

September 5, 2018

Russell Larsen/ Jon Muller
Kilgore Companies LLC dba Elam Construction
556 Struthers Ave
Grand Junction CO 81501



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

1313 Sherman Street, Room 215
Denver, CO 80203

RE: Woodring Pit, Permit No. M-1978-323, Reclamation Costs Update and Notice of Surety Increase (SI-4)

Dear Mr. Larsen/Muller:

On July 12, 2018 the Colorado Division of Reclamation, Mining and Safety (Division) approved the Transfer of Permit and Succession of Operators Application (SO-2). In an effort to ensure the Financial Warranty for the above referenced site adequately reflects the actual current costs of fulfilling the requirements of the approved reclamation plan, the Division has updated the reclamation cost estimate (copy enclosed).

Division calculations estimate the cost to reclaim the above referenced site to be \$284,766.42. This is an increase of \$147,004.99 over the \$137,761.43 currently held by the Division. This estimate is based on conditions observed during the July 26, 2018 inspection. ***Therefore, pursuant to Section 34-32.5-117(4) of the Colorado Land Reclamation Act, 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 **Monday, November 05, 2018**. Please review the enclosed figures as soon as possible and contact our office if any calculation errors are noted.

Please make arrangements with Barbara Coria at the Division of Reclamation, Mining and Safety Denver Office, phone no. 303.866.3567, ext. 8148 for submittal of the financial warranty. Any questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Barbara Coria.

If you require additional information, or have questions or concerns, please feel free to contact me. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 970-254-8511 or via email at amy.yeldell@state.co.us

Sincerely,

Amy Yeldell
Environmental Protection Specialist

Ec: Wally Erickson, Senior EPS, Grand Junction DRMS

Enc: Financial Warranty Cost Estimate
Notice of Estimated Reclamation Cost Estimate



COST SUMMARY WORK

Task description: SO-2 update **PRELIMINARY**

Site: Woodring Pit

Permit Action: SO-2

Permit/Job#: M1978323

PROJECT IDENTIFICATION

Task #: ACY

State: Colorado

Abbreviation: None

Date: 8/1/2018

County: Mesa

Filename: M323-ACY

User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Rough grade pit floor	DOZER	2	28.47	\$14,030.00
02a	Rip compaction on pit floor	RIPPER	2	13.43	\$7,164.00
03a	Push overburden off top of north highwall to pit floor	DOZER	2	42.23	\$20,810.00
04a	Distribute overburden over pit floor	SCRAPER1	1	57.71	\$46,909.00
05a	Distribute and configure overburden on pit floor	GRADER	1	5.58	\$875.00
06a	Push topsoil off highwall to pit floor	DOZER	2	9.18	\$4,522.00
07a	Distribute topsoil over pit floor	SCRAPER1	1	20.25	\$16,463.00
08a	Distribute and configure topsoil on pit floor	GRADER	1	5.58	\$875.00
09a	Reduce highwalls to 2H:1V	DOZER	2	74.35	\$36,641.00
10a	Haul overburden from berm to top of east and west slopes	SCRAPER1	1	7.13	\$5,794.00
11a	Spread overburden down east and west slopes	DOZER	2	3.34	\$1,646.00
12a	Haul topsoil from berm to top of east and west slopes	SCRAPER1	1	2.58	\$2,095.00
13a	Spread topsoil down east and west slopes	DOZER	2	0.73	\$358.00
14a	Spread overburden on north slope	DOZER	2	9.48	\$4,672.00
15a	Spread topsoil on north slope	DOZER	1	4.12	\$1,015.00
16a	Revegetate 27 acres disturbance	REVEGE	1	32.00	\$44,307.00
17a	Mobilization	MOBILIZE	1	5.50	\$9,241.00
18a	Secondary Mobilization	MOBILIZE	1	5.50	\$2,136.00
<u>SUBTOTALS:</u>				327.16	\$219,553

