



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

June 8, 2022

Alan Parkerson
Parkerson Construction, Inc.
710 S. 15th St
Grand Junction, CO 81501

Re: 31 Road Pit - File No. M-1987-178
Parkerson Construction, Inc.
Surety Increase Application (SI-3)
Surety Increase

Dear Alan Parkerson:

On June 8, 2022 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$505,455.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$284,345.00.

Please see the May 12, 2022 inspection report for details regarding why this surety increase is required.

The Division ordered amendment of the current Financial Warranty, or submittal of a new Financial Warranty reflecting the increase, within 60 days from the date of this letter (June 8, 2022).

Please make arrangements with Sara M. Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara M. Stevenson-Benn by telephone at (303) 866-3567 (8148), or by email at Sara.stevenson-benn@state.co.us.

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of the permit after August 7, 2022, if the amount of any increased Financial Warranty has not been provided.

Bond Held:	\$221,110.00
Prior Liability:	\$221,110.00
Change in Liability:	\$284,345.00
Revised Liability:	\$505,455.00
Prior Permit Acreage:	60.50



Change in Permit Acreage:	0.00
Revised Permit Acreage:	60.50
Prior Affected Acreage:	60.50
Change in Affected Acreage:	0.00
Revised Affected Acreage:	60.50

If you have any questions, please contact me by telephone at (303) 866-3567 x 8183, or by email at Amy.yeldell@state.co.us.

Sincerely,



Amy C. Yeldell
Environmental Protection Specialist

cc: Alan Parkerson

COST SUMMARY WORK

Task description: Increase based on 05-12-2022 Inspection

Permit/Job#: M1987178

PROJECT IDENTIFICATION

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Remove site structures	DEMOLISH	1	2.00	\$100
02A	Regrade pit slopes to 3H: 1V or less	SCRAPER1	3	20.23	\$86,757
02b	Reduce slopes to 3H:1V	DOZER	6	2.43	\$3,422
02c	Topsoil pit slopes and knock down visual berms	DOZER	6	1.08	\$1,528
02d	Reveg pit slopes w/ dry rangeland	REVEGE	1	8.00	\$2,990
03a	Apply overburden to pit floor	SCRAPER1	3	36.34	\$155,408
03b	Apply topsoil to pit floor	SCRAPER1	3	36.10	\$154,356
03c	Rip areas under stockpiles	RIPPER	6	2.54	\$3,975
04a	Initial Mobilization	MOBILIZE	1	3.00	\$12,384
04b	Secondary Mobilization	MOBILIZE	1	3.00	\$746
<u>SUBTOTALS:</u>				114.72	\$421,666

INDIRECT COSTS

OVERHEAD AND PROFIT:

CONTRACT AMOUNT (direct + O & P) = \$480,909

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

\$24,045

Total = \$0

TOTAL INDIRECT COST = \$83,789

TOTAL BOND AMOUNT (direct + indirect) = \$505,455

DEMOLITION WORK

Task description: Remove site structures

Site: 31 Road Pit

Permit Action: SI-3

Permit/Job#: M1987178

PROJECT IDENTIFICATION

Task #: 01A

State: Colorado

Abbreviation: None

Date: 6/3/2022

County: Mesa

Filename: M178-01A

User: ACY

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 90.70 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Scale house	8 x8 x8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	512.00	CF	\$0.22	\$110.08

Job Hours: 2.00

Subtotal
(unadjusted): \$110.08

Total Cost
(adjusted for location): \$99.84

SCRAPER TEAM WORKTask description: **Regrade pit slopes to 3H: 1V or less**Site: **31 Road Pit**Permit Action: SI-3Permit/Job#: M1987178**PROJECT IDENTIFICATION**Task #: 02AState: ColoradoAbbreviation: NoneDate: 6/3/2022County: MesaFilename: M178-02AUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	NA
-Water Truck:	Water Tanker, 3,500 Gal.

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	50	NA	50
Ownership cost/hour:	\$188.81	\$97.46	\$97.46	\$97.46	NA	\$17.15
Operating cost/hour:	\$169.82	\$97.63	\$48.82	\$48.82	NA	\$14.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	NA	\$0.00
Operator cost/hour:	\$47.07	\$40.04	\$40.04	\$40.04	NA	\$38.91
Unit Subtotals:	\$405.70	\$235.13	\$186.31	\$186.31	NA	\$70.66
Number of Units:	6	6	1	1	0	1
Group Subtotals:	Work: \$3,844.98		Support: \$372.62		Maint:	\$70.66

Total work team cost/hour: **\$4,288.26****MATERIAL QUANTITIES**Initial volume: 47,111

CCY

Swell factor: 1.125Loose volume: **53,000**

LCY

Source of estimated volume: 300LF 1:1 and 330 FL vert backfill @ 40'HSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4700 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	450.00	1.00	5.00	6.00	1855	0.36

Haul Time: 0.36 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	450.00	-1.00	5.00	4.00	2849	0.29

Return Time: 0.29 minutesTotal Scraper team cycle time: 2.15 minutesAdjusted for job conditions: 873.24 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 873.24 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,619.71 LCY/HourUnadjusted unit production/hour: 1,052.09 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 3 Team(s)Total job time: 20.23 HoursUnit cost: \$1.637 /LCYTotal job cost: \$86,757

