

STATE OF  
COLORADO

Gibson - DNR, Amber &lt;amber.gibson@state.co.us&gt;

## Reclamation Cost Estimates - Ghost River

1 message

Gibson - DNR, Amber &lt;amber.gibson@state.co.us&gt;

Tue, Nov 26, 2024 at 5:04 PM

To: PFM Consulting &lt;pfmconsultingcompany@gmail.com&gt;

Cc: PowerHouse Excavation &amp; Construction &lt;phexcavationco@gmail.com&gt;, lynesie pye-steele &lt;lynsie1205@hotmail.com&gt;

Hi Jodi,

Thank you for providing clarification for the cost estimate. The Reclamation Cost Estimate you provided with the application falls between these two estimates. On yours, you estimated for maximum disturbance for the life of the mine -- which we will need to estimate for for sure prior to the commencement of Phase II.

However, we have a couple options here since it is set up as a phased operation.

**Option 1:** We can bond the site for disturbance in Phase 1 only. This would bring the current bond from what you've provided down, but the Operator would be **required** to submit advanced notice to the Division prior to beginning Phase II to allow time for the Division to update the max disturbance estimate with inflation and to get that updated amount finalized before disturbing Phase II, or else they may face enforcement issues for disturbing areas that are not bonded for reclamation.

**Option 2:** We can bond the site now for the total maximum disturbance, but the Division's estimate is higher than the one provided in the application. This way if plans change and they need to begin Phase II and don't want to wait for re-bonding to occur, they're covered.

If the Applicant's want to go with option one, I would still recommend going higher if they're able so that it may potentially cover them for the next few inspections and they don't have to deal with bond increases every time. However, that's not required.

Review the options and discuss it with the Applicants please, and get back to me when you can. Please let me know if we need to extend the deadline a few days so that this can be addressed. Currently, tomorrow and the morning of Monday December 2, 2024 are the only business days we have left before a decision will be made.

I've included the Reclamation cost estimate provided with the application, the Phase I only estimate, and the Total Max disturbance evidence for your reference.

Thanks,

Amber M. Gibson  
Environmental Protection Specialist I



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

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[amber.gibson@state.co.us](mailto:amber.gibson@state.co.us)

Mailing: DRMS Room 215, 1001 E 62nd Ave, Denver, CO 80216  
Physical: 1313 Sherman Street, Room 215, Denver, CO 80203

<https://drms.colorado.gov/>

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### 3 attachments



Max dist Phase I + Phase II\_Ghost River Gravel Pit\_M2024029.pdf  
263K



**Phase I only\_Reclamation Cost Estimate\_GhostRiverGravelPit\_M2024029.pdf**  
261K



**Exhibit L\_ReclamationCostEstimate\_Applicant\_GhostRiverGravelPit\_M2024029.pdf**  
111K

## COST SUMMARY WORK

Task description: Reclamation Cost Summary for Max Disturbance (Phase I and 2)

Site: Ghost River Gravel Pit Permit Action: New Application Max Dist Phase 1 and 2 Permit/Job#: M2024029

### PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None  
Date: 11/26/2024 County: Huerfano Filename: M029-000  
User: AMG

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade Highwalls to a 3H:1V	DOZER	1	4.37	\$956
002	Spread gravel in 2.1 acre gravel area	DOZER	1	1.45	\$301
003	Spread topsoil in Phase I Area (18.6 acres total)	DOZER	1	18.45	\$4,022
004	Phase I & 2 Re-veg, 14.6 ac Rngld Area & 4 ac Res.	REVEGE	1	20.00	\$37,526
005	Mob/Demob	MOBILIZE	1	5.22	\$4,691
<b><u>SUBTOTALS:</u></b>				<b>49.49</b>	<b>\$47,496</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$959
Performance bond:	1.05	Total =	\$499
Job superintendent:	18.99	Total =	\$1,505
Profit:	10.00	Total =	\$4,750
		TOTAL O & P =	\$7,713
		CONTRACT AMOUNT (direct + O & P) =	\$55,209

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$2,346
Reclamation management and/or administration:	5.00		\$2,760

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$13,320

**TOTAL BOND AMOUNT (direct + indirect) = \$60,816**

**BULLDOZER WORK**Task description: **Grade Highwalls to a 3H:1V**Site: **Ghost River Gravel Pit**Permit Action: New Application Max  
Dist Phase 1 and 2