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Performance bond: 1.05

Job superintendent: 163.58

Profit: 10.00

Total = \$4,434.97

Total = \$2,305.31

Total = \$11,949.52

Total = \$21,955.30

TOTAL O & P = \$40,645.10

CONTRACT AMOUNT (direct + O & P) = \$260,198.10

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>500.00</u>	Total =	<u>500.00</u>
Engineering work and/or contract/bid preparation:	<u>4.25</u>	Total =	<u>\$11,058.42</u>
Reclamation management and/or administration:	<u>5.00</u>		<u>\$13,009.91</u>
CONTINGENCY:	0.00	Total =	<u>\$0.00</u>
		TOTAL INDIRECT COST =	<u>\$65,213.42</u>
		TOTAL BOND AMOUNT (direct + indirect) =	<u>\$284,766.42</u>

BULLDOZER WORKTask description: **Rough grade pit floor**Site: **Woodring Pit** Permit Action: SO-2 Permit/Job#: M1978323**PROJECT IDENTIFICATION**

Task #: 01A State: Colorado Abbreviation: None
 Date: 8/1/2018 County: Mesa Filename: M323-01a
 User: ACY

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

Basic Machine: Cat D9T - 9SU
 Horsepower: 405
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$110.70</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$95.46</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>\$40.23</u>	<u>NA</u>

Total unit Cost/Hour: \$246.39
 Total Fleet Cost/Hour: **\$492.79**

MATERIAL QUANTITIES

Initial Volume: 16,134
 Swell factor: 1.250
 Loose volume: **20,168 LCY**

Source of estimated volume: 20 ac @ 6" depth
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 150 feet
 Unadjusted hourly production: 910.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %
 Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3890

Adjusted unit production: 354.18 LCY/hr

Adjusted fleet production: **708.36** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.696/LCY

Total job time: **28.47** Hours

Total job cost: **\$14,030**

BULLDOZER RIPPING WORK

Task description: Rip compaction on pit floor

Site: Woodring Pit

Permit Action: SO-2

Permit/Job#: M1978323

PROJECT IDENTIFICATION

Task #: 02A

State: Colorado

Abbreviation: None

Date: 8/1/2018

County: Mesa

Filename: M323-02a

User: ACY

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Ripper Attachment: 3-Shank Ripper

Horsepower: 405

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$110.70	NA
Operating Cost/Hour:	\$95.46	100
Ripper Ownership Cost/Hour:	\$12.36	NA
Ripper Operating Cost/Hour:	\$7.88	100
Operator Cost/Hour:	\$40.23	NA
Total Unit Cost/Hour:	\$266.63	
Total Fleet Cost/Hour:	\$533.27	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 20.00 acres Rip Depth (ft): 1.50 Volume: 48,400 BCY or CCY

Source of estimated quantity: 20 ac pit floor

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 1.50 mph
Average Ripping Width: 7.67 degrees
Average Ripping Length: 600.00 feet
Average Dozer Speed: 88.00 feet
Average Maneuver Time: 0.25 feet
Production per unit area: 0.897 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.897 Acres/hr
Site Altitude: 5,400 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.74 Acres/hr

Adjusted Hourly Fleet Production: **1.49** Acres/hr

JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: **13.43** Hours

Unit cost: \$358.203 Per acre Total job cost: **\$7,164**

BULLDOZER WORKTask description: **Push overburden off top of north highwall to pit floor**Site: **Woodring Pit** Permit Action: **SO-2** Permit/Job#: **M1978323****PROJECT IDENTIFICATION**

Task #: **03A** State: **Colorado** Abbreviation: **None**
 Date: **8/1/2018** County: **Mesa** Filename: **M323-03a**
 User: **ACY**

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

Basic Machine: **Cat D9T - 9SU**
 Horsepower: **405**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$110.70	NA
Operating Cost/Hour:	\$95.46	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.23	NA

Total unit Cost/Hour: **\$246.39**
 Total Fleet Cost/Hour: **\$492.79**

MATERIAL QUANTITIES

Initial Volume: **48,400**
 Swell factor: **1.125**
 Loose volume: **54,450 LCY**

Source of estimated volume: **20 ac @ 18" Depth**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **120 feet**
 Unadjusted hourly production: **1,093.1 LCY/hr**

