



November 15, 2024

Robert Wagner
RMR Aggregates, Inc.
6200 S. Syracuse Way, Suite 450
Greenwood Village, CO 80111

RE: Permit No. M-1982-121, Mid-Continent LST, Proposed SI-4 Reclamation Cost Estimate – Bonding Question Responses

Dear Mr. Wagner:

On August 27, 2024 the Colorado Division of Reclamation Mining and Safety (Division) sent RMR a proposed Surety Increase (SI-4) for above mentioned site pursuant to C.R.S 34-32.5-117(4) and Rule 4.2.1. Given the potential range of actual costs for rock bolting the Division requested that RMR get three quotes for the cost of implementing this task. On October 25, 2024, the Division received RMR's formal extension request and bonding comments. The deadline for RMR to secure quotes has been extended to December 24, 2024.

As RMR is aware, the concept of rock bolting was originally raised in TR-6. RMR provided the Division with a Geotechnical Report which outlined the required actions for proper safeguarding of the highwall. The methods proposed in the Geotechnical Report were 1) to continue mining the unstable material and remove those hazardous layers, or 2) employ mechanical stabilization via rock bolting. Removal of the unstable materials and layers would require RMR to affect lands beyond the currently approved boundary, which could only be done via a permit Amendment process. In contrast, rock bolting could be conducted entirely within the current permit boundary and is a stabilization method that could reasonably be implemented in the event of immediate site closure. The purpose of the financial warranty is to provide financial assurance to the State for the most expeditious method of site closure and safeguarding in the event the Division has to perform the final reclamation. The Division maintains this task is appropriately included as part of the cost estimate associated with reclamation of "affected lands" as contemplated under C.R.S. 34-32.5-117.

However, after further internal deliberation and discussion the Division agrees that the rock bolting should be specifically memorialized as part of the Reclamation Plan and is more appropriately incorporated via a Technical Revision (TR) to the permit. As part of that TR process, the Division would utilize the cost quotes obtained by RMR to establish the appropriate financial warranty for rock bolting. Importantly, incorporating this task and associated bond through the TR process helps to clarify the reclamation obligations related to safeguarding the highwall and allows the Division and RMR to engage in a more



organized technical discussion related to the Geotechnical Report and rock bolting. Additionally, implementing the TR process was contemplated as part of the Stipulated Agreement dated April 11, 2023, to properly address the site stability issues and to propose a suitable plan to minimize future stability issues and potential off-site impacts.

Therefore, it is the Division's preference to bifurcate the outstanding financial warranty issues. It is noted that per the MOU with the BLM, additional financial warranties may be held to meet the requirements of both agencies. The BLM has additional indirect costs which are explicitly noted with an * on the Cost Summary Worksheet. The BLM concurred with the Divisions original SI-4 estimate on July 31, 2024.

The cumulative agency estimate to reclaim the above referenced site is \$489,758. This is an increase of \$123,579 over the \$366,179 currently held by the Division. ***Therefore, pursuant to Section 34-32.5-117(4), adequate Financial Warranty must be submitted to the Division within 60 days of the mailing date of this letter.*** The additional amount needs to be accepted prior to **Tuesday, January 14, 2025**. Enclosed is the revised SI-4 without the rock bolting task.

The Division is deferring the financial warranty related to rock bolting to be included as part of a future TR process. The current deadline for three rock bolting quotes is December 24, 2024. Although the Division is open to discussing a reasonable TR submittal timeline with RMR, a TR should be submitted shortly after RMR obtains the required quotes, no later than January 15, 2025.

If you require additional information, or have questions or concerns, please feel free to contact me.

