



STATE OF  
COLORADO

Zuber - DNR, Rob <rob.zuber@state.co.us>

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## Cost estimate for Bowie #1

1 message

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**Zuber - DNR, Rob** <rob.zuber@state.co.us>

Tue, May 30, 2023 at 2:13 PM

To: Basil Bear <basilbear@wolverinefuels.com>, Tamme Bishop <tammekb@gmail.com>

Hello, Basil and Tamme -

Please see the attached file with a cover letter and the reclamation cost estimate (RCE) related to RN-08 for the Bowie No. 1 Mine.

Let me know if you have questions or comments.

Rob

Rob Zuber, P.E.  
Environmental Protection Specialist  
Active Mines Regulatory Program



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

*I am working remotely and can be reached by cell at 720.601.2276.*

**Physical Address:**

1313 Sherman Street, Room 215  
Denver, CO 80203

**Mailing Address:**

Division of Reclamation, Mining and Safety, Room 215  
1001 East 62nd Avenue  
Denver, CO 80216

[rob.zuber@state.co.us](mailto:rob.zuber@state.co.us) | <http://drms.colorado.gov>



**C1981038\_RN8\_DRMS\_RCE\_and\_letter.pdf**  
2870K



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

May 30, 2023

Basil Bear  
Bowie Resources, LLC  
P.O. Box 1488  
Paonia, CO 81428

**RE: Bowie No. 1 Mine, DRMS File No. C-1981-038**  
**Reclamation Cost Estimate (RCE) related to renewal (RN-08)**

Dear Mr. Bear:

Please find enclosed my update of the RCE for the Bowie No. 1 Mine. The updated liability is \$1,729,667, approximately \$90,000 more than the RCE from October 2020 (for MT-08). The increase in overall costs stems from increases in the unit costs over time in our cost estimating software, CIRCES. Some unit costs actually decreased, most notably for bulldozer tasks. Reductions in the costs for tasks 130, 130A, and 131 were incorporated; these stem from recent bond releases, SL-07 and SL-08.

The active corporate surety for this site is greater than this new RCE; it is \$2,768,916. Therefore, no additional surety will be needed, per this estimate. As a reminder, the required surety is significantly larger than the RCE because of Rule 3.03.1(2).

If you have any questions or comments, please do not hesitate to contact me at [Rob.Zuber@state.co.us](mailto:Rob.Zuber@state.co.us) or 720.601.2276.

Sincerely,

Robert D. Zuber, P.E.  
Environmental Protection Specialist

*Enclosure: CIRCES cost summary and updated tasks*

Copied via e-mail: Tamme Bishop, J. E. Stover & Associates, Inc.



## COST SUMMARY WORK

Task description: Cost Summary for RN-08

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-000

User: RDZ

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
017	Backfill Orchard Valley West Mine Bench	DOZER	4	5.92	\$9,367
019	Regrade Drill Pads from MR-124 and 125 and TR-38, 49 and 50	DOZER	4	3.54	\$5,604
041	Rip Roads	RIPPER	4	0.17	\$277
049	Regrade OVM Light Access Road	EXCAVATE	1	4.36	\$808
052	Regrade Old Waste Disposal Road	EXCAVATE	1	8.32	\$1,544
054	Finish Grade Lower Waste Disposal Road	GRADER	1	0.06	\$14
059	Regrade Light Use Roads from MR-125 and TR-38, 49 and 50	DOZER	4	18.82	\$29,789
064	Finish Grade Upper Waste Disposal Road	GRADER	1	0.17	\$40
065	Finish Grade Crusher and Screening Road	GRADER	1	0.06	\$14
079	Establish Irrigation Ditch at Storage	EXCAVATE	1	1.70	\$315
093	Backfill and Regrade Coal Stockpile Pond	DOZER	4	0.19	\$296
095	Backfill and Regrade Pond W-1	DOZER	4	0.52	\$796
096	Backfill and Regrade Pond W-2	DOZER	4	0.52	\$796
102	Replace topsoil fm stockpile to OVWM resdisturbance area	DOZER	4	9.75	\$15,003
104	Replace Topsoil from Stockpile to OVWM Vent Shaft Access	DOZER	4	2.85	\$4,378
110	Replace Topsoil from Stockpile to Drill Pads	DOZER	4	1.42	\$2,191
111	Replace Topsoil from Stockpile Light-Use Roads to Drill Pads	DOZER	4	4.38	\$6,739
112	Replace Topsoil from Stockpile to Pond W-1	DOZER	4	0.29	\$441
113	Replace Topsoil from Stockpile to Pond W-2	DOZER	4	0.29	\$441
125	Plug and Seal all Boreholes	BOREHOLE	1	177.00	\$132,696
130	Reseed OVM - No Phase II Release	REVEGE	1	119.00	\$8,720
130A	Reseed OVM - Phase II Release Areas (ROM & 58.4 ac from OVM)	REVEGE	1	11.00	\$280,090
131	Reseed OVWM - Phase II Released	REVEGE	1	26.00	\$3,827
131A	Reseed OVWM - NoPhase II Release	REVEGE	1	9.00	\$21,799
137	East Mine Crushing and Screening Level	DEMOLISH	1	40.00	\$4,138
146	Mobilize/Demobilize Equipment for Initial Reclamation	MOBILIZE	1	10.28	\$44,998
147	Mobilize/Demobilize Equipment for Pond Cleaning	MOBILIZE	1	10.28	\$2,879
148	Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	10.28	\$4,020
149	Mobilize/Demobilize Equipment for Site Maintenance	MOBILIZE	1	10.28	\$17,552

158	YEARLY SITE MNTNC	SITEMAINT ENANCE	1	0.00	\$98,346
201	Seal Loadout Wells	BOREHOLE	1	177.00	\$7,318
202	Demolish and Remove all Structures at Train Loadout	DEMOLISH	1	175.00	\$412,200
204	Haul Footprint of Loadout Stockpiles to Refuse Area	TRUCK1	1	4.37	\$9,275
205	Rip Coal Storage/Loadout Area	RIPPER	4	0.63	\$1,007
206	Excavation/Grading at Storage Area and Loadout	DOZER	4	34.33	\$54,351
207	Grade Railroad Spur	DOZER	4	50.43	\$79,828
208	Finish Grade Railroad Spur	GRADER	1	16.26	\$3,623
209	Replace Topsoil from Stockpile to Truck Dump Station	DOZER	4	0.59	\$942
210	Reseed Train Loadout and Coal Stockpile Areas	REVEGE	1	80.00	\$74,356
211	Remove Coal Stockpile Pond	DOZER	4	0.19	\$304
212	Remove Train Loadout Pond	DOZER	4	1.58	\$2,502
<b><u>SUBTOTALS:</u></b>				<b>1026.83</b>	<b>\$1,343,624</b>

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

Liability insurance:	2.02	Total =	\$27,141
Performance bond:	1.05	Total =	\$14,108
Job superintendent:	513.41	Total =	\$38,572
Profit:	10.00	Total =	\$134,362
		TOTAL O & P =	\$214,184
		CONTRACT AMOUNT (direct + O & P) =	\$1,557,808

**LEGAL - ENGINEERING - PROJECT MANAGEMENT:**

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	6.00	Total =	\$93,468
Reclamation management and/or administration:	5.00		\$77,890

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$386,043

**TOTAL BOND AMOUNT (direct + indirect) = \$1,729,667**

**BULLDOZER WORK**Task description: **Backfill Orchard Valley West Mine Bench**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **017**State: **Colorado**Abbreviation: **None**Date: **5/29/2023**County: **Delta**Filename: **C038-017**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$22.74	NA
Ripper op. Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$395.76**Total Fleet Cost/Hour: **\$1,583.05****MATERIAL QUANTITIES**Initial Volume: **2,823**Swell factor: **1.165**Loose volume: **3,289 LCY**Source of estimated volume: **Regrading 3.5 acres, 0.50' depth**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **400 feet**Unadjusted hourly production: **497.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **7,300 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	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 138.95 LCY/hr