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **-25 %**
 Average site altitude: **5,400 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5898

Adjusted unit production: 644.71 LCY/hr

Adjusted fleet production: **1289.42** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.382/LCY

Total job time: **42.23** Hours

Total job cost: **\$20,810**

SCRAPER TEAM WORKTask description: **Distribute overburden over pit floor**Site: **Woodring Pit**Permit Action: SO-2Permit/Job#: M1978323**PROJECT IDENTIFICATION**Task #: 04AState: ColoradoAbbreviation: NoneDate: 8/1/2018County: MesaFilename: M323-04aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$108.96	\$110.70	NA	NA	NA	NA
Operating cost/hour:	\$128.41	\$95.46	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$45.84	\$40.23	NA	NA	NA	NA
Unit Subtotals:	\$283.20	\$246.39	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$812.79		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$812.79****MATERIAL QUANTITIES**Initial volume: 54,450

CCY

Swell factor: 1.000Loose volume: **54,450**

LCY

Source of estimated volume: 20 ac @18" (Task 03a)Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,650 lbs/LCY
 Material description: Decomposed rock - 25% Rock, 75% Earth
 Rated Payload: 52,800 pounds
 Payload Capacity: 19.92 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: 5400 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	200.00	0.00	3.00	3.00	2824	0.30

Haul Time: 0.30 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	200.00	0.00	3.00	3.00	2874	0.19

Return Time: 0.19 minutesTotal Scraper team cycle time: 1.99 minutesAdjusted for job conditions: 943.45 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 943.45 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 943.45 LCY/HourUnadjusted unit production/hour: 1,136.68 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 57.71 HoursUnit cost: \$0.862 /LCYTotal job cost: \$46,909

MOTOR GRADER WORK

Task description: Distribute and configure overburden on pit floor

Site: Woodring Pit

Permit Action: SO-2

Permit/Job#: M1978323

PROJECT IDENTIFICATION

Task #: 05A

State: Colorado

Abbreviation: None

Date: 8/1/2018

County: Mesa

Filename: M323-05a

User: ACY

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:	\$60.13	NA
Operating Cost/Hour:	\$50.87	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$45.64	NA
Total Unit Cost/Hour:	\$156.64	
Total Fleet Cost/Hour:	\$156.64	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 20.00 acres

Source of estimated acreage: 20 ac pit floor

HOURLY PRODUCTION

Average Grader Speed:	<u>3.25</u>	mph
Selected Application:	<u>Heavy blading (0-6 mph) - 3.25</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>3.9788</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5400 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.90</u>	(1sh/d, fav.)
Net Correction:	<u>0.9000</u>	multiplier

Adjusted Hourly Unit Production: 3.5809 acres/Hour

Adjusted Hourly Fleet Production: **3.5809** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **5.59** Hours

Unit cost: \$43.74 per acre Total job cost: **\$875**

BULLDOZER WORKTask description: Push topsoil off highwall to pit floorSite: Woodring PitPermit Action: SO-2Permit/Job#: M1978323**PROJECT IDENTIFICATION**Task #: 06AState: ColoradoAbbreviation: NoneDate: 8/1/2018County: MesaFilename: M323-06aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$110.70	NA
Operating Cost/Hour:	\$95.46	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.23	NA

Total unit Cost/Hour: \$246.39Total Fleet Cost/Hour: **\$492.79****MATERIAL QUANTITIES**Initial Volume: 16,133Swell factor: 1.215Loose volume: **19,602 LCY**Source of estimated volume: 20 ac @ 6" depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 120 feetUnadjusted hourly production: 1,093.1 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -25 %Average site altitude: 5,400 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**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:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9771

Adjusted unit production: 1,068.07 LCY/hr

Adjusted fleet production: **2136.14** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.231/LCY