Sincerely,



Amy Yeldell

Environmental Protection Specialist

Ec:

Travis Marshall, Senior EPS, Grand Junction DRMS

Jeff Fugate, AGO

Brittany Cocina, BLM

COST SUMMARY WORK

Task description: SI4 updated w/o rock bolting tasks

Site: Mid-Continent LST

Permit Action: SI4 V2

Permit/Job#: M1982121

PROJECT IDENTIFICATION

Task #: ACY

State: Colorado

Abbreviation: None

Date: 11/8/2024

County: Garfield

Filename: M121-ACY

User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demo/removal of onsite facilities and structures	DEMOLISH	1	492.00	\$198,725
02a	Transport Fines over Processing benches	LOADER	2	16.23	\$5,108
02b	Spread Transported Fines over Processing benches	DOZER	2	2.02	\$1,300
02c	Transport Topsoil over Processing benches	LOADER	2	9.04	\$2,846
02d	Spread Transported Topsoil over Processing benches	DOZER	2	0.94	\$607
03b	Finish grading of process bench highwall	DOZER	2	23.75	\$16,081
03c	Transport topsoil to processing bench	LOADER	2	19.18	\$6,035
03d	Distribute topsoil over processing bench	DOZER	2	2.03	\$1,306
04b	Grade mill bench to 2H:1V Slope and general blending	DOZER	2	23.20	\$15,706
04d	Spread topsoil over mill pad area	DOZER	2	4.13	\$2,654
05a	Rip upper and lower access roads	RIPPER	2	1.55	\$1,072
06a	Reveg disturbed areas	REVEGE	1	40.00	\$59,607
07a	Initial Mobilization	MOBILIZE	1	5.86	\$12,735
07b	Secondary Mobilization	MOBILIZE	1	1.93	\$762
<u>SUBTOTALS (DC):</u>				641.86	\$324,544

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance (DC):	<u>2.02%</u>	Total =	<u>\$6,556</u>
Performance bond (DC):	<u>1.05%</u>	Total =	<u>\$3,408</u>
* BLM Total 1.5% (DC)	<u>0.45%</u>	Total =	<u>\$1,460</u>
Job superintendent Hrs.:	<u>320.93</u>	Total =	<u>\$25,440</u>
Profit (DC):	<u>10.00%</u>	Total =	<u>\$32,454</u>
		TOTAL O & P =	<u>\$69,318</u>
		CONTRACT AMOUNT (direct + O & P) =	<u>\$393,862</u>

LEGAL - ENGINEERING - PROJECT MANAGEMENT: (added to contract amount)

Financial warranty processing (legal/related costs):	<u>\$500</u>	Total =	<u>\$500</u>
Engineering work and/or contract/bid preparation:	<u>4.25%</u>	Total =	<u>\$16,739</u>
Reclamation management and/or administration:	<u>5.00%</u>	Total =	<u>\$19,693</u>
*BLM Total 10% (CA):	<u>5.00%</u>	Total =	<u>\$19,693</u>
*BLM Indirect Cost of Rec Mgmt (DC):	<u>2.1%</u>	Total =	<u>\$6,815</u>
21% of the profit or 2.1% of DC			
CONTINGENCY (DC):	<u>3.00%</u>	Total =	<u>\$9,736</u>
*BLM Total 10% (DC)	<u>7%</u>	Total =	<u>\$22,718</u>

