARAgency or organization name: DRMSFERTILIZINGMaterials

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

Application

Description	Cost / Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

TILLING

Description	Cost / Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.18
<b>Total Tilling Cost/Acre</b>	<b>\$117.18</b>

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Birdsfoot Trefoil - Empire	0.50	4.80	\$5.18
Alkali Sacaton	1.00	39.03	\$28.48
Indian Ricegrass - Paloma	0.50	1.62	\$5.56
Bitterbrush, Antelope	0.25	0.08	\$4.88
Sand Dropseed	0.25	29.84	\$2.44
Great Basin Wildrye - Magnar	1.00	4.06	\$11.55
Hard Fescue - Durar	1.50	19.46	\$4.39
Pubescent Wheatgrass - Luna	2.00	4.13	\$6.80
Milk Vetch, Cicer - Monarch	0.50	1.66	\$4.10
Streambank Wheatgrass - Sodar	2.00	6.52	\$11.40

Mahogany, Mountain	0.50	0.68	\$18.40
Western Wheatgrass - Arriba	3.00	7.58	\$19.50
Rabbitbrush, Rubber	0.50	7.45	\$32.15
Daisy, Englemann's	0.25	1.23	\$31.85
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Daisy or Sunflower, Maximillians	0.25	1.42	\$14.00
Sagebrush, Mountain or Big	0.50	26.40	\$9.88
Globemallow, Scarlet (or copper)	0.25	2.83	\$33.88
Penstemon, Rocky Mountain	0.25	3.92	\$7.38
<b>Totals Seed Mix</b>	<b>17.00</b>	<b>171.01</b>	<b>\$275.34</b>

**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
<b>Total Mulch Materials Cost/Acre</b>				<b>\$842.72</b>

**Application**

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
<b>Total Mulch Application Cost/Acre</b>	<b>\$214.57</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	71	Cost / Acre:	\$1,681.81
Estimated Failure Rate:	20%	Cost / Acre*:	\$507.34
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$119,408.51</b>
Reseeding Job Cost:	<b>\$7,204.23</b>
Total Job Cost:	<b>\$126,613</b>
Job Hours:	<b>71.00</b>

REVEGETATION WORKTask description: Reseed Cropland AreasSite: Williams Fork MinesPermit Action: RN8Permit/Job#: C1981044PROJECT IDENTIFICATIONTask #: 063State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 063User: RARAgency or organization name: DRMSFERTILIZINGMaterials

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

Application

Description	Cost / Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

TILLING

Description	Cost / Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.18
<b>Total Tilling Cost/Acre</b>	<b>\$117.18</b>

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Wheat, Spring - Westbred 926	60.00	55.10	\$16.50
<b>Totals Seed Mix</b>	<b>60.00</b>	<b>55.10</b>	<b>\$16.50</b>

Application

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
<b>Total Mulch Materials Cost/Acre</b>				<b>\$842.72</b>

**Application**

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
<b>Total Mulch Application Cost/Acre</b>	<b>\$214.57</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	77	Cost /Acre:	\$1,422.97
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost:	<b>\$109,568.69</b>
Reseeding Job Cost:	<b>\$0.00</b>
Total Job Cost:	<b>\$109,569</b>
Job Hours:	<b>77.00</b>

**REVEGETATION WORK**Task description: **Reseed Reclaimed Areas with Pasture Mix**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 064State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 064User: RARAgency or organization name: DRMS**FERTILIZING****Materials**

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

**Application**

Description	Cost / Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost / Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.18
<b>Total Tilling Cost/Acre</b>	<b>\$117.18</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Crested Wheatgrass - Fairway	3.00	13.77	\$12.08
Smooth Brome - Manchar	7.00	23.30	\$23.28
Intermediate Wheatgrass - Tegmar	6.00	12.81	\$18.00
<b>Totals Seed Mix</b>	<b>16.00</b>	<b>49.89</b>	<b>\$53.35</b>