Permit/Job#: M2024029

**PROJECT IDENTIFICATION**

Task #: 001 State: Colorado Abbreviation: None  
Date: 11/26/2024 County: Huerfano Filename: 1  
User: AMG

Agency or organization name: DRMS

**HOURLY EQUIPMENT COST**

Basic Machine: Cat D7R DS XR Series II  
Horsepower: 240  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)

**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$90.24	NA
Operating Cost/Hour:	\$78.95	100
Ripper own. Cost/Hour:	\$9.25	NA
Ripper op. Cost/Hour:	\$1.56	30
Operator Cost/Hour:	\$38.59	NA
Total unit Cost/Hour:	\$218.59	
Total Fleet Cost/Hour:	<b>\$218.59</b>	

**MATERIAL QUANTITIES**

Initial Volume: 1,953  
Swell factor: 1.124  
Loose volume: **2,194 LCY**

Source of estimated volume: 500' x 20' max highwall dimensions, cut-fill method

Source of estimated swell  
factor: Cat Handbook**HOURLY PRODUCTION**

Average push distance: 50 feet  
Unadjusted hourly  
production: 1,022.9 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push  
gradient: -5 %  
Average site altitude: 5,674 feet

Material weight: 2,900 lbs/LCY

Weight description: Sand and gravel - Dry

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4904

Adjusted unit  
production: 501.63 LCY/hr

Adjusted fleet  
production: **501.63** LCY/hr

**JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.436/LCY

Total job time: **4.37** Hours

Total job cost: **\$956**

**BULLDOZER WORK**Task description: Spread gravel in 2.1 acre gravel areaSite: Ghost River Gravel PitPermit Action: New Application Max  
Dist Phase 1 and 2Permit/Job#: M2024029**PROJECT IDENTIFICATION**Task #: 002  
Date: 11/26/2024  
User: AMGState: Colorado  
County: HuerfanoAbbreviation: None  
Filename: 2Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D7R DS XR Series II  
Horsepower: 240  
Blade Type: Semi-Universal  
Attachment: NA  
Shift Basis: 1 per day  
Data Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$90.24</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$78.95</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$207.78  
Total Fleet Cost/Hour: \$207.78**MATERIAL QUANTITIES**Initial Volume: 847  
Swell factor: 1.060  
Loose volume: 898 LCYSource of estimated volume: 3inches deep across 2.1 acresSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feet  
Unadjusted hourly production: 1,022.9 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: -5 %  
Average site altitude: 5,674 feetMaterial weight: 2,550 lbs/LCYWeight description: Gravel - Dry**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>

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:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6060

Adjusted unit production: 619.88 LCY/hr

Adjusted fleet production: **619.88** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.335/LCY

Total job time: **1.45** Hours

Total job cost: **\$301**

**BULLDOZER WORK**Task description: **Spread topsoil in Phase I Area (18.6 acres total)**Site: **Ghost River Gravel Pit**Permit Action: New Application Max  
Dist Phase 1 and 2Permit/Job#: M2024029**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 11/26/2024County: HuerfanoFilename: 3User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D7R DS XR Series IIHorsepower: 240Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$90.24</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$78.95</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$9.25</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$1.04</u>	<u>20</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$218.07Total Fleet Cost/Hour: **\$218.07****MATERIAL QUANTITIES**Initial Volume: 15,004Swell factor: 1.215Loose volume: **18,230 LCY**Source of estimated volume: 4 acres around structures for resid 14.6 acres of rangelandSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 360 feetUnadjusted hourly production: NA LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: -5 %Average site altitude: 5,674 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9662

Adjusted unit production: 988.33 LCY/hr

Adjusted fleet production: 988.33 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.221/LCY

Total job time: 18.45 Hours

Total job cost: **\$4,022**

**REVEGETATION WORK**Task description: **Phase I & 2 Re-veg, 14.6 ac Rangeland Area & 4 ac Residential**Site: **Ghost River Gravel Pit**Permit Action: New Application Max  
Dist Phase 1 and 2Permit/Job#: M2024029**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 11/26/2024County: HuerfanoFilename: 4User: AMGAgency or organization name: DRMS**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
<b>Total Tilling Cost/Acre</b>	<b>\$117.61</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	1.20	19.59	\$25.59
Sand Dropseed	0.10	11.94	\$1.30
Galleta	1.60	5.84	\$88.70
Western Wheatgrass - Arriba	16.00	40.40	\$144.54
Winter Fat	0.10	0.25	\$4.67
<b>Totals Seed Mix</b>	<b>19.00</b>	<b>78.02</b>	<b>\$264.80</b>