TOTAL INDIRECT COST = \$165,241

TOTAL BOND AMOUNT (direct + indirect) = \$489,758

DEMOLITION WORK

Task description: Demo/removal of onsite facilities and structures

Site: Mid-Continent LST

Permit Action: SI4 V2

Permit/Job#: M1982121

PROJECT IDENTIFICATION

Task #: 01A

State: Colorado

Abbreviation: None

Date: 11/8/2024 1:11:22

County: Garfield

Filename: M121-01a

PM

User: ACY

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 95.50 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Mill Building	30'H x 50'W x 125'L	Plant (3S) demo./off-site disposal in approved landfill - Max. 15 mile haul	187,500.00	CF	\$0.88	\$164,381.25
Mill slab	50' x 125' x 10"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	192.00	CY	\$151.50	\$29,088.00
Mill Slab-Hauling	192 CY	Loading and 2 mile haul, no salvage - Machine loading	192.00	CY	\$21.15	\$4,060.80
Mill Slab-Hauling Additional Mileage	192 CY, 6 Mi	Hauling only, per mile, 12-18 CY truck - 30 mph average speed	64.00	MI	\$10.14	\$649.05
Mill Slab-Disposal Fee	192 CY	Dump fees - Building construction materials.	192.00	CY	\$11.10	\$2,131.20
Silo (2x)	30' H x 10' D each	Loading and 2 mile haul, no salvage - Machine loading	175.00	CY	\$21.15	\$3,701.25
Silo-Hauling Additional Mileage	175 CY, 6 Mi	Hauling only, per mile, 12-18 CY truck - 30 mph average speed	59.00	MI	\$10.14	\$598.34
Silo-Disposal Fee	175 CY	Dump fees - Building construction materials.	175.00	CY	\$11.10	\$1,942.50
Scale	30' L x 12' W	Loading and 2 mile haul, no salvage - Machine loading	27.00	CY	\$21.15	\$571.05
Scale-Hauling Additional Mileage	27 CY, 6 Mi	Hauling only, per mile, 12-18 CY truck - 30 mph average speed	12.00	MI	\$10.14	\$121.70
Scale-Disposal Fee	27 CY	Dump fees - Building construction materials.	27.00	CY	\$11.10	\$299.70
Conveyor	40' L x 24" W	Conveyor, demolition, off-site disposal in approved landfill, 15 mile haul	640.00	CF	\$0.85	\$544.00

Job Hours: 492.00

Subtotal
(unadjusted): \$208,088.84

Total Cost
(adjusted for location): \$198,724.84

Job Demo Hours

Task	Quant	Unit	Min Hrs	Max	Crew
Demo Mill Bldg	187,500	CF	122.47	135.92	B-8
Demo Mill Slab	192	CY	320.06	320.06	B-38
Haul Mill Slab	192	CY	12.67	12.67	B-17
Additional Milage Mill Slab	192	CY	6.34	6.34	B-34B
Disposal Fee			-	-	
Load/Haul Silos	175	CY	11.5	11.5	B-17
Additional Milage Silos	175	CY	5.78	5.78	B-34B
Disposal Fee			-	-	
Load/Haul Scale	27	CY	1.78	1.78	B-17
Additional Milage Scale	27	CY	0.89	0.89	B-34B
Disposal Fee			-	-	
Demo conveyor	640	CF	0.42	0.46	CIRCES 2
Total			481.91	495.4	

WHEEL LOADER – LOAD AND CARRY WORKTask description: Transport Fines over Processing benchesSite: Mid-Continent LSTPermit Action: SI4 V2Permit/Job#: M1982121**PROJECT IDENTIFICATION**Task #: 02AState: ColoradoAbbreviation: NoneDate: 11/8/2024County: GarfieldFilename: M121-02aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 972HHorsepower: 287Attachment 1: ROPS CabShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$62.43	NA
Operating Cost/Hour:	\$57.98	100
Operator Cost/Hour:	\$36.85	NA
Total Unit Cost/Hour:	\$157.26	
Total Fleet Cost/Hour:	\$314.53	

MATERIAL QUANTITIESInitial volume: 2,226

CCY

Swell factor: 1.345Loose volume: 2,994

LCY

Source of estimated volume: 30"W x 1000' LF x 2 Benches 1.38 ac @ 12"Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.525 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Bank or broken material 0.04	0.040	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Small target 0.04	0.040	(Cat HB)
Net Cycle Time Adjustment:		0.040	minutes
Adjusted Basic Cycle Time:		0.565	minutes

Rolling Resistance – Road ConditionsHaul: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Return: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	700	9.90	5.00	14.90	1.3484	(Cat HB)
Return Route:	700	-9.90	5.00	-4.90	0.5824	(Cat HB)

Total Travel Time: 1.9308 minutes
 Total Cycle Time: 2.4958 minutes

Load Bucket Capacity

Rated Capacity: 5.60 LCY (heaped)
 Bucket Fill Factor: 0.825 Blasted rock - avg. blasted (75 - 90%) 0.825
 Adjusted Capacity: 4.62 LCY