Adjusted fleet production: **555.8** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$2.848/LCY

Total job time: **5.92** Hours

Total job cost: **\$9,367**

**BULLDOZER WORK**Task description: **Regrade Drill Pads from MR-124 and 125 and TR-38, 49 and 50**Site: **Bowie No. 1 Mine**Permit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 019State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-019User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$395.76Total Fleet Cost/Hour: **\$1,583.05****MATERIAL QUANTITIES**Initial Volume: 8,700Swell factor: 1.250Loose volume: **10,875 LCY**Source of estimated volume: Division EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 2,748.7 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 10 %Average site altitude: 7,850 feetMaterial weight: 2,900 lbs/LCYWeight description: User Provided**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	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 767.99 LCY/hr

Adjusted fleet production: **3071.96** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.515/LCY

Total job time: **3.54** Hours

Total job cost: **\$5,604**



## BULLDOZER RIPPING WORK

Task description: Rip Roads

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 041

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-041

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU  
Ripper Attachment: 3-Shank Ripper

Horsepower: 574

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$22.74	NA
Ripper Operating Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$395.76	
Total Fleet Cost/Hour:	<b>\$1,583.05</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 0.55 acres Rip Depth (ft): 2.00 Volume: 1,775 BCY or CCY

Source of estimated quantity: Map 8-1

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.87 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 200.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.947 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.947 Acres/hr  
Site Altitude: 7,000 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.79 Acres/hr  
Adjusted Hourly Fleet Production: 3.14 Acres/hr

### JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 0.17 Hours

Unit cost: \$503.630 Per acre Total job cost: \$277

## HYDRAULIC EXCAVATOR WORK

Task description: Regrade OVM Light Access Road

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 049

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-049

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat 336D L 10'-6" Stick

Attachment 1: ROPS Cab

Horsepower: 268

Weight (MT): 29.30

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$83.53	NA
Operating Cost/Hour:	\$64.55	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$185.40	
Total Fleet Cost/Hour:	\$185.40	

### MATERIAL QUANTITIES

Initial volume: 977

CCY

Swell factor: 1.330

Loose volume: 1,299

LCY

Source of estimated volume: Map 8-7

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: AVERAGE

Secondary Job Condition within Basic Description: AVERAGE

Cycle Time Value: 0.321 minutes

#### Load Bucket Capacity

Bucket Size Class: Medium

Rated Capacity: 2.26 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 1.92 LCY

#### Job Condition Correction Factors

Site Altitude: 7000 feet

Altitude Adj:	1.00	Source (CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production: 359.07 LCY/Hour

Adjusted Hourly Unit Production: 298.02 LCY/Hour

Adjusted Hourly Fleet Production: 298.02 LCY/Hour

### JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 4.36 Hours

Unit cost: \$0.622 /LCY Total job cost: \$808

## HYDRAULIC EXCAVATOR WORK

Task description: Regrade Old Waste Disposal Road

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 052

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-052

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat 336D L 10'-6" Stick

Attachment 1: ROPS Cab

Horsepower: 268

Weight (MT): 29.30

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$83.53	NA
Operating Cost/Hour:	\$64.55	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$185.40	
Total Fleet Cost/Hour:	\$185.40	

### MATERIAL QUANTITIES

Initial volume: 1,866

CCY

Swell factor: 1.330

Loose volume: 2,482

LCY

Source of estimated volume: Map 8-1

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: AVERAGE

Secondary Job Condition within Basic Description: AVERAGE

Cycle Time Value: 0.321 minutes

#### Load Bucket Capacity

Bucket Size Class: Medium

Rated Capacity: 2.26 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 1.92 LCY

#### Job Condition Correction Factors

Site Altitude: 7000 feet

Altitude Adj: 1.00 Source  
(CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Unadjusted Hourly Unit Production: 359.07 LCY/Hour

Adjusted Hourly Unit Production: 298.02 LCY/Hour

Adjusted Hourly Fleet Production: 298.02 LCY/Hour

### JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 8.33 Hours

Unit cost: \$0.622 /LCY Total job cost: \$1,544

## MOTOR GRADER WORK

Task description: Finish Grade Lower Waste Disposal Road

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 054

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-054

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: \_\_\_\_\_

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$114.80	NA
Operating Cost/Hour:	\$79.39	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$222.75	
Total Fleet Cost/Hour:	<b>\$222.75</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 0.10 acres

Source of estimated acreage: Map 8-1

### HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8364</u>	acres/hour

#### Job Condition Correction Factors

Site Altitude: 7000 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.5609 acres/Hour

Adjusted Hourly Fleet Production: **1.5609** acres/Hour

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.06** Hours

Unit cost: \$142.71 per acre Total job cost: **\$14**

**BULLDOZER WORK**Task description: Regrade Light Use Roads from MR-125 and TR-38, 49 and 50Site: Bowie No. 1 MinePermit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 059State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-059User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$395.76Total Fleet Cost/Hour: \$1,583.05**MATERIAL QUANTITIES**Initial Volume: 18,280Swell factor: 1.250Loose volume: 22,850 LCYSource of estimated volume: Map 8-1; Permit Volume 1, page 53Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,850 feetMaterial weight: 2,900 lbs/LCYWeight description: User Provided**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	(FND-RF)
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: \$1.304/LCY

Total job time: **18.82** Hours

Total job cost: **\$29,789**

## MOTOR GRADER WORK

Task description: Finish Grade Upper Waste Disposal Road

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 064

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-064

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: \_\_\_\_\_

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$114.80	NA
Operating Cost/Hour:	\$79.39	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$222.75	
Total Fleet Cost/Hour:	<b>\$222.75</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 0.28 acres

Source of estimated acreage: Map8-1

### HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8364</u>	acres/hour

#### Job Condition Correction Factors

Site Altitude: 7100 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.5609 acres/Hour

Adjusted Hourly Fleet Production: **1.5609** acres/Hour

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.18** Hours

Unit cost: \$142.71 per acre Total job cost: **\$40**

## MOTOR GRADER WORK

Task description: Finish Grade Crusher and Screening Road

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 065

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-065

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: \_\_\_\_\_

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$114.80	NA
Operating Cost/Hour:	\$79.39	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$222.75	
Total Fleet Cost/Hour:	<b>\$222.75</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 0.10 acres

Source of estimated acreage: Map8-1

### HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8364</u>	acres/hour

#### Job Condition Correction Factors

Site Altitude: 7000 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.5609 acres/Hour

Adjusted Hourly Fleet Production: **1.5609** acres/Hour

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.06** Hours

Unit cost: \$142.71 per acre Total job cost: **\$14**



## HYDRAULIC EXCAVATOR WORK

Task description: Establish Irrigation Ditch at Storage

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 079

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-079

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat 336D L 10'-6" Stick

Attachment 1: ROPS Cab

Horsepower: 268

Weight (MT): 29.30

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$83.53</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$64.55</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.32</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$185.40</u>	
Total Fleet Cost/Hour:	<u>\$185.40</u>	

### MATERIAL QUANTITIES

Initial volume: 275

CCY

Swell factor: 1.330

Loose volume: 366

LCY

Source of estimated volume: 1998 Operator Estimate

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.445 minutes

#### Load Bucket Capacity

Bucket Size Class: Medium

Rated Capacity: 2.26 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 1.92 LCY

#### Job Condition Correction Factors

Site Altitude: 7000 feet

Altitude Adj:	<u>1.00</u>	Source (CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.83</u>	multiplier