Total job time: **9.18** Hours

Total job cost: **\$4,522**

SCRAPER TEAM WORKTask description: Distribute topsoil over pit floorSite: Woodring PitPermit Action: SO-2Permit/Job#: M1978323**PROJECT IDENTIFICATION**Task #: 07AState: ColoradoAbbreviation: NoneDate: 8/1/2018County: MesaFilename: M323-07aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$108.96	\$110.70	NA	NA	NA	NA
Operating cost/hour:	\$128.41	\$95.46	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$45.84	\$40.23	NA	NA	NA	NA
Unit Subtotals:	\$283.20	\$246.39	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$812.79		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$812.79****MATERIAL QUANTITIES**Initial volume: 19,602

CCY

Swell factor: 1.000Loose volume: **19,602**

LCY

Source of estimated volume: 20ac @6" depthSource 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: 5400 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	200.00	0.00	5.00	5.00	2218	0.22

Haul Time: 0.22 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	200.00	0.00	5.00	5.00	2814	0.22

Return Time: 0.22 minutesTotal Scraper team cycle time: 1.94 minutesAdjusted for job conditions: 967.76 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 967.76 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 967.76 LCY/HourUnadjusted unit production/hour: 1,165.98 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 20.25 HoursUnit cost: \$0.840 /LCYTotal job cost: \$16,463

MOTOR GRADER WORK

Task description: Distribute and configure topsoil on pit floor

Site: Woodring Pit

Permit Action: SO-2

Permit/Job#: M1978323

PROJECT IDENTIFICATION

Task #: 08A

State: Colorado

Abbreviation: None

Date: 8/1/2018

County: Mesa

Filename: M323-08a

User: ACY

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:	\$60.13	NA
Operating Cost/Hour:	\$50.87	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$45.64	NA
Total Unit Cost/Hour:	\$156.64	
Total Fleet Cost/Hour:	\$156.64	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 20.00 acres

Source of estimated acreage: 20 ac pit floor

HOURLY PRODUCTION

Average Grader Speed:	<u>3.25</u>	mph
Selected Application:	<u>Heavy blading (0-6 mph) - 3.25</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>3.9788</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5400 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.90</u>	(1sh/d, fav.)
Net Correction:	<u>0.9000</u>	multiplier

Adjusted Hourly Unit Production: 3.5809 acres/Hour

Adjusted Hourly Fleet Production: **3.5809** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **5.59** Hours

Unit cost: \$43.74 per acre Total job cost: **\$875**

BULLDOZER WORKTask description: **Reduce highwalls to 2H:1V**Site: **Woodring Pit** Permit Action: **SO-2** Permit/Job#: **M1978323****PROJECT IDENTIFICATION**

Task #: 09A State: Colorado Abbreviation: None
 Date: 8/1/2018 County: Mesa Filename: M323-09a
 User: ACY

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

Basic Machine: Cat D9T - 9SU
 Horsepower: 405
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$110.70</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$95.46</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>\$40.23</u>	<u>NA</u>

Total unit Cost/Hour: \$246.39
 Total Fleet Cost/Hour: **\$492.79**

MATERIAL QUANTITIES

Initial Volume: 68,865
 Swell factor: 1.125
 Loose volume: **77,473 LCY**

Source of estimated volume: See attached Approx 2500 LF of highwall
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 120 feet
 Unadjusted hourly production: 1,093.1 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -10 %
 Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**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:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4766

Adjusted unit production: 520.97 LCY/hr

Adjusted fleet production: **1041.94** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)



Unit cost: \$0.473/LCY

Total job time: **74.35** Hours

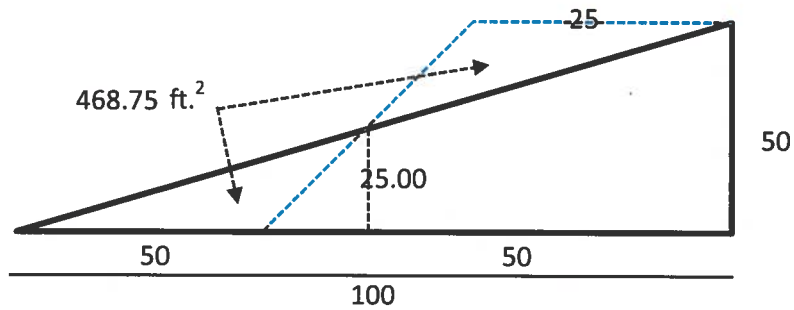
Total job cost: **\$36,641**

Highwall reduction - cut and fill

near vertical active highwall



Highwall Height (ft.)	50.0	
Length of Highwall (lft.)	300	
 Initial Slope	0.5	H:1V
 Desired Slope	2	H:1V
Volume of material to be moved (ft. ³)	140,625	
Volume of material to be moved (yd. ³)	5,208	