**Application**

Description	Cost /Acre
Broadcast seeding [DMG]	\$272.56
<b>Total Seed Application Cost/Acre</b>	<b>\$272.56</b>

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

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
<b>Total Mulch Materials Cost/Acre</b>				<b>\$985.56</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25

<b>Total Mulch Application Cost/Acre</b>	<b>\$242.63</b>
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**JOB TIME AND COST**

No. of Acres:	<u>18.6</u>	Cost /Acre:	<u>\$1,883.16</u>
Estimated Failure Rate:	<u>25%</u>	Cost /Acre*:	<u>\$537.36</u>
*Selected Replanting Work Items:	<u>SEEDING</u>		
Initial Job Cost:	<u><b>\$35,026.78</b></u>		
Reseeding Job Cost:	<u><b>\$2,498.72</b></u>		
Total Job Cost:	<u><b>\$37,526</b></u>		
Job Hours:	<u><b>20.00</b></u>		

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mob/Demob**

Site: **Ghost River Gravel Pit** Permit Action: **New Application Max Dist Phase 1 and 2** Permit/Job#: **M2024029**

**PROJECT IDENTIFICATION**

Task #: **005** State: **Colorado** Abbreviation: **None**  
 Date: **11/26/2024** County: **Huerfano** Filename: **5**  
 User: **AMG**

Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**

Shift basis: **1 per day**  
 Cost Data Source: **CRG Data**

Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)****Cost Breakdown:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

**NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D7R DS XR Series II	35.93	\$99.49	\$122.78	1	\$222.27	\$122.78	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	2	\$200.92	\$118.88	\$500.00
Power Mulcher (Bowie LD-90)	6.00	\$27.21	\$59.44	1	\$86.65	\$59.44	\$250.00

Subtotals: **\$509.84** **\$301.10** **\$1,000.00**

**ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 4x2, 170 HP	\$55.22	1	\$55.22	\$55.22
Water Tanker, 2,500 Gal.	\$55.22	1	\$55.22	\$55.22
Light Duty Pickup, 4x4, 3/4 T.	\$119.71	1	\$119.71	\$119.71

Subtotals: **\$230.15** **\$230.15**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>PUEBLO</u>	
Total one-way travel distance:	<u>35.00</u>	miles
Average Travel Speed:	<u>55.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$4,398.48</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$292.92</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.64</u>	<u>0.64</u>
Return Time (Hours):	<u>0.64</u>	<u>0.64</u>
Loading Time (Hours):	<u>0.67</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.67</u>	<u>NA</u>
Subtotals:	<u>2.61</u>	<u>1.27</u>

**JOB TIME AND COST**

Total job time:	<u>5.23</u>	Hours
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Total job cost:	<u>\$4,691</u>
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## COST SUMMARY WORK

Task description: Reclamation Cost Summary for Max Disturbance - Phase I only

Site: Ghost River Gravel Pit

Permit Action: New Application

Permit/Job#: M2024029

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 11/26/2024

County: Huerfano

Filename: M029-000

User: AMG

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade Highwalls to a 3H:1V	DOZER	1	4.37	\$956
002	Spread gravel in 2.1 acre gravel area	DOZER	1	1.45	\$301
003	Spread topsoil in Phase I Area (7 acres total)	DOZER	1	6.94	\$1,514
004	Phase I Re-veg, 3 ac Rangleand Area & 4 ac Residential	REVEGE	1	7.00	\$14,122
005	Mob/Demob	MOBILIZE	1	5.22	\$4,691
<b><u>SUBTOTALS:</u></b>				<b>24.98</b>	<b>\$21,584</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$436