BULLDOZER WORKTask description: **Reduce slopes to 3H:1V**Site: **31 Road Pit** Permit Action: **SI-3** Permit/Job#: **M1987178****PROJECT IDENTIFICATION**

Task #: 02B State: Colorado Abbreviation: None
 Date: 6/3/2022 County: Mesa Filename: M178-02b
 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:	<u>\$97.46</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$97.63</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>\$40.04</u>	<u>NA</u>

Total unit Cost/Hour: \$235.13
 Total Fleet Cost/Hour: **\$1,410.75**

MATERIAL QUANTITIES

Initial Volume: 5,926
 Swell factor: 1.125
 Loose volume: **6,667 LCY**

Source of estimated volume: 500LFcut/fill 1:1 @ 40'H
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 100 feet
 Unadjusted hourly production: 852.6 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -15 %
 Average site altitude: 4,700 feet

Material weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**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>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5373

Adjusted unit production: 458.10 LCY/hr

Adjusted fleet production: **2748.6** LCY/hr

JOB TIME AND COST

Fleet size: 6 Dozer(s)

Unit cost: \$0.513/LCY

Total job time: **2.43** Hours

Total job cost: **\$3,422**

BULLDOZER WORKTask description: Topsoil pit slopes and knock down visual bermsSite: 31 Road PitPermit Action: SI-3Permit/Job#: M1987178**PROJECT IDENTIFICATION**Task #: 02CState: ColoradoAbbreviation: NoneDate: 6/3/2022County: MesaFilename: M178-02cUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: \$235.13Total Fleet Cost/Hour: \$1,410.75**MATERIAL QUANTITIES**Initial Volume: 4,341Swell factor: 1.215Loose volume: 5,274 LCYSource of estimated volume: 3.11 ac @ 6" + 1883 of bermsSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 852.6 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: -15 %Average site altitude: 4,700 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**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:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9517

Adjusted unit production: 811.42 LCY/hr

Adjusted fleet production: **4868.52** LCY/hr

JOB TIME AND COST

Fleet size: 6 Dozer(s)

Unit cost: \$0.290/LCY

Total job time: **1.08** Hours

Total job cost: **\$1,528**

REVEGETATION WORKTask description: Reveg pit slopes w/ dry rangelandSite: 31 Road PitPermit Action: SI-3Permit/Job#: M1987178**PROJECT IDENTIFICATION**Task #: 02DState: ColoradoAbbreviation: NoneDate: 6/3/2022County: MesaFilename: M178-04dUser: 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)	\$114.56
Total Tilling Cost/Acre	\$114.56

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	2.26	7.32	\$25.14
Crested Wheatgrass - Ephraim	1.26	5.79	\$5.45
Sand Dropseed	0.26	31.04	\$2.54
Galleta	3.00	10.95	\$67.05
Western Wheatgrass - Native	2.00	5.05	\$12.00
Totals Seed Mix	8.78	60.14	\$112.18

Application

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Description	Cost /Acre
Broadcast seeding [DMG]	\$267.22
Total Seed Application Cost/Acre	\$267.22

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.98	\$2.98
Total Mulch Materials Cost/Acre				\$2.98

Application

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

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: 4.11 Cost /Acre: \$559.66
 Estimated Failure Rate: 30% Cost /Acre*: \$559.66
 *Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **\$2,300.20**
 Reseeding Job Cost: **\$690.06**
 Total Job Cost: **\$2,990**
 Job Hours: **8.00**

SCRAPER TEAM WORKTask description: Apply overburden to pit floorSite: 31 Road PitPermit Action: SI-3Permit/Job#: M1987178**PROJECT IDENTIFICATION**Task #: 03AState: ColoradoAbbreviation: NoneDate: 6/6/2022County: MesaFilename: M178-03aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 3,500 Gal.

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	NA	100	50
Ownership cost/hour:	\$188.81	\$97.46	\$97.46	NA	\$70.80	\$17.15
Operating cost/hour:	\$169.82	\$97.63	\$48.82	NA	\$56.31	\$14.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$47.07	\$40.04	\$40.04	NA	\$46.87	\$38.91
Unit Subtotals:	\$405.70	\$235.13	\$186.31	NA	\$173.98	\$70.66
Number of Units:	6	6	1	0	1	1
Group Subtotals:	Work:	\$3,844.98	Support:	\$186.31	Maint:	\$244.64

Total work team cost/hour: \$4,275.93**MATERIAL QUANTITIES**Initial volume: 77,762

CCY

Swell factor: 1.125Loose volume: 87,482

LCY

Source of estimated volume: 48.2 ac @ 12"Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,550 lbs/LCY
 Material description: Earth - Dry packed
 Rated Payload: 52,800 pounds
 Payload Capacity: 20.71 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: 18.85 LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4700 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	650.00	0.00	5.00	5.00	2218	0.46

Haul Time: 0.46 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	650.00	0.00	5.00	5.00	2814	0.38

Return Time: 0.38 minutesTotal Scraper team cycle time: 2.34 minutesAdjusted for job conditions: 802.33 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 802.33 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,407.00 LCY/HourUnadjusted unit production/hour: 966.67 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 3 Team(s)Total job time: 36.34 HoursUnit cost: \$1.776 /LCYTotal job cost: \$155,408

SCRAPER TEAM WORKTask description: Apply topsoil to pit floorSite: 31 Road PitPermit Action: SI-3Permit/Job#: M1987178**PROJECT IDENTIFICATION**Task #: 03BState: ColoradoAbbreviation: NoneDate: 6/6/2022County: MesaFilename: M178-03bUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 3,500 Gal.