Unadjusted Hourly Unit Production: 259.01 LCY/Hour

Adjusted Hourly Unit Production: 214.98 LCY/Hour

Adjusted Hourly Fleet Production: 214.98 LCY/Hour

### JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 1.70 Hours

Unit cost: \$0.862 /LCY Total job cost: \$315

**BULLDOZER WORK**Task description: **Backfill and Regrade Coal Stockpile Pond**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **093**State: **Colorado**Abbreviation: **None**Date: **5/29/2023**County: **Delta**Filename: **C038-093**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$384.65**Total Fleet Cost/Hour: **\$1,538.61****MATERIAL QUANTITIES**Initial Volume: **565**Swell factor: **1.330**Loose volume: **751 LCY**Source of estimated volume: **Map 8-1; Permit Volume 1, page 33**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,748.7 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **7,200 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	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 976.89 LCY/hr

Adjusted fleet production: **3907.56** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.394/LCY

Total job time: **0.19** Hours

Total job cost: **\$296**

**BULLDOZER WORK**Task description: **Backfill and Regrade Pond W-1**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **095**State: **Colorado**Abbreviation: **None**Date: **5/29/2023**County: **Delta**Filename: **C038-095**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$384.65**Total Fleet Cost/Hour: **\$1,538.61****MATERIAL QUANTITIES**Initial Volume: **1,200**Swell factor: **1.165**Loose volume: **1,398 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **75 feet**Unadjusted hourly production: **2,105.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,100 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	(FND-RF)
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: 675.59 LCY/hr

Adjusted fleet production: **2702.36** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.569/LCY

Total job time: **0.52** Hours

Total job cost: **\$796**

**BULLDOZER WORK**Task description: **Backfill and Regrade Pond W-2**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **096**State: **Colorado**Abbreviation: **None**Date: **5/29/2023**County: **Delta**Filename: **C038-096**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$384.65**Total Fleet Cost/Hour: **\$1,538.61****MATERIAL QUANTITIES**Initial Volume: **1,200**Swell factor: **1.165**Loose volume: **1,398 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **75 feet**Unadjusted hourly production: **2,105.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,100 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	(FND-RF)
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: 675.59 LCY/hr

Adjusted fleet production: **2702.36** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.569/LCY

Total job time: **0.52** Hours

Total job cost: **\$796**

**BULLDOZER WORK**Task description: Replace topsoil fm stockpile to OVWM resdisturbance areaSite: Bowie No. 1 MinePermit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 102State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-102User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$384.65Total Fleet Cost/Hour: \$1,538.61**MATERIAL QUANTITIES**Initial Volume: 4,235Swell factor: 1.000Loose volume: 4,235 LCYSource of estimated volume: 3..5 ac @ 9" replacement depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 350 feetUnadjusted hourly production: 556.8 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 30 %Average site altitude: 7,200 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)



Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.298	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.1950

Adjusted unit production: 108.58 LCY/hr

Adjusted fleet production: **434.32** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$3.543/LCY

Total job time: **9.75** Hours

Total job cost: **\$15,003**

**BULLDOZER WORK**Task description: Replace Topsoil from Stockpile to OVWM Vent Shaft AccessSite: Bowie No. 1 MinePermit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 104State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-104User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$384.65Total Fleet Cost/Hour: \$1,538.61**MATERIAL QUANTITIES**Initial Volume: 3,300Swell factor: 1.115Loose volume: 3,680 LCYSource of estimated volume: Permit Volume 1, Page 64Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 250 feetUnadjusted hourly production: 754.3 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 10 %Average site altitude: 7,100 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4286

Adjusted unit production: 323.29 LCY/hr

Adjusted fleet production: **1293.16** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$1.190/LCY

Total job time: **2.85** Hours

Total job cost: **\$4,378**

**BULLDOZER WORK**Task description: Replace Topsoil from Stockpile to Drill PadsSite: Bowie No. 1 MinePermit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 110State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-110User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$384.65Total Fleet Cost/Hour: \$1,538.61**MATERIAL QUANTITIES**Initial Volume: 5,455Swell factor: 1.230Loose volume: 6,710 LCYSource of estimated volume: Division EstimateSource 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: 10 %Average site altitude: 7,310 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4286

Adjusted unit production: 1,178.09 LCY/hr

Adjusted fleet production: **4712.36** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.327/LCY

Total job time: **1.42** Hours

Total job cost: **\$2,191**

**BULLDOZER WORK**Task description: **Replace Topsoil from Stockpile Light-Use Roads to Drill Pads**Site: **Bowie No. 1 Mine**Permit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 111State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-111User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$384.65Total Fleet Cost/Hour: **\$1,538.61****MATERIAL QUANTITIES**Initial Volume: 6,635Swell factor: 1.230Loose volume: **8,161 LCY**Source of estimated volume: Division EstimateSource of estimated swell factor: CAT Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 7,310 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4924

Adjusted unit production: 465.81 LCY/hr

Adjusted fleet production: **1863.24** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.826/LCY

Total job time: **4.38** Hours

Total job cost: **\$6,739**

**BULLDOZER WORK**Task description: **Replace Topsoil from Stockpile to Pond W-1**Site: **Bowie No. 1 Mine**Permit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 112State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-112User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$384.65Total Fleet Cost/Hour: **\$1,538.61****MATERIAL QUANTITIES**Initial Volume: 530Swell factor: 1.115Loose volume: **591 LCY**Source of estimated volume: Division EstimateSource of estimated swell factor: CAT Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 7,310 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**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:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5453

Adjusted unit production: 515.85 LCY/hr

Adjusted fleet production: **2063.4** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.746/LCY

Total job time: **0.29** Hours

Total job cost: **\$441**

**BULLDOZER WORK**Task description: **Replace Topsoil from Stockpile to Pond W-2**Site: **Bowie No. 1 Mine**Permit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 113State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-113User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$384.65Total Fleet Cost/Hour: **\$1,538.61****MATERIAL QUANTITIES**Initial Volume: 530Swell factor: 1.115Loose volume: **591 LCY**Source of estimated volume: Division EstimateSource of estimated swell factor: CAT Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 7,310 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**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:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5453

Adjusted unit production: 515.85 LCY/hr

Adjusted fleet production: **2063.4** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.746/LCY

Total job time: **0.29** Hours

Total job cost: **\$441**

## BOREHOLE SEALING WORK

Task description: Plug and Seal all Boreholes

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 125  
Date: 5/29/2023  
User: RDZ

State: Colorado  
County: Delta

Abbreviation: None  
Filename: C038-125

Agency or organization name: DRMS

### UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom plug for 2.5" wells	PVC plug - 2 in. diameter borehole	2.5	na	9.00	EA	\$24.59	\$221.31
Fiil Holes with Concrete	Portland cement grout ( Bag, material cost only...94 lb. bag)	2.5	na	3.00	bag	\$19.95	\$59.85
Borehole Marker	Borehole location/identification marker (EA, material cost only)	na	na	9.00	EA	\$37.50	\$337.50
Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	2.5	NA	9.00	LF	\$3.26	\$29.34
Drill Rig Time	SCHRAMM T450WS	na	na	9.00	EA	\$480.27	\$4,322.43
Water Truck Time	Water Tanker, 5,000 Gal.	na	na	9.00	EA	\$88.49	\$796.41
Bottom Plug for 5" Wells	PVC plug - 6 in. diameter borehole	6	na	13.00	EA	\$61.43	\$798.59
Fill Holes with concrete	Portland cement grout ( Bag, material cost only...94 lb. bag)	6	na	219.00	bag	\$19.95	\$4,369.05
Borehole Marker	Borehole location/identification marker (EA, material cost only)	na	na	13.00	EA	\$37.50	\$487.50
Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	6	na	20.00	LF	\$3.26	\$65.20
Drill Rig Time	SCHRAMM T450WS	na	na	52.00	EA	\$480.27	\$24,974.04
Bottom Plug for Shallow 6" wells	PVC plug - 6 in. diameter borehole	6	na	3.00	EA	\$61.43	\$184.29
Fill Hole with concrete	Portland cement grout ( Bag, material cost only...94 lb. bag)	6	na	20.00	bag	\$19.95	\$399.00
Borehole Marker	Borehole location/identification marker (EA, material cost only)	na	na	3.00	EA	\$37.50	\$112.50
Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	6	na	5.00	LF	\$3.26	\$16.30