Job Condition Correction Factors

Site Altitude: 6800 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: 111.07 LCY/Hour
 Adjusted Hourly Unit Production: 92.18 LCY/Hour
 Adjusted Hourly Fleet Production: 184.37 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Loader(s) Total job time: 16.24 Hours
 Unit cost: \$1.706 /LCY Total job cost: \$5,108

BULLDOZER WORK

Task description: Spread Transported Fines over Processing benches

Site: Mid-Continent LST Permit Action: SI4 V2 Permit/Job#: M1982121

PROJECT IDENTIFICATION

Task #: 02B State: Colorado Abbreviation: None
 Date: 11/8/2024 County: Garfield Filename: M121-02b
 User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$321.62
 Total Fleet Cost/Hour: \$643.23

MATERIAL QUANTITIES

Initial Volume: 2,994
 Swell factor: 1.000
 Loose volume: 2,994 LCY

Source of estimated volume: Transported Volume
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %
 Average site altitude: 6,800 feet

Material weight: 2,600 lbs/LCY

Weight description: Limestone - Broken

<u>Job Condition Correction Factor</u>		<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.885	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5289

Adjusted unit production: 740.46 LCY/hr

Adjusted fleet production: **1480.92 LCY/hr**

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.434/LCY

Total job time: **2.02 Hours**

Total job cost: **\$1,300**

WHEEL LOADER – LOAD AND CARRY WORKTask description: Transport Topsoil over Processing benchesSite: Mid-Continent LSTPermit Action: SI4 V2Permit/Job#: M1982121**PROJECT IDENTIFICATION**Task #: 02CState: ColoradoAbbreviation: NoneDate: 11/8/2024County: GarfieldFilename: M121-02cUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 972HHorsepower: 287Attachment 1: ROPS CabShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$62.43	NA
Operating Cost/Hour:	\$57.98	100
Operator Cost/Hour:	\$36.85	NA
Total Unit Cost/Hour:	\$157.26	
Total Fleet Cost/Hour:	\$314.53	

MATERIAL QUANTITIESInitial volume: 1,113

CCY

Swell factor: 1.125Loose volume: 1,252

LCY

Source of estimated volume: 1.38 ac @ 6"Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.525 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Small target 0.04	0.040	(Cat HB)
Net Cycle Time Adjustment:		0.020	minutes
Adjusted Basic Cycle Time:		0.545	minutes

Rolling Resistance – Road ConditionsHaul: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Return: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	1300	9.90	5.00	14.90	2.5042	(Cat HB)
Return Route:	1300	-9.90	5.00	-4.90	1.0816	(Cat HB)

Total Travel Time: 3.5858 minutes
 Total Cycle Time: 4.1308 minutes

Load Bucket Capacity

Rated Capacity: 5.60 LCY (heaped)
 Bucket Fill Factor: 1.025 Rock - Earth Mixture (100%-105%) 1.025
 Adjusted Capacity: 5.74 LCY

Job Condition Correction Factors

Site Altitude: 6800 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: 83.37 LCY/Hour
 Adjusted Hourly Unit Production: 69.20 LCY/Hour
 Adjusted Hourly Fleet Production: 138.40 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Loader(s) Total job time: 9.05 Hours
 Unit cost: \$2.273 /LCY Total job cost: \$2,846

BULLDOZER WORK

Task description: Spread Transported Topsoil over Processing benches

Site: Mid-Continent LST Permit Action: SI4 V2 Permit/Job#: M1982121

PROJECT IDENTIFICATION

Task #: 02D State: Colorado Abbreviation: None
 Date: 11/8/2024 County: Garfield Filename: M121-02d
 User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$321.62
 Total Fleet Cost/Hour: \$643.23

MATERIAL QUANTITIES

Initial Volume: 1,252
 Swell factor: 1.000
 Loose volume: 1,252 LCY

Source of estimated volume: Transported Volume
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %
 Average site altitude: 6,800 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:	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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4739