All dimensions measured in feet
Drawing not to scale

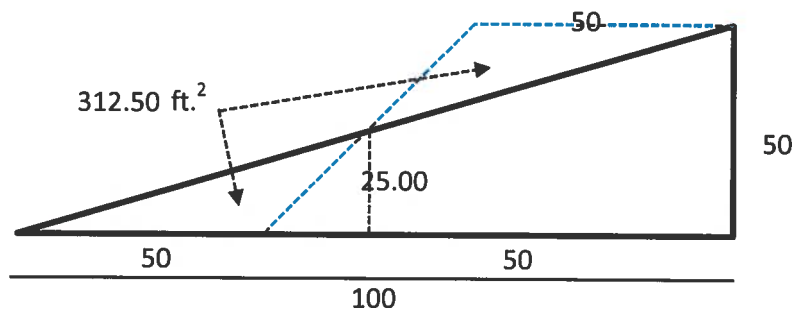


Highwall reduction - cut and fill

Exterior Pit walls

Highwall Height (ft.)	50.0	
Length of Highwall (ft.)	1100	
 Initial Slope	1.0	H:1V
 Desired Slope	2	H:1V
Volume of material to be moved (ft. ³)	343,750	
Volume of material to be moved (yd. ³)	12,731	

All dimensions measured in feet
Drawing not to scale



Highwall reduction - backfill

Exterior Pit Walls

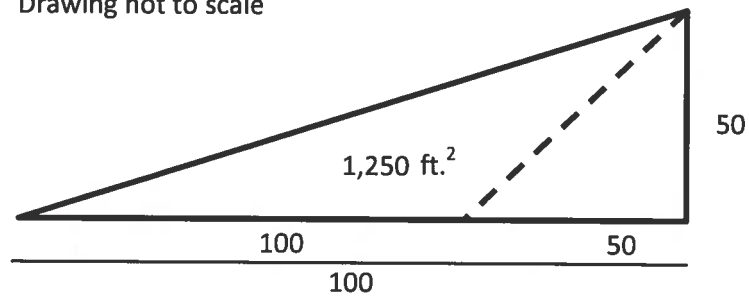
Highwall Height (ft.)	50.00
Length of Highwall (lft.)	1100.00
- - - - Initial Slope	1.00 H:1V
———— Desired Slope	2.00 H:1V

Volume of material to be moved (ft.³) **1,375,000**

Volume of material to be moved (yd.³) **50,926**

All dimensions measured in feet

Drawing not to scale



SCRAPER TEAM WORKTask description: **Haul overburden from berm to top of east and west slopes**Site: **Woodring Pit**Permit Action: SO-2Permit/Job#: M1978323**PROJECT IDENTIFICATION**Task #: 10AState: ColoradoAbbreviation: NoneDate: 8/1/2018County: MesaFilename: M323-10aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$108.96	\$110.70	NA	NA	NA	NA
Operating cost/hour:	\$128.41	\$95.46	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$45.84	\$40.23	NA	NA	NA	NA
Unit Subtotals:	\$283.20	\$246.39	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$812.79		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$812.79****MATERIAL QUANTITIES**Initial volume: 5,106

CCY

Swell factor: 1.125Loose volume: **5,744**

LCY

Source of estimated volume: 800 LF of 115' slope, 2.11 ac @ 18"Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,650 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Decomposed rock - 25% Rock, 75% Earth</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>19.92 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: 5400 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	0.00	3.00	3.00	2824	0.47

Haul Time: 0.47 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	0.00	3.00	3.00	2874	0.36