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	NA	100	50
Ownership cost/hour:	\$188.81	\$97.46	\$97.46	NA	\$70.80	\$17.15
Operating cost/hour:	\$169.82	\$97.63	\$48.82	NA	\$56.31	\$14.60
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	\$0.00	\$0.00
Operator cost/hour:	\$47.07	\$40.04	\$40.04	NA	\$46.87	\$38.91
Unit Subtotals:	\$405.70	\$235.13	\$186.31	NA	\$173.98	\$70.66
Number of Units:	6	6	1	0	1	1
Group Subtotals:	Work: \$3,844.98		Support: \$186.31		Maint: \$244.64	

Total work team cost/hour: \$4,275.93**MATERIAL QUANTITIES**Initial volume: 77,117

CCY

Swell factor: 1.215Loose volume: 93,697

LCY

Source of estimated volume: 47.8 ac @ 12"Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>33.00 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4700 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	5.00	5.00	2218	0.35

Haul Time: 0.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	5.00	5.00	2814	0.32

Return Time: 0.32 minutesTotal Scraper team cycle time: 2.17 minutesAdjusted for job conditions: 865.19 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 865.19 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,595.57 LCY/HourUnadjusted unit production/hour: 1,042.40 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 3 Team(s)Total job time: 36.10 HoursUnit cost: \$1.647 /LCYTotal job cost: \$154,356

BULLDOZER RIPPING WORK

Task description: Rip areas under stockpiles

Site: 31 Road Pit Permit Action: SI-3 Permit/Job#: M1987178

PROJECT IDENTIFICATION

Task #: 03C State: Colorado Abbreviation: None
Date: 6/6/2022 County: Mesa Filename: M178-03c
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:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper Ownership Cost/Hour:	\$15.19	NA
Ripper Operating Cost/Hour:	\$9.94	100
Operator Cost/Hour:	\$40.04	NA
Total Unit Cost/Hour:	\$260.26	
Total Fleet Cost/Hour:	\$1,561.53	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 10.00 acres Rip Depth (ft): 2.00 Volume: 32,267 BCY or CCY

Source of estimated quantity: Footprint of stockpile estimate

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: 250.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.789 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.789 Acres/hr
Site Altitude: 4,700 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.65 Acres/hr
Adjusted Hourly Fleet Production: **3.93** Acres/hr

JOB TIME AND COST

Fleet size: 6 Grader(s) Total job time: **2.55** Hours

Unit cost: \$397.538 Per acre Total job cost: **\$3,975**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Initial Mobilization**Site: **31 Road Pit**Permit Action: **SI-3**Permit/Job#: **M1987178****PROJECT IDENTIFICATION**Task #: **04A**State: **Colorado**Abbreviation: **None**Date: **6/3/2022**County: **Mesa**Filename: **M178-04a**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:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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 D8T - 8SU	47.71	\$97.46	\$132.49	6	\$1,379.70	\$794.94	\$250.00
Cat 627G w/push-pull	43.48	\$188.81	\$132.49	6	\$1,927.80	\$794.94	\$500.00
CAT 16M	28.73	\$70.80	\$132.49	1	\$203.29	\$132.49	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00
Subtotals:					\$3,587.14	\$1,790.74	\$1,250.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$41.16	1	\$41.16	\$41.16
Subtotals:			\$41.16	\$41.16

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	<u>10.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph
Total Non-Roadable Mob/Demob Cost *	\$12,363.22	
** two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	<u>\$20.58</u>	
** one round trip, no haul rig:		

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.25</u>	<u>0.25</u>
Return Time (Hours):	<u>0.25</u>	<u>0.25</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.50</u>	<u>0.50</u>

JOB TIME AND COST

Total job time:	<u>3.00</u>	Hours
Total job cost:	<u>\$12,384</u>	

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Secondary Mobilization**Site: **31 Road Pit**Permit Action: **SI-3**Permit/Job#: **M1987178****PROJECT IDENTIFICATION**Task #: **04B**State: **Colorado**Abbreviation: **None**Date: **6/3/2022**County: **Mesa**Filename: **M178-04b**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:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00

Subtotals: **\$76.35** **\$68.37** **\$250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$41.16	1	\$41.16	\$41.16

Subtotals: **\$41.16** **\$41.16**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost *	\$725.06	
** two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$20.58	
** one round trip, no haul rig:		

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.25	0.25
Return Time (Hours):	0.25	0.25
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.50	0.50

JOB TIME AND COST

Total job time:	3.00	Hours
Total job cost:	\$746	