Adjusted unit production: 663.46 LCY/hr

Adjusted fleet production: **1326.92** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.485/LCY

Total job time: **0.94** Hours

Total job cost: **\$607**

BULLDOZER WORKTask description: Finish grading of process bench highwallSite: Mid-Continent LSTPermit Action: SI4 V2Permit/Job#: M1982121**PROJECT IDENTIFICATION**Task #: 03BState: ColoradoAbbreviation: NoneDate: 11/8/2024County: GarfieldFilename: M121-03bUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$14.53	NA
Ripper op. Cost/Hour:	\$2.39	30
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$338.53Total Fleet Cost/Hour: \$677.06**MATERIAL QUANTITIES**Initial Volume: 8,887Swell factor: 1.345Loose volume: 11,953 LCYSource of estimated volume: 2.75 Ac @ 24"Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feetUnadjusted hourly production: 634.3 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,800 feetMaterial weight: 2,600 lbs/LCYWeight description: Limestone - Broken**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:	0.885	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3967

Adjusted unit production: 251.63 LCY/hr

Adjusted fleet production: **503.26 LCY/hr**

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$1.345/LCY

Total job time: **23.75 Hours**

Total job cost: **\$16,081**

WHEEL LOADER – LOAD AND CARRY WORKTask description: Transport topsoil to processing benchSite: Mid-Continent LSTPermit Action: SI4 V2Permit/Job#: M1982121**PROJECT IDENTIFICATION**Task #: 03CState: ColoradoAbbreviation: NoneDate: 11/8/2024County: GarfieldFilename: M121-03cUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 972HHorsepower: 287Attachment 1: ROPS CabShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$62.43	NA
Operating Cost/Hour:	\$57.98	100
Operator Cost/Hour:	\$36.85	NA
Total Unit Cost/Hour:	\$157.26	
Total Fleet Cost/Hour:	\$314.53	

MATERIAL QUANTITIESInitial volume: 2,218

CCY

Swell factor: 1.215Loose volume: 2,695

LCY

Source of estimated volume: (150' W x 800' L) 2.75 ac. @ 6" ThickSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.525 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(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:	-0.040	minutes
	Adjusted Basic Cycle Time:	0.485	minutes

Rolling Resistance – Road ConditionsHaul: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Return: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	1300	9.90	5.00	14.90	2.5042	(Cat HB)
Return Route:	1300	-9.90	5.00	-4.90	1.0816	(Cat HB)

Total Travel Time: 3.5858 minutes
 Total Cycle Time: 4.0708 minutes

Load Bucket Capacity

Rated Capacity: 5.60 LCY (heaped)
 Bucket Fill Factor: 1.025 Rock - Earth Mixture (100%-105%) 1.025
 Adjusted Capacity: 5.74 LCY

Job Condition Correction Factors

Site Altitude: 6800 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: 84.60 LCY/Hour
 Adjusted Hourly Unit Production: 70.22 LCY/Hour
 Adjusted Hourly Fleet Production: 140.44 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Loader(s) Total job time: 19.19 Hours
 Unit cost: \$2,240 /LCY Total job cost: \$6,035

BULLDOZER WORK

Task description: Distribute topsoil over processing bench

Site: Mid-Continent LST Permit Action: SI4 V2 Permit/Job#: M1982121

PROJECT IDENTIFICATION

Task #: 03D State: Colorado Abbreviation: None
 Date: 11/8/2024 County: Garfield Filename: M121-03d
 User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$321.62
 Total Fleet Cost/Hour: \$643.23

MATERIAL QUANTITIES

Initial Volume: 2,695
 Swell factor: 1.000
 Loose volume: 2,695 LCY

Source of estimated volume: Transported volume
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %
 Average site altitude: 6,800 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:	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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4739