Performance bond: 1.05

Total = \$227

Job superintendent: 11.76

Total = \$932

Profit: 10.00

Total = \$2,158

TOTAL O & P = \$3,753

CONTRACT AMOUNT (direct + O & P) = \$25,337

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 4.25

Total = \$1,077

Reclamation management and/or administration: 5.00

\$1,267

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$6,597

**TOTAL BOND AMOUNT (direct + indirect) = \$28,181**

**BULLDOZER WORK**Task description: Grade Highwalls to a 3H:1VSite: Ghost River Gravel PitPermit Action: New ApplicationPermit/Job#: M2024029**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 11/14/2024County: HuerfanoFilename: M029-001User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D7R DS XR Series IIHorsepower: 240Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$90.24</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$78.95</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$9.25</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$1.56</u>	<u>30</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$218.59Total Fleet Cost/Hour: \$218.59**MATERIAL QUANTITIES**Initial Volume: 1,953Swell factor: 1.124Loose volume: 2,194 LCYSource of estimated volume: 500' x 20' max highwall dimensions, cut-fill methodSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,022.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -5 %Average site altitude: 5,674 feetMaterial weight: 2,900 lbs/LCYWeight description: Sand and gravel - Dry**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4904

Adjusted unit production: 501.63 LCY/hr

Adjusted fleet production: **501.63** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.436/LCY

Total job time: **4.37** Hours

Total job cost: **\$956**

**BULLDOZER WORK**Task description: Spread gravel in 2.1 acre gravel areaSite: Ghost River Gravel Pit Permit Action: New Application Permit/Job#: M2024029**PROJECT IDENTIFICATION**

Task #: 002 State: Colorado Abbreviation: None  
 Date: 11/26/2024 County: Huerfano Filename: M029-002  
 User: AMG

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

Basic Machine: Cat D7R DS XR Series II  
 Horsepower: 240  
 Blade Type: Semi-Universal  
 Attachment: NA  
 Shift Basis: 1 per day  
 Data Source: (CRG)

**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$90.24</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$78.95</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$207.78  
 Total Fleet Cost/Hour: \$207.78

**MATERIAL QUANTITIES**

Initial Volume: 847  
 Swell factor: 1.060  
 Loose volume: 898 LCY

Source of estimated volume: 3inches deep across 2.1 acres  
 Source of estimated swell factor: Cat Handbook

**HOURLY PRODUCTION**

Average push distance: 50 feet  
 Unadjusted hourly production: 1,022.9 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: -5 %  
 Average site altitude: 5,674 feet

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

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill: <u>0.750</u>	<u>(AVG.)</u>
Material consistency: <u>1.100</u>	<u>(CAT HB)</u>
Dozing method: <u>1.100</u>	<u>(50% SL)</u>
Visibility: <u>1.000</u>	<u>(AVG.)</u>

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:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6060

Adjusted unit production: 619.88 LCY/hr

Adjusted fleet production: **619.88** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.335/LCY

Total job time: **1.45** Hours

Total job cost: **\$301**

**BULLDOZER WORK**Task description: Spread topsoil in Phase I Area (7 acres total)Site: Ghost River Gravel PitPermit Action: New ApplicationPermit/Job#: M2024029**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 11/26/2024County: HuerfanoFilename: M029-003User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D7R DS XR Series IIHorsepower: 240Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$90.24</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$78.95</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$9.25</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$1.04</u>	<u>20</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$218.07Total Fleet Cost/Hour: \$218.07**MATERIAL QUANTITIES**Initial Volume: 5,647Swell factor: 1.215Loose volume: 6,861 LCYSource of estimated volume: 4 acres around structures for resid., 3 acres of rangelandSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 360 feetUnadjusted hourly production: NA LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: -5 %Average site altitude: 5,674 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9662

Adjusted unit production: 988.33 LCY/hr

Adjusted fleet production: 988.33 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.221/LCY

Total job time: 6.94 Hours

Total job cost: **\$1,514**

**REVEGETATION WORK**Task description: **Phase I Re-veg, 3 ac Rangleand Area & 4 ac Residential**Site: **Ghost River Gravel Pit**Permit Action: **New Application**Permit/Job#: **M2024029****PROJECT IDENTIFICATION**Task #: **004**State: **Colorado**Abbreviation: **None**Date: **11/26/2024**County: **Huerfano**Filename: **M029-004**User: **AMG**Agency or organization name: **DRMS****TILLING**

<b>Description</b>	<b>Cost /Acre</b>
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.61
<b>Total Tilling Cost/Acre</b>	<b>\$117.61</b>