Return Time: 0.36 minutesTotal Scraper team cycle time: 2.33 minutesAdjusted for job conditions: 805.78 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 805.78 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 805.78 LCY/HourUnadjusted unit production/hour: 970.82 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 7.13 HoursUnit cost: \$1.009 /LCYTotal job cost: \$5,794

BULLDOZER WORKTask description: Spread overburden down east and west slopesSite: Woodring Pit Permit Action: SO-2 Permit/Job#: M1978323**PROJECT IDENTIFICATION**

Task #: 11A State: Colorado Abbreviation: None
 Date: 8/1/2018 County: Mesa Filename: M323-11a
 User: ACY

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

Basic Machine: Cat D9T - 9SU
 Horsepower: 405
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$110.70</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$95.46</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>\$40.23</u>	<u>NA</u>

Total unit Cost/Hour: \$246.39
 Total Fleet Cost/Hour: **\$492.79**

MATERIAL QUANTITIES

Initial Volume: 5,744
 Swell factor: 1.000
 Loose volume: **5,744** LCY

Source of estimated volume: 700 LF of 115' slope, 2.1 ac @ 18" Deep
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 120 feet
 Unadjusted hourly production: 1,093.1 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: -25 %
 Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.200</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:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7864

Adjusted unit production: 859.61 LCY/hr

Adjusted fleet production: **1719.22** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.287/LCY

Total job time: **3.34** Hours

Total job cost: **\$1,646**

SCRAPER TEAM WORKTask description: **Haul topsoil from berm to top of east and west slopes**Site: **Woodring Pit**Permit Action: SO-2Permit/Job#: M1978323**PROJECT IDENTIFICATION**Task #: 12AState: ColoradoAbbreviation: NoneDate: 8/1/2018County: MesaFilename: M323-12aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$108.96	\$110.70	NA	NA	NA	NA
Operating cost/hour:	\$128.41	\$95.46	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$45.84	\$40.23	NA	NA	NA	NA
Unit Subtotals:	\$283.20	\$246.39	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$812.79		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$812.79****MATERIAL QUANTITIES**Initial volume: 1,702

CCY

Swell factor: 1.215Loose volume: **2,068**

LCY

Source of estimated volume: 800 LF @ 115' of slope, 2.11 ac @ 6" deepSource 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: 5400 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	700.00	0.00	5.00	5.00	2218	0.44

Haul Time: 0.44 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	0.00	5.00	5.00	2814	0.40

Return Time: 0.40 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: 802.33 LCY/HourUnadjusted unit production/hour: 966.67 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 2.58 HoursUnit cost: \$1.013 /LCYTotal job cost: \$2,095

BULLDOZER WORKTask description: Spread topsoil down east and west slopesSite: Woodring Pit Permit Action: SO-2 Permit/Job#: M1978323**PROJECT IDENTIFICATION**

Task #: 13A State: Colorado Abbreviation: None
 Date: 8/1/2018 County: Mesa Filename: M323-13a
 User: ACY

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

Basic Machine: Cat D9T - 9SU
 Horsepower: 405
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$110.70</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$95.46</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>\$40.23</u>	<u>NA</u>

Total unit Cost/Hour: \$246.39
 Total Fleet Cost/Hour: **\$492.79**

MATERIAL QUANTITIES

Initial Volume: 2,068
 Swell factor: 1.000
 Loose volume: **2,068** LCY

Source of estimated volume: 2.11 ac @ 6" deep
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 120 feet
 Unadjusted hourly production: 1,093.1 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: -25 %
 Average site altitude: 5,400 feet

Material 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>1.200</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:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.3028

Adjusted unit production: 1,424.09 LCY/hr

Adjusted fleet production: **2848.18** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.173/LCY

Total job time: **0.73** Hours

Total job cost: **\$358**

BULLDOZER WORKTask description: Spread overburden on north slopeSite: Woodring PitPermit Action: SO-2Permit/Job#: M1978323**PROJECT IDENTIFICATION**Task #: 14AState: ColoradoAbbreviation: NoneDate: 8/1/2018County: MesaFilename: M323-14aUser: ACYAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$110.70	NA
Operating Cost/Hour:	\$95.46	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$40.23	NA