Adjusted unit production: 663.46 LCY/hr

Adjusted fleet production: **1326.92 LCY/hr**

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.485/LCY

Total job time: **2.03 Hours**

Total job cost: **\$1,306**

BULLDOZER WORKTask description: Grade mill bench to 2H:1V Slope and general blendingSite: Mid-Continent LSTPermit Action: SI4 V2Permit/Job#: M1982121**PROJECT IDENTIFICATION**Task #: 04BState: ColoradoAbbreviation: NoneDate: 11/8/2024County: GarfieldFilename: M121-04bUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$14.53	NA
Ripper op. Cost/Hour:	\$2.39	30
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$338.53Total Fleet Cost/Hour: \$677.06**MATERIAL QUANTITIES**Initial Volume: 11,667Swell factor: 1.345Loose volume: 15,692 LCYSource of estimated volume: 60'H x 700 LF of 0.5H: 1V to 2H: 1V Cut/fillSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 852.6 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,800 feetMaterial weight: 2,600 lbs/LCYWeight description: Limestone - Broken**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:	0.885	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3967

Adjusted unit production: 338.23 LCY/hr

Adjusted fleet production: **676.46 LCY/hr**

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$1.001/LCY

Total job time: **23.20 Hours**

Total job cost: **\$15,706**

BULLDOZER WORK

Task description: Spread topsoil over mill pad area

Site: Mid-Continent LST Permit Action: SI4 V2 Permit/Job#: M1982121

PROJECT IDENTIFICATION

Task #: 04D State: Colorado Abbreviation: None
 Date: 11/8/2024 County: Garfield Filename: M121-04d
 User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$321.62
 Total Fleet Cost/Hour: \$643.23

MATERIAL QUANTITIES

Initial Volume: 1,613
 Swell factor: 1.165
 Loose volume: 1,879 LCY

Source of estimated volume: 2ac @ 6"
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 170 feet
 Unadjusted hourly production: 576.6 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 0 %
 Average site altitude: 6,800 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:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

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

Net correction: 0.3949

Adjusted unit production: 227.70 LCY/hr

Adjusted fleet production: 455.4 LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$1.412/LCY

Total job time: 4.13 Hours

Total job cost: \$2,654

BULLDOZER RIPPING WORK

Task description: Rip upper and lower access roads

Site: Mid-Continent LST Permit Action: SI4 V2 Permit/Job#: M1982121

PROJECT IDENTIFICATION

Task #: 05A State: Colorado Abbreviation: None
Date: 11/8/2024 County: Garfield Filename: M121-05a
User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.32	NA
Operating Cost/Hour:	\$109.71	100
Ripper Ownership Cost/Hour:	\$14.53	NA
Ripper Operating Cost/Hour:	\$7.95	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$344.10	
Total Fleet Cost/Hour:	\$688.19	

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: 3100 LF x 28"W

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 feet/pass
Average Ripping Width: 7.08 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: 0.773 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.773 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: 0.64 Acres/hr
Adjusted Hourly Fleet Production: 1.28 Acres/hr

JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: 1.56 Hours
Unit cost: \$536.229 Per acre Total job cost: \$1,072

REVEGETATION WORKTask description: Reveg disturbed areasSite: Mid-Continent LSTPermit Action: SI4 V2Permit/Job#: M1982121**PROJECT IDENTIFICATION**Task #: 06AState: ColoradoAbbreviation: NoneDate: 11/8/2024County: GarfieldFilename: M121-06aUser: ACYAgency or organization name: DRMS**FERTILIZING****Materials**

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

Application

Description	Cost /Acre
	\$
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	10.00	32.37	\$172.92
Mountain Brome - Bromar	10.00	16.07	\$60.17
Kentucky Bluegrass - Lato	10.00	493.57	\$36.90
Milk Vetch, Cicer - Lutana	10.00	33.29	\$97.88
Thurber's Fescue	10.00	103.31	\$784.88
Western Wheatgrass - Native	10.00	25.25	\$90.06
Totals Seed Mix	60.00	703.86	\$1,242.81

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,359.07
Total Seed Application Cost/Acre	\$1,359.07