Drill Rig Time	SCHRAMM T450WS	na	na	12.00	EA	\$480.27	\$5,763.24
Water Truck Time	Water Tanker, 5,000 Gal.	na	na	12.00	EA	\$88.49	\$1,061.88
Bottom Plug for Intermediate 6" Well	PVC plug - 6 in. diameter borehole	6	na	1.00	EA	\$61.43	\$61.43
Fill Holes with Concrete	Portland cement grout ( Bag, material cost only...94 lb. bag)	6	na	51.00	bag	\$19.95	\$1,017.45
Borehole Marker	Borehole location/identification marker (EA, material cost only)	na	na	1.00	EA	\$37.50	\$37.50
Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	6	na	2.00	LF	\$3.26	\$6.52
Drill Rig Time	SCHRAMM T450WS	na	na	8.00	EA	\$480.27	\$3,842.16
Water Truck Time	Water Tanker, 5,000 Gal.	na	na	8.00	EA	\$88.49	\$707.92
Bottom Plug for Deep 6" Wells	PVC plug - 6 in. diameter borehole	6	na	2.00	EA	\$61.43	\$122.86
Fill Holes with Concrete	Portland cement grout ( Bag, material cost only...94 lb. bag)	6	na	207.00	bag	\$19.95	\$4,129.65
Borehole Markers	Borehole location/identification marker (EA, material cost only)	na	na	2.00	EA	\$37.50	\$75.00
Cut Casing At Surface	Exposed casing removal - Calculate Circumference in Linear Feet	6	na	3.00	LF	\$3.26	\$9.78
Drill Rig Time	SCHRAMM T450WS	na	na	24.00	EA	\$480.27	\$11,526.48
Water Truck Time	Water Tanker, 5,000 Gal.	na	na	24.00	EA	\$88.49	\$2,123.76
Bottom Plug GVB-10A - B	PVC plug - 10 in. diameter borehole	10	na	2.00	EA	\$115.29	\$230.58
Fill Holes with Concrete	Portland cement grout ( Bag, material cost only...94 lb. bag)	na	na	330.00	bag	\$19.95	\$6,583.50
Borehole Marker	Borehole location/identification marker (EA, material cost only)	na	na	2.00	EA	\$37.50	\$75.00
Cut Casing At Surface	Exposed casing removal - Calculate Circumference in Linear Feet	10	na	5.00	LF	\$3.26	\$16.30
Drill Rig Time	SCHRAMM T450WS	na	na	16.00	EA	\$480.27	\$7,684.32
Water Truck Time	Water Tanker, 5,000 Gal.	na	na	16.00	EA	\$88.49	\$1,415.84
Bottom Plug Ex. Holes TR-49 & MR-124	PVC plug - 10 in. diameter borehole	10	na	3.00	EA	\$115.29	\$345.87
Fill Holes with Concrete	Portland cement grout ( Bag, material cost only...94 lb. bag)	na	na	1,065.00	bag	\$19.95	\$21,246.75
Borehole Marker	Borehole location/identification marker (EA, material cost only)	na	na	3.00	EA	\$37.50	\$112.50

Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	10	na	8.00	LF	\$3.26	\$26.08
Drill Rig Time	SCHRAMM T450WS	na	na	48.00	EA	\$480.27	\$23,052.96
Water Truck Time	Water Tanker, 5,000 Gal.	na	na	48.00	EA	\$88.49	\$4,247.52

**Job Hours:** 177.00**Total Cost:** \$132,696.00

**REVEGETATION WORK**Task description: Reseed OVM - No Phase II ReleaseSite: Bowie No. 1 MinePermit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 130State: ColoradoAbbreviation: NoneDate: 5/29/2023County: DeltaFilename: C038-130User: RDZAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
8-24-24, 10-15-15, 10-20-20	30.00	pound	\$0.35	\$10.50
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$10.50</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$39.64</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
Arizona Fescue - Redondo	0.40	4.59	\$3.70
Indian Ricegrass - Paloma	2.00	6.47	\$22.25
Bitterbrush, Antelope	8.00	2.46	\$156.00
Aster, Smooth	0.40	6.96	\$58.60
Burnett, Small (or Little) - Delar	4.00	5.05	\$10.00
Milk Vetch, Cicer - Lutana	2.00	6.66	\$16.40
Slender Wheatgrass - San Luis	1.60	5.84	\$6.80
Streambank Wheatgrass - Sodar	1.60	5.22	\$9.12
Thickspike Wheatgrass - Critana	1.60	5.66	\$11.00
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.80	11.92	\$51.44

Rose, Wood's	3.00	0.00	\$61.50
Flax, Lewis Blue	1.00	6.63	\$16.50
Snowberry, Western	2.00	3.44	\$127.00
Winter Fat	3.00	7.64	\$61.50
<b>Totals Seed Mix</b>	33.40	83.60	<b>\$624.81</b>

## Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,247.99
<b>Total Seed Application Cost/Acre</b>	<b>\$1,247.99</b>

## MULCHING and MISCELLANEOUS

## Materials

Materials				
Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$407.29	\$407.29
Hydromulch, 1 ton/ac. rate {Materials Only}	1.00	ACRE	\$407.29	\$407.29
<b>Total Mulch Materials Cost/Acre</b>				<b>\$814.58</b>

## Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$1,210.00
<b>Total Mulch Application Cost/Acre</b>	<b>\$1,210.00</b>

## NURSERY STOCK PLANTING

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

## JOB TIME AND COST

No. of Acres:	1.8	Cost /Acre:	\$4,064.70
Estimated Failure Rate:	20%	Cost /Acre*:	\$3,897.38
*Selected Replanting Work Items:	SEEDING,MULCHING		
Initial Job Cost:	\$7,316.46		
Reseeding Job Cost:	\$1,403.06		
Total Job Cost:	\$8,720		
Job Hours:	119.00		



**REVEGETATION WORK**Task description: **Reseed OVM - Phase II Release Areas (ROM & 58.4 ac from OVM)**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **130A**State: **Colorado**Abbreviation: **None**Date: **5/29/2023**County: **Delta**Filename: **C038-130A**User: **RDZ**Agency or organization name: **DRMS****FERTILIZING****Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
8-24-24, 10-15-15, 10-20-20	30.00	pound	\$0.35	\$10.50
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$10.50</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$39.64</b>

**TILLING**

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

**SEEDING**

<b>Seed Mix</b>	<b>Rate – PLS LBS / Acre</b>	<b>Seeds per SQ. FT</b>	<b>Cost /Acre</b>
Arizona Fescue - Redondo	0.40	4.59	\$3.70
Indian Ricegrass - Paloma	2.00	6.47	\$22.25
Bitterbrush, Antelope	8.00	2.46	\$156.00
Aster, Smooth	0.40	6.96	\$58.60
Burnett, Small (or Little) - Delar	4.00	5.05	\$10.00
Milk Vetch, Cicer - Lutana	2.00	6.66	\$16.40
Slender Wheatgrass - San Luis	1.60	5.84	\$6.80
Streambank Wheatgrass - Sodar	1.60	5.22	\$9.12
Thickspike Wheatgrass - Critana	1.60	5.66	\$11.00
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.80	11.92	\$51.44