**SEEDING**

<b>Seed Mix</b>	<b>Rate – PLS LBS / Acre</b>	<b>Seeds per SQ. FT</b>	<b>Cost /Acre</b>
Blue Grama - Native	1.20	19.59	\$25.59
Sand Dropseed	0.10	11.94	\$1.30
Galleta	1.60	5.84	\$88.70
Western Wheatgrass - Arriba	16.00	40.40	\$144.54
Winter Fat	0.10	0.25	\$4.67
<b>Totals Seed Mix</b>	<b>19.00</b>	<b>78.02</b>	<b>\$264.80</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Broadcast seeding [DMG]	\$272.56
<b>Total Seed Application Cost/Acre</b>	<b>\$272.56</b>

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

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
<b>Total Mulch Materials Cost/Acre</b>				<b>\$985.56</b>

**Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25

<b>Total Mulch Application Cost/Acre</b>	<b>\$242.63</b>
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**JOB TIME AND COST**

No. of Acres:	<u>7</u>	Cost /Acre:	<u>\$1,883.16</u>
Estimated Failure Rate:	<u>25%</u>	Cost /Acre*:	<u>\$537.36</u>
*Selected Replanting Work Items:	<u>SEEDING</u>		
Initial Job Cost:	<u><b>\$13,182.12</b></u>		
Reseeding Job Cost:	<u><b>\$940.38</b></u>		
Total Job Cost:	<u><b>\$14,122</b></u>		
Job Hours:	<u><b>7.00</b></u>		

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mob/Demob**Site: **Ghost River Gravel Pit**Permit Action: **New Application**Permit/Job#: **M2024029****PROJECT IDENTIFICATION**Task #: **005**State: **Colorado**Abbreviation: **None**Date: **11/26/2024**County: **Huerfano**Filename: **M029-005**User: **AMG**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,  
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT  
TRAILER (25T, 50T, AND 100T)****Cost Breakdown:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

**NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D7R DS XR Series II	35.93	\$99.49	\$122.78	1	\$222.27	\$122.78	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	2	\$200.92	\$118.88	\$500.00
Power Mulcher (Bowie LD-90)	6.00	\$27.21	\$59.44	1	\$86.65	\$59.44	\$250.00

Subtotals: **\$509.84** **\$301.10** **\$1,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 4x2, 170 HP	\$55.22	1	\$55.22	\$55.22
Water Tanker, 2,500 Gal.	\$55.22	1	\$55.22	\$55.22
Light Duty Pickup, 4x4, 3/4 T.	\$119.71	1	\$119.71	\$119.71

Subtotals: **\$230.15** **\$230.15**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>PUEBLO</u>	
Total one-way travel distance:	<u>35.00</u>	miles
Average Travel Speed:	<u>55.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$4,398.48</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$292.92</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.64</u>	<u>0.64</u>
Return Time (Hours):	<u>0.64</u>	<u>0.64</u>
Loading Time (Hours):	<u>0.67</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.67</u>	<u>NA</u>
Subtotals:	<u>2.61</u>	<u>1.27</u>

**JOB TIME AND COST**

Total job time:	<u>5.23</u>	Hours
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Total job cost:	<u>\$4,691</u>
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## 6.4.12 Exhibit L

### Reclamation Costs

Reclamation cost estimates were calculated on a per acre basis and applied to maximum active mining area of 21.6 acres.

Direct Tasks	Unit	Quantity	Cost	Total Cost
<b>Grading Highwalls</b>				
3H:1V Pushdown Dozer	Hours	35		\$7700.00
<b>Placing Topsoil/Fines</b>				
Bull Dozer	Hours	6	\$145.00	\$870.00
Loader	Hours	6	\$145.00	\$870.00
<b>Seeding</b>				
Broadcasting	Hours	3	\$300.00	\$900.00
Seed Mix	Acre	1	\$1200.00	\$1200.00
Mulch	Acre	1	\$187.50	\$187.50
Tracking seed/mulch				
Dozer	Hours	0.33	\$154.00	\$50.82
Area Reclaimed	Acre	14.7		\$34,375.00
<b>Mobilization Fee</b>	Hours	1	\$100	\$100
<b>Indirect Tasks</b>				
Liability Insurance			0.0155	\$635.00
Performance Bond			0.015	\$615.00
Profit			0.1	\$4,099.00
Job Superintendent	Hours	20	\$88.00	\$1,760.00
Miscellaneous Indirect			0.0925	\$920.00
<b>Total Bond</b>				\$51,945.00

## 6.4.13 Exhibit M

### Other Permits and Licenses

- Huerfano County Special Use Permit.