**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
<b>Total Mulch Materials Cost/Acre</b>				<b>\$842.72</b>

**Application**

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
<b>Total Mulch Application Cost/Acre</b>	<b>\$214.57</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	98	Cost / Acre:	\$1,459.82
Estimated Failure Rate:	20%	Cost / Acre*:	\$285.35
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$143,062.36</b>
Reseeding Job Cost:	<b>\$5,592.86</b>
Total Job Cost:	<b>\$148,655</b>
Job Hours:	<b>98.00</b>

**REVEGETATION WORK**Task description: Weed Spraying - 10% of 570 acres, Twice/Year for Ten YearsSite: Williams Fork Mines Permit Action: RN8 Permit/Job#: C1981044**PROJECT IDENTIFICATION**

Task #: 065 State: Colorado Abbreviation: None  
 Date: 3/8/2023 County: Moffat Filename: 065  
 User: RAR

Agency or organization name: DRMS**FERTILIZING****Materials**

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

**Application**

Description	Cost / Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost / Acre
	\$
<b>Total Tilling Cost/Acre</b>	<b>\$0.00</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
			\$
<b>Totals Seed Mix</b>	0.00	0.00	<b>\$0.00</b>

**Application**

Description	Cost / Acre
	\$
<b>Total Seed Application Cost/Acre</b>	<b>\$0.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
	2.00		\$0.00	\$0.00
	2.00		\$0.00	\$0.00
<b>Total Mulch Materials Cost/Acre</b>				<b>\$0.00</b>

**Application**

Description	Cost / Acre
Weed spray, truck, aquatic area, nox. [DMG]	\$62.72
<b>Total Mulch Application Cost/Acre</b>	<b>\$62.72</b>

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres:	1140	Cost /Acre:	\$62.72
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost:	<b>\$71,500.80</b>
Reseeding Job Cost:	<b>\$0.00</b>
Total Job Cost:	<b>\$71,501</b>
Job Hours:	<b>850.00</b>

SITE MAINTENANCETask description: Site Maintenance, Pond CleaningSite: Williams Fork MinesPermit Action: RN8Permit/Job#: C1981044PROJECT IDENTIFICATIONTask #: 085State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 085User: RARAgency or organization name: DRMSUNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
CAT D3C Dozer	40.00	Cat D3K LGP - 3P	400.00	EA	\$106.51	\$42,604.00
CAT14M Grader	40.00	CAT 14M	400.00	EA	\$222.75	\$89,100.00

Job Hours: 400.00Total Cost: \$131,704.00

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Initial Reclamation**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**

Task #: 090  
 Date: 3/8/2023  
 User: RAR

State: Colorado  
 County: Moffat

Abbreviation: None  
 Filename: 090

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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

**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 D10T - 10SU	84.53	\$153.67	\$136.92	4	\$1,162.36	\$547.68	\$1,000.00
ATLAS COPCO ROC D7-11,4.0 in.	0.00	\$137.40	\$68.22	1	\$205.62	\$68.22	\$250.00
CAT 14M	23.57	\$114.80	\$68.22	1	\$183.02	\$68.22	\$250.00
Cat 637G	57.28	\$264.49	\$136.92	2	\$802.82	\$273.84	\$500.00
Water Tanker, 5,000 Gal.	15.00	\$37.19	\$68.22	1	\$105.41	\$68.22	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00

Subtotals: **\$2,533.70** **\$1,094.40** **\$2,500.00**

**ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 6x4, 210 HP	\$48.30	1	\$48.30	\$48.30
Lube Truck, 6x4, 250 HP	\$48.30	1	\$48.30	\$48.30
Flatbed Truck, 6x4, 45K GVW	\$54.51	1	\$54.51	\$54.51
Light Duty Pickup, 4x4, 1 T. Crew	\$24.30	1	\$24.30	\$24.30

Subtotals: **\$175.41** **\$175.41**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>HAYDEN</u>	
Total one-way travel distance:	<u>30.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$15,509.55</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$263.12</u>
'** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.75</u>	<u>0.75</u>
Return Time (Hours):	<u>0.75</u>	<u>0.75</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>2.50</u>	<u>1.50</u>

**JOB TIME AND COST**

Total job time:	<u>5.00</u>	Hours
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Total job cost:	<u>\$15,773</u>
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**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Pond Removal**Site: **Williams Fork Mines**Permit Action: **RN8**Permit/Job#: **C1981044****PROJECT IDENTIFICATION**