Rose, Wood's	3.00	0.00	\$61.50
Flax, Lewis Blue	1.00	6.63	\$16.50
Snowberry, Western	2.00	3.44	\$127.00
Winter Fat	3.00	7.64	\$61.50
<b>Totals Seed Mix</b>	<b>33.40</b>	<b>83.60</b>	<b>\$624.81</b>

**Application**

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,247.99
<b>Total Seed Application Cost/Acre</b>	<b>\$1,247.99</b>

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

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$407.29	\$407.29
Hydromulch, 1 ton/ac. rate {Materials Only}	1.00	ACRE	\$407.29	\$407.29
<b>Total Mulch Materials Cost/Acre</b>				<b>\$814.58</b>

**Application**

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$1,210.00
<b>Total Mulch Application Cost/Acre</b>	<b>\$1,210.00</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: 57.82                      Cost /Acre: \$4,064.70  
 Estimated Failure Rate: 20%                      Cost /Acre\*: \$3,897.38  
 \*Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: **\$235,020.95**  
 Reseeding Job Cost: **\$45,069.30**  
 Total Job Cost: **\$280,090**  
 Job Hours: **11.00**

**REVEGETATION WORK**Task description: **Reseed OVWM - Phase II Released**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **131**State: **Colorado**Abbreviation: **None**Date: **5/29/2023**County: **Delta**Filename: **C038-131**User: **RDZ**Agency or organization name: **DRMS****FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
8-24-24, 10-15-15, 10-20-20	30.00	pound	\$0.35	\$10.50
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$10.50</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$39.64</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
Arizona Fescue - Redondo	0.40	4.59	\$3.70
Indian Ricegrass - Paloma	2.00	6.47	\$22.25
Bitterbrush, Antelope	8.00	2.46	\$156.00
Aster, Smooth	0.40	6.96	\$58.60
Burnett, Small (or Little) - Delar	4.00	5.05	\$10.00
Milk Vetch, Cicer - Lutana	2.00	6.66	\$16.40
Slender Wheatgrass - San Luis	1.60	5.84	\$6.80
Streambank Wheatgrass - Sodar	1.60	5.22	\$9.12
Thickspike Wheatgrass - Critana	1.60	5.66	\$11.00
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.80	11.92	\$51.44

Rose, Wood's	3.00	0.00	\$61.50
Flax, Lewis Blue	1.00	6.63	\$16.50
Snowberry, Western	2.00	3.44	\$127.00
Winter Fat	3.00	7.64	\$61.50
<b>Totals Seed Mix</b>	<b>33.40</b>	<b>83.60</b>	<b>\$624.81</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,247.99
<b>Total Seed Application Cost/Acre</b>	<b>\$1,247.99</b>

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

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Hydromulch tackifier, <15 ac. {Materials Only}	1.00	ACRE	\$407.29	\$407.29
Hydromulch, 1 ton/ac. rate {Materials Only}	1.00	ACRE	\$407.29	\$407.29
<b>Total Mulch Materials Cost/Acre</b>				<b>\$814.58</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Hydromulching (MEANS 32 92 19.13 1100)	\$1,210.00
<b>Total Mulch Application Cost/Acre</b>	<b>\$1,210.00</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: 0.79                      Cost /Acre: \$4,064.70  
 Estimated Failure Rate: 20%                      Cost /Acre\*: \$3,897.38  
 \*Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: **\$3,211.11**  
 Reseeding Job Cost: **\$615.79**  
 Total Job Cost: **\$3,827**  
 Job Hours: **26.00**

**REVEGETATION WORK**Task description: **Reseed OVWM - NoPhase II Release**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **131A**State: **Colorado**Abbreviation: **None**Date: **5/29/2023**County: **Delta**Filename: **C038-131A**User: **RDZ**Agency or organization name: **DRMS****FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
8-24-24, 10-15-15, 10-20-20	30.00	pound	\$0.35	\$10.50
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$10.50</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$39.64</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
Arizona Fescue - Redondo	0.40	4.59	\$3.70
Indian Ricegrass - Paloma	2.00	6.47	\$22.25
Bitterbrush, Antelope	8.00	2.46	\$156.00
Aster, Smooth	0.40	6.96	\$58.60
Burnett, Small (or Little) - Delar	4.00	5.05	\$10.00
Milk Vetch, Cicer - Lutana	2.00	6.66	\$16.40
Slender Wheatgrass - San Luis	1.60	5.84	\$6.80
Streambank Wheatgrass - Sodar	1.60	5.22	\$9.12
Thickspike Wheatgrass - Critana	1.60	5.66	\$11.00
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.80	11.92	\$51.44

Rose, Wood's	3.00	0.00	\$61.50
Flax, Lewis Blue	1.00	6.63	\$16.50
Snowberry, Western	2.00	3.44	\$127.00
Winter Fat	3.00	7.64	\$61.50
<b>Totals Seed Mix</b>	33.40	83.60	<b>\$624.81</b>

## Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,247.99
<b>Total Seed Application Cost/Acre</b>	<b>\$1,247.99</b>

## MULCHING and MISCELLANEOUS

## Materials

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Hydromulch tackifier, <15 ac. {Materials Only}	1.00	ACRE	\$407.29	\$407.29
Hydromulch, 1 ton/ac. rate {Materials Only}	1.00	ACRE	\$407.29	\$407.29
<b>Total Mulch Materials Cost/Acre</b>				<b>\$814.58</b>

## Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$1,210.00
<b>Total Mulch Application Cost/Acre</b>	<b>\$1,210.00</b>

## NURSERY STOCK PLANTING

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

### JOB TIME AND COST

No. of Acres:	4.5	Cost /Acre:	\$4,064.70
Estimated Failure Rate:	20%	Cost /Acre*:	\$3,897.38
*Selected Replanting Work Items:	SEEDING,MULCHING		
Initial Job Cost:	<b>\$18,291.15</b>		
Reseeding Job Cost:	<b>\$3,507.64</b>		
Total Job Cost:	<b>\$21,799</b>		
Job Hours:	<b>9.00</b>		

## DEMOLITION WORK

Task description: East Mine Crushing and Screening Level

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 137

State: Colorado

Abbreviation: None

Date: 5/29/2023

County: Delta

Filename: C038-137

User: RDZ

Agency or organization name: DRMS

### UNIT COSTS

Location adjustment: 98.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Guard Shack Floor	120 sf	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	120.00	SF	\$1.53	\$183.84
Guard Shack Fence	118 lf	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	118.00	LF	\$3.08	\$363.44
Culvert Removal 18 inch	115 lf	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	115.00	LF	\$5.90	\$678.73
Culvert Removal 24 inch	100 lf	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	100.00	LF	\$7.68	\$767.80
Culvert Removal 48 inch	125 lf	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	125.00	LF	\$17.76	\$2,220.13

Job Hours: 40.00

Subtotal  
(unadjusted): \$4,213.94

Total Cost  
(adjusted for location): \$4,138.09

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Initial Reclamation**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **146**State: **Colorado**Abbreviation: **None**Date: **5/29/2023**County: **Delta**Filename: **C038-146**User: **RDZ**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	93.31	\$176.41	\$136.92	4	\$1,253.32	\$547.68	\$1,000.00
Cat 773F	49.74	\$113.99	\$101.82	5	\$1,079.05	\$509.10	\$1,250.00
CAT 990H	83.34	\$72.43	\$136.92	1	\$209.35	\$136.92	\$250.00
Water Tanker, 5,000 Gal.	15.00	\$37.19	\$68.22	2	\$210.82	\$136.44	\$500.00
CAT 14M	23.57	\$114.80	\$68.22	1	\$183.02	\$68.22	\$250.00
Cat 637G w/push- pull	59.59	\$287.19	\$136.92	2	\$848.22	\$273.84	\$500.00
CAT 815F	22.88	\$110.46	\$68.22	1	\$178.68	\$68.22	\$250.00
ATLAS COPCO ROC D3-01,3.0 in.	0.00	\$112.03	\$68.22	2	\$360.50	\$136.44	\$500.00
Cat 336D L 10'-6" Stick	32.23	\$83.53	\$101.82	1	\$185.35	\$101.82	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00