Total unit Cost/Hour: \$246.39Total Fleet Cost/Hour: **\$492.79****MATERIAL QUANTITIES**Initial Volume: 10,866Swell factor: 1.125Loose volume: **12,224 LCY**Source of estimated volume: 1700 LF of 115' slope, 4.49 ac @ 18" deepSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 120 feetUnadjusted hourly production: 1,093.1 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -25 %Average site altitude: 5,400 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5898

Adjusted unit production: 644.71 LCY/hr

Adjusted fleet production: **1289.42** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.382/LCY

Total job time: **9.48** Hours

Total job cost: **\$4,672**

BULLDOZER WORKTask description: Spread topsoil on north slopeSite: Woodring Pit Permit Action: SO-2 Permit/Job#: M1978323**PROJECT IDENTIFICATION**

Task #: 15A State: Colorado Abbreviation: None
 Date: 8/1/2018 County: Mesa Filename: M323-15a
 User: ACY

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

Basic Machine: Cat D9T - 9SU
 Horsepower: 405
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$110.70</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$95.46</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>\$40.23</u>	<u>NA</u>

Total unit Cost/Hour: \$246.39
 Total Fleet Cost/Hour: **\$246.39**

MATERIAL QUANTITIES

Initial Volume: 3,622
 Swell factor: 1.215
 Loose volume: **4,401 LCY**

Source of estimated volume: 1700 lf of 115' slope, 4.49 @ 6" deep
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 120 feet
 Unadjusted hourly production: 1,093.1 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -25 %
 Average site altitude: 5,400 feet

Material 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>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:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9771

Adjusted unit production: 1,068.07 LCY/hr

Adjusted fleet production: **1068.07** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.231/LCY

Total job time: **4.12** Hours

Total job cost: **\$1,015**

REVEGETATION WORKTask description: Revegetate 27 acres disturbanceSite: Woodring PitPermit Action: SO-2Permit/Job#: M1978323**PROJECT IDENTIFICATION**Task #: 16AState: ColoradoAbbreviation: NoneDate: 8/1/2018County: MesaFilename: M323-16aUser: ACYAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	100.00	pound	\$0.34	\$34.00
			Total Fertilizer Materials Cost/Acre	\$34.00

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$34.72
Total Fertilizer Application Cost/Acre	\$34.72

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$92.77
Total Tilling Cost/Acre	\$92.77

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Crested Wheatgrass - Ephraim	2.40	11.02	\$9.00
Sand Dropseed	0.20	23.88	\$2.22
Burnett, Small (or Little) - Delar	8.00	10.10	\$20.48
Pubescent Wheatgrass - Luna	5.60	11.57	\$23.35
Galleta	4.80	17.52	\$121.39
Rabbitbrush, Rubber	0.24	3.58	\$15.80
Saltbush, Four Wing	2.00	2.75	\$25.60
Totals Seed Mix	23.24	80.42	\$217.85

Application

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	\$2.81	\$2.81
Straw, delivered {MEANS 31 25 14.16 1200}	1.00	TON	\$288.00	\$288.00
Total Mulch Materials Cost/Acre				\$290.81

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$68.78
Power mulcher (MEANS 32 91 13.16 0350)	\$92.78
Weed spray, truck, non-aquatic area, nox. [DMG]	\$73.22
Total Mulch Application Cost/Acre	\$234.78

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: 27 Cost /Acre: \$1,172.15
 Estimated Failure Rate: 40% Cost /Acre*: \$1,172.15
 *Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,MU
LCHING

Initial Job Cost: **\$31,648.05**
 Reseeding Job Cost: **\$12,659.22**
 Total Job Cost: **\$44,307**
 Job Hours: **32.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilization**Site: **Woodring Pit**Permit Action: **SO-2**Permit/Job#: **M1978323****PROJECT IDENTIFICATION**Task #: **17A**State: **Colorado**Abbreviation: **None**Date: **8/1/2018**County: **Mesa**Filename: **M323-17a**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:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