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$4.13	\$4.13
Hydromulch tackifier, >15 ac. {Materials Only}	1.00	ACRE	\$1,459.26	\$1,459.26
Total Mulch Materials Cost/Acre				\$1,463.39

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$1,355.20
Weed spray, truck, non-aquatic areas, ann. [DMG]	\$27.19
Total Mulch Application Cost/Acre	\$1,382.39

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Fir, Douglas	44	Tubling, 3 cu. in. container (MEANS)	\$1.40	\$2.40	\$61.60
Oak, Gambel's	50	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.62	\$0.00	\$131.00
Serviceberry	50	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.62	\$0.00	\$131.00
Totals Nursery Stock Cost / Acre					\$323.60

JOB TIME AND COST

No. of Acres: 8.13 Cost /Acre: \$5,888.87
 Estimated Failure Rate: 25% Cost /Acre*: \$5,771.26
 *Selected Replanting Work Items: SEEDING,NURSERY,MULCHING

Initial Job Cost: \$47,876.51
 Reseeding Job Cost: \$11,730.09
 Total Job Cost: \$59,607
 Job Hours: 40.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Initial Mobilization**Site: **Mid-Continent LST**Permit Action: **S14 V2**Permit/Job#: **M1982121****PROJECT IDENTIFICATION**

Task #: **07A** State: **Colorado** Abbreviation: **None**
 Date: **11/8/2024** County: **Garfield** Filename: **M121-07a**
 User: **ACY**

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

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

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

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$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/uni t	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
CAT 972H	28.00	\$62.43	\$122.78	2	\$370.42	\$245.56	\$500.00
Cat D8T - 8SU	53.08	\$187.85	\$125.64	2	\$626.98	\$251.28	\$500.00
Grove RT650E, 105', 45.4 MT	28.74	\$189.03	\$122.78	1	\$311.81	\$122.78	\$250.00
CAT 963D	22.29	\$83.68	\$59.44	1	\$143.12	\$59.44	\$250.00
CAT 450E	9.80	\$78.06	\$59.44	1	\$137.50	\$59.44	\$250.00

Subtotals: **\$1,589.83** **\$738.50** **\$1,750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 12-18 cy, 6x4	\$115.19	2	\$230.38	\$230.38
Flatbed Truck, 6x4, 45K GVW	\$103.84	1	\$103.84	\$103.84
Light Duty Pickup, 4x4, 1 T. Crew	\$130.54	2	\$261.08	\$261.08
Hydroseeder with Tractor	\$133.22	1	\$133.22	\$133.22
Water Tanker, 3,500 Gal.	\$75.02	1	\$75.02	\$75.02

Subtotals: **\$803.54** **\$803.54**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: GLENWOOD SPRINGS
 Total one-way travel distance: 29.00 miles
 Average Travel Speed: 30.00 mph

Total Non-Roadable Mob/Demob Cost * \$11,181.10
 * * two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$1,553.51
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.97	0.97
Return Time (Hours):	0.97	0.97
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.93	1.93

JOB TIME AND COST

Total job time: 5.87 Hours

Total job cost: \$12,735

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Secondary MobilizationSite: Mid-Continent LSTPermit Action: SI4 V2Permit/Job#: M1982121**PROJECT IDENTIFICATION**Task #: 07BState: ColoradoAbbreviation: NoneDate: 11/8/2024County: GarfieldFilename: M121-07bUser: ACYAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
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
Subtotals:							
					\$0.00	\$0.00	\$0.00

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	\$130.54	2	\$261.08	\$261.08
Hydroseeder with Tractor	\$133.22	1	\$133.22	\$133.22
Subtotals:				
			\$394.30	\$394.30

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: GLENWOOD SPRINGS
 Total one-way travel distance: 29.00 miles
 Average Travel Speed: 30.00 mph

Total Non-Roadable Mob/Demob Cost * \$0.00
 * * two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$762.31
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.97	0.97
Return Time (Hours):	0.97	0.97
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.93	1.93

JOB TIME AND COST

Total job time: 1.93 Hours

Total job cost: \$762