Subtotals: **\$4,582.78** **\$2,046.90** **\$5,000.00****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
Fuel Tanker, 6x4, 210 HP	\$48.30	1	\$48.30	\$48.30
Lube Truck, 6x4, 250 HP	\$48.30	1	\$48.30	\$48.30
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>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>90.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$44,095.50</u>
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    \*\* two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$902.11</u>
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    \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>2.57</u>	<u>2.57</u>
Return Time (Hours):	<u>2.57</u>	<u>2.57</u>
Loading Time (Hours):	<u>0.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.00</u>	<u>NA</u>
Subtotals:	<u>5.14</u>	<u>5.14</u>

**JOB TIME AND COST**

Total job time:	<u>10.29</u>	Hours
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Total job cost:	<u>\$44,998</u>
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**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Pond Cleaning**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **147**State: **Colorado**Abbreviation: **None**Date: **5/30/2023**County: **Delta**Filename: **C038-147**User: **RDZ**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 336D L 10'-6" Stick	32.23	\$83.53	\$101.82	1	\$185.35	\$101.82	\$250.00

Subtotals: **\$185.35** **\$101.82** **\$250.00****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
Fuel Tanker, 6x4, 210 HP	\$48.30	1	\$48.30	\$48.30
Lube Truck, 6x4, 250 HP	\$48.30	1	\$48.30	\$48.30
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>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>90.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$1,976.87</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$902.11</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>2.57</u>	<u>2.57</u>
Return Time (Hours):	<u>2.57</u>	<u>2.57</u>
Loading Time (Hours):	<u>0.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.00</u>	<u>NA</u>
Subtotals:	<u>5.14</u>	<u>5.14</u>

**JOB TIME AND COST**

Total job time:	<u>10.29</u>	Hours
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Total job cost:	<u>\$2,879</u>
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**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Pond Removal**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **148**State: **Colorado**Abbreviation: **None**Date: **5/30/2023**County: **Delta**Filename: **C038-148**User: **RDZ**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
Subtotals:					<b>\$357.69</b>	<b>\$205.14</b>	<b>\$500.00</b>

**ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$24.30	1	\$24.30	\$24.30
Subtotals:			<b>\$24.30</b>	<b>\$24.30</b>

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>90.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$3,894.55</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$124.97</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>2.57</u>	<u>2.57</u>
Return Time (Hours):	<u>2.57</u>	<u>2.57</u>
Loading Time (Hours):	<u>0.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.00</u>	<u>NA</u>
Subtotals:	<u>5.14</u>	<u>5.14</u>

**JOB TIME AND COST**

Total job time:	<u>10.29</u>	Hours
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Total job cost:	<u>\$4,020</u>
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**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Site Maintenance**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **149**State: **Colorado**Abbreviation: **None**Date: **5/30/2023**County: **Delta**Filename: **C038-149**User: **RDZ**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 D3K LGP - 3P	9.20	\$35.48	\$68.22	10	\$1,037.00	\$682.20	\$250.00
CAT 14M	23.57	\$114.80	\$68.22	5	\$915.10	\$341.10	\$250.00

Subtotals: **\$1,952.10** **\$1,023.30** **\$500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$24.30	10	\$243.00	\$243.00

Subtotals: **\$243.00** **\$243.00**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>90.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$16,302.06</u>
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    \*\* two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$1,249.71</u>
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    \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>2.57</u>	<u>2.57</u>
Return Time (Hours):	<u>2.57</u>	<u>2.57</u>
Loading Time (Hours):	<u>0.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.00</u>	<u>NA</u>
Subtotals:	<u>5.14</u>	<u>5.14</u>

**JOB TIME AND COST**

Total job time:	<u>10.29</u>	Hours
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Total job cost:	<u>\$17,552</u>
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## SITE MAINTENANCE

Task description: YEARLY SITE MNTNC

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 158

State: Colorado

Abbreviation: None

Date: 5/30/2023

County: Delta

Filename: C038-158

User: RDZ

Agency or organization name: DRMS

### UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
D3 Dozer	6.00	Cat D3K LGP - 3P	60.00	EA	\$106.51	\$6,390.60
CAT Motor Grader	2.00	CAT 14M	20.00	EA	\$222.75	\$4,455.00
POND CLEANING	5.00	USER PROVIDED ITEM	5.00	EA	\$17,500.00	\$87,500.00

Job Hours: 0.00

Total Cost: \$98,345.60

## BOREHOLE SEALING WORK

Task description: Seal Loadout Wells

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 201

State: Colorado

Abbreviation: None

Date: 5/30/2023

County: Delta

Filename: C038-201

User: RDZ

Agency or organization name: DRMS

### UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom plug for 6" wells	PVC plug - 6 in. diameter borehole	6	na	1.00	EA	\$61.43	\$61.43
Fiil Holes with Concrete	Portland cement grout ( Bag, material cost only...94 lb. bag)	6	na	19.60	bag	\$19.95	\$391.02
Borehole Marker	Borehole location/identification marker (EA, material cost only)	na	na	1.00	EA	\$37.50	\$37.50
Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	na	na	1.00	LF	\$3.26	\$3.26
Drill Rig Time	SCHRAMM T450WS	na	na	12.00	EA	\$480.27	\$5,763.24
Water Truck Time	Water Tanker, 5,000 Gal.	na	na	12.00	EA	\$88.49	\$1,061.88

Job Hours: 177.00

Total Cost: \$7,318.00

## DEMOLITION WORK

Task description: Demolish and Remove all Structures at Train Loadout

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 202

State: Colorado

Abbreviation: None

Date: 5/30/2023

County: Delta

Filename: C038-202

User: RDZ

Agency or organization name: DRMS

### UNIT COSTS

Location adjustment: 98.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Truck Dump Superstructure Slab	1200 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	1,200.00	SF	\$2.02	\$2,418.00
Truck Dump Superstructure Footing	170	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	170.00	LF	\$14.51	\$2,466.70
MCC at Truck Dump Superstructure Slab	364 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	364.00	SF	\$2.02	\$733.46
Scrubber Superstructure Footings	10 lf	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	10.00	LF	\$14.51	\$145.10
Tunnel Building Superstructure Slab	1152 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	1,152.00	SF	\$2.02	\$2,321.28
Tunnel Building Superstructure Footings	128 lf	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	128.00	LF	\$14.51	\$1,857.28
Tunnel Building Superstructure Concrete Tunnel	1440 sqft	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	1,440.00	SF	\$2.53	\$3,643.20
Truck Scale Superstructure	768 cf	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	768.00	CF	\$0.22	\$171.26
Truck Scale Superstructure Slab	996 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	996.00	SF	\$2.02	\$2,006.94
Silo Fan Footing	4.5 lf	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	4.50	LF	\$14.51	\$65.30
Silo Buildings Superstructure Slab	256 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	256.00	SF	\$2.02	\$515.84