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	\$110.70	\$125.45	2	\$472.30	\$250.90	\$250.00
CAT 14M	23.57	\$60.13	\$88.67	1	\$148.80	\$88.67	\$250.00
Cat 627G w/push-pull	43.48	\$108.96	\$117.55	2	\$453.02	\$235.10	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$8.33	\$88.67	1	\$97.00	\$88.67	\$250.00

Subtotals: **\$1,275.33** **\$752.01** **\$1,500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$40.58	2	\$81.16	\$81.16

Subtotals: **\$81.16** **\$81.16**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	35.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost *	\$9,098.51	
'* two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$142.03	
** one round trip, no haul rig:		

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.88	0.88
Return Time (Hours):	0.88	0.88
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.75	1.75

JOB TIME AND COST

Total job time:	5.50	Hours
Total job cost:	\$9,241	

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Secondary Mobilization**Site: **Woodring Pit**Permit Action: **SO-2**Permit/Job#: **M1978323****PROJECT IDENTIFICATION**Task #: **18A**State: **Colorado**Abbreviation: **None**Date: **8/16/2018**County: **Mesa**Filename: **M323-18a**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:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

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	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$8.33	\$88.67	1	\$97.00	\$88.67	\$250.00
Subtotals:					\$201.21	\$177.34	\$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, 3/4 T.	\$40.58	1	\$40.58	\$40.58
Subtotals:			\$40.58	\$40.58

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION, CO	
Total one-way travel distance:	<u>35.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph
Total Non-Roadable Mob/Demob Cost *	\$2,064.88	
** two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	<u>\$71.02</u>	
** one round trip, no haul rig:		

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.88	0.88
Return Time (Hours):	0.88	0.88
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.75	1.75

JOB TIME AND COST

Total job time:	<u>5.50</u>	Hours
Total job cost:	<u>\$2,136</u>	



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

1313 Sherman Street, Room 215
Denver, CO 80203

August 16, 2018

Russell Larsen/ Jon Muller
Kilgore Companies LLC dba Elam Construction
556 Struthers Ave
Grand Junction, CO 81501

RE: Woodring Pit, Permit No. M-1978-323, Estimated Reclamation Costs Update

Dear Mr. Larsen/Muller:

In response to the Succession of Operators (SO-2) request that was approved on July 12, 2018 the Colorado Division of Reclamation, Mining and Safety (Division) has updated the reclamation cost estimate. The Division calculations estimate the cost to reclaim the above referenced site to be \$284,766.42. This is an increase of \$147,004.99 over the \$137,761.43 currently held by the Division. This estimate is based on conditions observed during the July 26, 2018 inspection.

This substantial increase has mainly come from the increased acreage needing to be reclaimed. Previous calculations were largely based off of a 10 acre pit floor rather than the estimated 20 acres that is currently affected. Also there is significantly more highwall present than the previously used 600 linear foot figure.

The Division would like to give you an opportunity to either complete reclamation tasks to decrease your overall liability. Or survey the site and provide the Division with more accurate input figures for calculations. The Division has enclosed both the preliminary post SO-2 calculation as well as the 2012 SI-03 calculation with redlined changes.

Please review the enclosed figures as soon as possible and contact our office if any calculation errors are noted. If no response is received by Friday August 31, 2018 than it is the Divisions understanding that the operator has no objections to the bond calculated on August 1, 2018 for the amount of \$284,766.42. At that time a Notice for Surety Increase will be issued for the above amount as required by the Act and Rules.

If you require additional information, or have questions or concerns, please feel free to contact me. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 970-254-8511 or via email at amy.yeldell@state.co.us



Sincerely,



Amy Yeldell

Environmental Protection Specialist
Department of Natural Resources
Division of Reclamation, Mining and Safety
Phone: (970) 254-8511
Fax: (970) 241-1516

Ec:
Wally Erickson, Senior EPS, Grand Junction DRMS

Enc:

SO-2 Preliminary Financial Warranty Cost Estimate
SI-3 Redlined Financial Warranty Cost Estimate