Task #: 091  
 Date: 3/8/2023  
 User: RAR

State: Colorado  
 County: Moffat

Abbreviation: None  
 Filename: 091

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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

**NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	\$146.30	\$136.92	1	\$283.22	\$136.92	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00
CAT 908H	7.12	\$25.38	\$68.22	1	\$93.60	\$68.22	\$0.00
Cat 315D L 8'-6" Stick	19.05	\$68.58	\$68.22	1	\$136.80	\$68.22	\$250.00

Subtotals: **\$588.09** **\$341.58** **\$750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	\$54.51	1	\$54.51	\$54.51
Generic 15-18 cy, 6x4	\$126.28	1	\$126.28	\$126.28

Subtotals: **\$180.79** **\$180.79**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: CRAIG  
 Total one-way travel distance: 9.00 miles  
 Average Travel Speed: 50.00 mph

Total Non-Roadable Mob/Demob Cost \* \$5,069.18  
 '\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$65.08  
 '\*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.18</u>	<u>0.18</u>
Return Time (Hours):	<u>0.18</u>	<u>0.18</u>
Loading Time (Hours):	<u>1.75</u>	<u>NA</u>
Unloading Time (Hours):	<u>1.00</u>	<u>NA</u>
Subtotals:	<u>3.11</u>	<u>0.36</u>

**JOB TIME AND COST**

Total job time: 6.22 Hours

Total job cost: \$5,134



**EQUIPMENT MOBILIZATION/DEMobilIZATION**Task description: **Mobilize/Demobilize Equipment for Yearly Site Maintenance**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 092  
Date: 3/8/2023  
User: RARState: Colorado  
County: MoffatAbbreviation: None  
Filename: 092Agency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per day  
Cost Data Source: CRG DataTruck 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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

**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 D3K LGP - 3P	9.20	\$35.48	\$68.22	10	\$1,037.00	\$682.20	\$0.00
CAT 14M	23.57	\$114.80	\$68.22	5	\$915.10	\$341.10	\$1,250.00

Subtotals: **\$1,952.10** **\$1,023.30** **\$1,250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
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Subtotals: **\$0.00** **\$0.00**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: CRAIG  
 Total one-way travel distance: 9.00 miles  
 Average Travel Speed: 50.00 mph

Total Non-Roadable Mob/Demob Cost \* \$23,092.14  
 '\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$0.00  
 '\*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.18</u>	<u>0.18</u>
Return Time (Hours):	<u>0.18</u>	<u>0.18</u>
Loading Time (Hours):	<u>2.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>2.50</u>	<u>NA</u>
Subtotals:	<u>5.36</u>	<u>0.36</u>

**JOB TIME AND COST**

Total job time: 10.72 Hours

Total job cost: \$23,092

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Pond Cleaning**Site: **Williams Fork Mines**Permit Action: RN8Permit/Job#: C1981044**PROJECT IDENTIFICATION**Task #: 093State: ColoradoAbbreviation: NoneDate: 3/8/2023County: MoffatFilename: 093User: RARAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per day  
Cost Data Source: CRG DataTruck 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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

**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 336D L 10'-6" Stick	32.23	\$83.53	\$101.82	1	\$185.35	\$101.82	\$250.00
Cat D7R DS Series II LGP	34.57	\$92.78	\$101.82	1	\$194.60	\$101.82	\$250.00

Subtotals: **\$379.95** **\$203.64** **\$500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 8-10 cy, 6x4	\$91.11	3	\$273.33	\$273.33

Subtotals: **\$273.33** **\$273.33**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>CRAIG</u>	
Total one-way travel distance:	<u>10.00</u>	miles
Average Travel Speed:	<u>30.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,148.96</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$182.22</u>
'** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.33</u>	<u>0.33</u>
Return Time (Hours):	<u>0.33</u>	<u>0.33</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.67</u>	<u>0.67</u>

**JOB TIME AND COST**

Total job time:	<u>3.33</u>	Hours
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Total job cost:	<u>\$2,331</u>
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