Coal Storage Silos Superstructure Slab	11545 sqft	Floor, concrete, demolition only, average reinforcing - 12 in. thick	11,545.00	SF	\$2.23	\$25,745.35
Coal Storage Silos Superstructure Footings	89 cy	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	89.00	LF	\$14.51	\$1,291.39
MCC at Silo Superstructure Slab	504 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	504.00	SF	\$2.02	\$1,015.56
Substation Superstructure Slab	291 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	291.00	SF	\$2.02	\$586.37
Substation Superstructure Footing	168 lf	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	168.00	LF	\$14.51	\$2,437.68
Shop Building Superstructure	150000 cf	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	150,000.00	CF	\$0.22	\$33,450.00
Shop Building Superstructure Slab	5420 sqft	Demo. and on-site disposal in existing pit, 10 in. thick - Max. 200 ft. push	5,420.00	SF	\$1.94	\$10,487.70
Shop Building Superstructure Footings	300 lf	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	300.00	LF	\$14.51	\$4,353.00
Pump House at Silo Superstructure Slab	1164 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	1,164.00	SF	\$2.02	\$2,345.46
MCC at Loadout Superstructure Slab	672 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	672.00	SF	\$2.02	\$1,354.08
Misc Fencing	2800 lf	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	2,800.00	LF	\$3.08	\$8,624.00
Train Loadout Superstructure Slab	900 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	900.00	SF	\$2.02	\$1,813.50
Train Loadout Superstructure Footings	120 lf	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	120.00	LF	\$14.51	\$1,741.20
Train Loadout Superstructure Fence	120 lf	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	120.00	LF	\$3.08	\$369.60
Pump House at Loadout Superstructure	16280 cf	Bldg. (MN) demo./on-site disposal in excavated pit - Max.	16,280.00	CF	\$0.24	\$3,972.32

		200 ft. push				
Pump House at Loadout Slab	813 sqft	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	813.00	SF	\$2.02	\$1,638.20
Pump House at Loadout Walls	1944 sqft	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	1,944.00	SF	\$2.53	\$4,918.32
Railroad Track	7088 lf	Railroad track - Ties and track	7,088.00	LF	\$9.98	\$70,738.24
Railroad Track Ballast	1590 cy	Railroad track - Ballast	1,590.00	CY	\$4.90	\$7,791.00
Bridge Reclamation (Adjusted Cyprus Estimate)	1 bridge	USER PROVIDED ITEM	1.00	ea	\$156,669.00	\$156,669.00
500 Gallon Fuel Tank (2)	500 gal	Hazardous waste removal - Drum solids/liquids, per drum, (7+ drum job)	2.00	DRUM	\$339.67	\$679.34
500 Gallon Fuel Tank (2) Remove Sludge	500 gal	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	2.00	EA	\$245.00	\$490.00
500 Gallon Fuel Tank (2) Disposal of Sludge	100 gal	Dispose of tank sludge off-site - Average	100.00	GAL	\$6.80	\$680.00
500 Gallon Fuel Tank (2) Add CO2 for Tank Cleaning	15 lbs	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	15.00	LB	\$1.99	\$29.85
500 Gallon Fuel Tank (2) Haul Tanks to Certified Dump	2 tanks	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	2.00	EA	\$760.00	\$1,520.00
Concrete Disposal Charges	1911 CY	Loading and 5 mile haul, salvage allowed - Concrete frame structures	1,911.00	CY	\$14.15	\$27,040.65
Culvert Removal - 24" Culvert	24 inches	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	934.00	LF	\$7.68	\$7,171.25
Culvert Removal - 36" Culvert	36 inches	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	36.00	LF	\$12.24	\$440.71
Culvert Removal - 60" Culvert	60 inches	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	627.00	LF	\$23.89	\$14,978.40
Single post power poles	22 poles	Utility Poles, Wood 35' - 45' high (each pole)	22.00	EA	\$297.50	\$6,545.00
Single post cross members	22 Poles	Utility Pole Cross Arm	22.00	EA	\$106.00	\$2,332.00
Disposal of Utility Pole and Hardware Surplus Material	4,400 ft Long	Disposal of utility pole and hardware surplus material	4,400.00	LF	\$0.02	\$88.00
Disposal of Utility Pole Cross Arms and Hardware Surplus Material	4,400 ft Long	Disposal of utility pole cross arms and hardware surplus material	4,400.00	LF	\$0.01	\$44.00
Metering Substation	3ft * 3ft *3ft	Bldg. (SN) demo./on-	27.00	CF	\$0.22	\$5.89

		site disposal in existing pit or cut - Max. 10,000 ft. haul				
Metering point concrete slab	4ft * 8ft * 4in	Floor, concrete, demolition only, average reinforcing - 4 in. thick	32.00	SF	\$0.74	\$23.68

**Job Hours:** 175.00

**Subtotal  
(unadjusted):** \$419,755.10

**Total Cost  
(adjusted for  
location):** \$412,199.51

**TRUCK/LOADER TEAM WORK**Task description: **Haul Footprint of Loadout Stockpiles to Refuse Area**Site: **Bowie No. 1 Mine**Permit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 204State: ColoradoAbbreviation: NoneDate: 5/30/2023County: DeltaFilename: C038-204User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 990H
Support Equipment -Load Area:	Cat D10T - 10SU
-Dump Area:	Cat D10T - 10SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

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

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	65	100	100	50	50
Ownership cost/hour:	\$113.99	\$72.43	\$153.67	\$153.67	\$114.80	\$37.19
Operating cost/hour:	\$95.31	\$71.32	\$166.94	\$166.94	\$39.70	\$25.65
% Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$33.34	\$40.71	\$41.30	\$41.30	\$28.56	\$0.00
Unit Subtotals:	\$242.64	\$184.45	\$361.91	\$361.91	\$183.05	\$62.84
Number of Units:	4	1	1	1	1	1
Group Subtotals:	Work: \$1,155.01		Support: \$723.82		Maint: \$245.89	

Total work team cost/hour: **\$2,124.72****MATERIAL QUANTITIES**Initial volume: 1,613

CCY

Swell factor: 1.370Loose volume: **2,210**

LCY

Source of estimated volume: Division EstimateSource of estimated swell factor: Division EstimateMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,300

Pounds/LCY

Description: User ProvidedRated Payload: 122,520

Pounds

Payload Capacity: 53.27

LCY

**Truck Bed (volume) Basis:**

Struck Volume:	35.00	LCY
Heaped Volume:	46.50	LCY
Average Volume:	40.75	LCY
Adjusted Volume:	46.50	LCY

Final Truck Volume Based on Number of Loader Passes: **43.88** LCY

**Loading Tool Capacity**

Bucket Size Class: NA

Rated Capacity:	11.250	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	<b>10.969</b>	LCY

**Job Condition Corrections:**

Site Altitude (ft.): 7100 feet

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

**Loading Tool Cycle Time:** Number of Loading Tool Passes Required to Fill Truck: 4 passes

**Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition Rating: NA  
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: \_\_\_\_\_

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 3/4" to 6" diameter 0.00	0.000	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less 0.01	0.010	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.070	minutes
Adjusted Loader Cycle Time:		<b>0.530</b>	minutes
Net Load Time per Truck:		<b>1.690</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Load Time:	1.690	Minutes	Adjusted for site altitude:	1.690	Minutes
Truck Maneuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	Minutes

Truck Travel (Haul & Return) Time:  
maintained 3.0

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,



## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	21120.00	0.00	3.00	3.00	2983	7.643

Haul Time: **7.643** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	21120.00	0.00	3.00	3.00	3569	6.131

Return Time: **6.131** minutesTotal Truck Cycle Time: **17.264** minutes

## Loading Tool unit

Production 1,101.46 LCY/Hour      Adjusted for job efficiency: 914.22 LCY/Hour  
Truck Unit Production 152.48 LCY/Hour      Adjusted for job efficiency: 126.56 LCY/Hour

Optimal No. of Trucks: 7 Truck(s)      Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 506.25 LCY/Hour  
Adjusted single truck/loader team production: 506.25 LCY/Hour  
Adjusted multiple truck/loader team production: **506.25** LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)      Total job time: **4.37** Hours

Unit cost: \$4.197 /LCY      Total job cost: **\$9,275**

## BULLDOZER RIPPING WORK

Task description: Rip Coal Storage/Loadout Area

Site: Bowie No. 1 Mine Permit Action: RN8 Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 205 State: Colorado Abbreviation: None  
Date: 5/30/2023 County: Delta Filename: C038-205  
User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

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

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$22.74	NA
Ripper Operating Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$395.76	
Total Fleet Cost/Hour:	<b>\$1,583.05</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 2.00 acres Rip Depth (ft): 2.00 Volume: 6,453 BCY or CCY

Source of estimated quantity: Map 8-1

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.87 feet/pass  
Average Ripping Width: 8.67 feet/pass  
Average Ripping Length: 200.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.947 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.947 Acres/hr  
Site Altitude: 6,800 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.79 Acres/hr  
Adjusted Hourly Fleet Production: 3.14 Acres/hr

### JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 0.64 Hours

Unit cost: \$503.630 Per acre Total job cost: \$1,007

**BULLDOZER WORK**Task description: **Excavation/Grading at Storage Area and Loadout**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **206**State: **Colorado**Abbreviation: **None**Date: **5/30/2023**County: **Delta**Filename: **C038-206**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$22.74	NA
Ripper op. Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$395.76**Total Fleet Cost/Hour: **\$1,583.05****MATERIAL QUANTITIES**Initial Volume: **23,232**Swell factor: **1.165**Loose volume: **27,065 LCY**Source of estimated volume: **Permit Vol 1, Page 60**Source of estimated swell factor: **CAT Handbook****HOURLY PRODUCTION**Average push distance: **400 feet**Unadjusted hourly production: **497.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **-5 %**Average site altitude: **7,000 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	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3963

Adjusted unit production: 197.08 LCY/hr

Adjusted fleet production: **788.32** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$2.008/LCY

Total job time: **34.33** Hours

Total job cost: **\$54,351**

**BULLDOZER WORK**Task description: **Grade Railroad Spur**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **207**State: **Colorado**Abbreviation: **None**Date: **5/30/2023**County: **Delta**Filename: **C038-207**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$22.74	NA
Ripper op. Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$395.76**Total Fleet Cost/Hour: **\$1,583.05****MATERIAL QUANTITIES**Initial Volume: **113,504**Swell factor: **1.330**Loose volume: **150,960 LCY**Source of estimated volume: **1988 Cyprus Estimate**Source of estimated swell factor: **CAT Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **-10 %**Average site altitude: **6,500 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	(FND-RF)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4354

Adjusted unit production: 748.41 LCY/hr

Adjusted fleet production: **2993.64** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.529/LCY

Total job time: **50.43** Hours

Total job cost: **\$79,828**

## MOTOR GRADER WORK

Task description: Finish Grade Railroad Spur

Site: Bowie No. 1 Mine

Permit Action: RN8

Permit/Job#: C1981038

### PROJECT IDENTIFICATION

Task #: 208

State: Colorado

Abbreviation: None

Date: 5/30/2023

County: Delta

Filename: C038-208

User: RDZ

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: \_\_\_\_\_

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$114.80	NA
Operating Cost/Hour:	\$79.39	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$222.75	
Total Fleet Cost/Hour:	<b>\$222.75</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 25.39 acres

Source of estimated acreage: Map8-1

### HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8364</u>	acres/hour

#### Job Condition Correction Factors

Site Altitude: 7000 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.5609 acres/Hour

Adjusted Hourly Fleet Production: **1.5609** acres/Hour

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **16.27** Hours

Unit cost: \$142.71 per acre Total job cost: **\$3,623**

**BULLDOZER WORK**Task description: **Replace Topsoil from Stockpile to Truck Dump Station**Site: **Bowie No. 1 Mine**Permit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 209State: ColoradoAbbreviation: NoneDate: 5/30/2023County: DeltaFilename: C038-209User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$395.76Total Fleet Cost/Hour: **\$1,583.05****MATERIAL QUANTITIES**Initial Volume: 2,000Swell factor: 1.115Loose volume: **2,230 LCY**Source of estimated volume: Permit Vol 1, Page 65; Operator EstimateSource of estimated swell factor: CAT Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 6,500 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**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:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5453

Adjusted unit production: 937.32 LCY/hr

Adjusted fleet production: **3749.28** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.422/LCY

Total job time: **0.59** Hours

Total job cost: **\$942**

**REVEGETATION WORK**Task description: **Reseed Train Loadout and Coal Stockpile Areas**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **210**State: **Colorado**Abbreviation: **None**Date: **5/30/2023**County: **Delta**Filename: **C038-210**User: **RDZ**Agency or organization name: **DRMS****FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
0-10-20, 3-9-18	1.00	pound	\$0.19	\$0.19
8-24-24, 10-15-15, 10-20-20	30.00	pound	\$0.35	\$10.50
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$10.69</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$39.64</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
Fringed Bromegrass - Native	4.38	8.03	\$74.38
Rye, Perennial Tetraploid - Elgon	3.50	19.85	\$6.30
Meadow Brome - Regar	5.25	4.82	\$20.87
Orchardgrass - Potomac	4.38	54.24	\$18.66
<b>Totals Seed Mix</b>	<b>17.50</b>	<b>86.94</b>	<b>\$120.20</b>

**Application**

Description	Cost /Acre
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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
Straw, 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
					\$
Totals Nursery Stock Cost / Acre					\$0.00

### JOB TIME AND COST

No. of Acres:	<u>40</u>	Cost /Acre:	<u>\$1,577.00</u>
Estimated Failure Rate:	<u>20%</u>	Cost /Acre*:	<u>\$1,409.49</u>
*Selected Replanting Work Items:	<u>SEEDING,MULCHING</u>		
Initial Job Cost:	<u><b>\$63,080.00</b></u>		
Reseeding Job Cost:	<u><b>\$11,275.92</b></u>		
Total Job Cost:	<u><b>\$74,356</b></u>		
Job Hours:	<b>80.00</b>		

**BULLDOZER WORK**Task description: **Remove Coal Stockpile Pond**Site: **Bowie No. 1 Mine**Permit Action: RN8Permit/Job#: C1981038**PROJECT IDENTIFICATION**Task #: 211State: ColoradoAbbreviation: NoneDate: 5/30/2023County: DeltaFilename: C038-211User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-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:	\$22.74	NA
Ripper op. Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$395.76Total Fleet Cost/Hour: **\$1,583.05****MATERIAL QUANTITIES**Initial Volume: 565Swell factor: 1.330Loose volume: **751 LCY**Source of estimated volume: Permit Vol 1, Page 35Source of estimated swell factor: CAT Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 2,748.7 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 7,200 feetMaterial weight: 2,900 lbs/LCYWeight 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	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 976.89 LCY/hr

Adjusted fleet production: **3907.56** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.405/LCY

Total job time: **0.19** Hours

Total job cost: **\$304**

**BULLDOZER WORK**Task description: **Remove Train Loadout Pond**Site: **Bowie No. 1 Mine**Permit Action: **RN8**Permit/Job#: **C1981038****PROJECT IDENTIFICATION**Task #: **212**State: **Colorado**Abbreviation: **None**Date: **5/30/2023**County: **Delta**Filename: **C038-212**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<b><u>Utilization %</u></b>
Ownership Cost/Hour:	\$153.67	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$22.74	NA
Ripper op. Cost/Hour:	\$11.11	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$395.76**Total Fleet Cost/Hour: **\$1,583.05****MATERIAL QUANTITIES**Initial Volume: **2,904**Swell factor: **1.330**Loose volume: **3,862 LCY**Source of estimated volume: **Permit Vol 1, Page 111; Map 8a-2**Source of estimated swell factor: **CAT Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **7,200 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **2443.6** LCY/hr

### **JOB TIME AND COST**

Fleet size: 4 Dozer(s)

Unit cost: \$0.648/LCY

Total job time: **1.58** Hours

Total job cost: **\$2,502**