



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources

1313 Sherman St. Room 215
Denver, CO 80203

November 27, 2018

Kathy Stone
Stone Sand & Gravel, LLC
P.O. Box 1568
Cortez, CO 81321

Re: Line Camp Pit, Permit No. M-2001-001, Financial Warranty Reduction Approval, Revision No. SR-3

Ms. Stone:

On November 27, 2018 the Division of Reclamation, Mining and Safety approved your request for a Financial Warranty Reduction to \$53,810.67. This is a reduction of \$38,106.33. This decision reduces the amount of the financial warranty, and does not approve any release of reclamation responsibility for the tasks associated with this request.

Please provide a rider to the current Financial Warranty, or submit a new Financial Warranty reflecting this reduction. If you wish to submit a different type of Financial Warranty, please contact our office for the applicable form.

If you have any questions, please contact me at 970-241-2042 or travis.marshall@state.co.us.

Sincerely,

Travis Marshall
Environmental Protection Specialist

ec: Barbara J. Coria, Division of Reclamation, Mining and Safety

M-FW-13



COST SUMMARY WORK

Task description: Final Reclamation Cost Estimate

Site: Line Camp Pit

Permit Action: SR-3

Permit/Job#: M2001001

PROJECT IDENTIFICATION

Task #: 001A

State: Colorado

Abbreviation: None

Date: 11/27/2018

County: Montezuma

Filename: M001-001a

User: THM

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Slope reduction for sediment basin form 0.5H:1V to 3H:1V	DOZER	1	7.59	\$1,650.00
002	Slope reduction of pit inslopes form 0.5H:1V to 3H:1V	DOZER	1	7.07	\$1,538.00
003	Replace topsoil to 1' depth over 8 acres	SCRAPER1	1	12.44	\$14,366.00
004	Finish Grade 10 acres affected area for drainage control	DOZER	1	24.05	\$5,322.00
005	Revegetate 8 acres	REVEGE	1	10.00	\$15,131.00
006	Mobilize/Demobilize	MOBILIZE	1	2.88	\$5,249.00
<u>SUBTOTALS:</u>				64.03	\$43,256

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 32.02
Profit: 10.00

Total = \$873.77

Total = \$454.19

Total = \$2,338.70

Total = \$4,325.60

TOTAL O & P = \$7,992.26

CONTRACT AMOUNT (direct + O & P) = \$51,248.26

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00

Total = 0.00

Engineering work and/or contract/bid preparation: 0.00

Total = \$0.00

Reclamation management and/or administration: 5.00

\$2,562.41

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$10,554.67

TOTAL BOND AMOUNT (direct + indirect) = \$53,810.67

BULLDOZER WORKTask description: Slope reduction for sediment basin form 0.5H:1V to 3H:1VSite: Line Camp PitPermit Action: SR-3Permit/Job#: M2001001**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 11/27/2018County: MontezumaFilename: 01aUser: THMAgency 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:	\$93.62	NA
Operating Cost/Hour:	\$73.35	100
Ripper own. Cost/Hour:	\$8.93	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.52	NA

Total unit Cost/Hour: \$217.42Total Fleet Cost/Hour: \$217.42**MATERIAL QUANTITIES**Initial Volume: 3,757Swell factor: 1.050Loose volume: 3,945 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -10 %Average site altitude: 7,200 feetMaterial weight: 3,400 lbs/LCYWeight description: Sand and gravel - Wet**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	(SSD-AC)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.676	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3712

Adjusted unit production: 519.68 LCY/hr

Adjusted fleet production: 519.68 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.418/LCY

Total job time: 7.59 Hours

Total job cost: \$1,650

BULLDOZER WORKTask description: Slope reduction of pit inslopes form 0.5H:1V to 3H:1VSite: Line Camp PitPermit Action: SR-3Permit/Job#: M2001001**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 11/27/2018County: MontezumaFilename: 02aUser: THMAgency 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:	<u>\$93.62</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$73.35</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$8.93</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.52</u>	<u>NA</u>

Total unit Cost/Hour: \$217.42Total Fleet Cost/Hour: \$217.42**MATERIAL QUANTITIES**Initial Volume: 3,500Swell factor: 1.050Loose volume: 3,675 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -10 %Average site altitude: 7,200 feetMaterial weight: 3,400 lbs/LCYWeight description: Sand and gravel - Wet**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	(SSD-AC)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.676	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3712

Adjusted unit production: 519.68 LCY/hr

Adjusted fleet production: 519.68 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.418/LCY

Total job time: 7.07 Hours

Total job cost: \$1,538

SCRAPER TEAM WORKTask description: **Replace topsoil to 1' depth over 8 acres**Site: **Line Camp Pit**Permit Action: **SR-3**Permit/Job#: **M2001001****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **11/27/2018**County: **Montezuma**Filename: **M001-003**User: **THM**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
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	100	NA	NA
Ownership cost/hour:	\$165.84	\$93.62	NA	\$93.62	NA	NA
Operating cost/hour:	\$172.14	\$73.35	NA	\$73.35	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$31.05	\$41.52	NA	\$41.52	NA	NA
Unit Subtotals:	\$369.02	\$208.49	NA	\$208.49	NA	NA
Number of Units:	2	1	0	1	0	0
Group Subtotals:	Work: \$946.53	Support: \$208.49	Maint: \$0.00			

Total work team cost/hour: **\$1,155.02****MATERIAL QUANTITIES**Initial volume: **14,256**

CCY

Swell factor: **1.125**Loose volume: **16,038**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**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: **81,600 pounds**
 Payload Capacity: **32.00 LCY**

Struck Volume: **24.00** LCY
 Heaped Volume: **34.00** LCY
 Average Volume: **29.00** LCY
 Adjusted Capacity: **29.00** LCY

Cycle Time:Scraper Loading Time: 1.00 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7200 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	400.00	2.00	5.00	7.00	1362	0.36

Haul Time: 0.36 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	400.00	-2.00	5.00	3.00	2949	0.28

Return Time: 0.28 minutesTotal Scraper team cycle time: 2.24 minutesAdjusted for job conditions: 1,289.46 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,289.46 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,289.46 LCY/HourUnadjusted unit production/hour: 1,553.57 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 12.44 HoursUnit cost: \$0.896 /LCYTotal job cost: \$14,366

BULLDOZER WORKTask description: Finish Grade 10 acres affected area for drainage controlSite: Line Camp PitPermit Action: SR-3Permit/Job#: M2001001**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 11/27/2018County: MontezumaFilename: M001-004User: THMAgency 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:	<u>\$93.62</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$73.35</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$8.93</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$3.89</u>	<u>50</u>
Operator Cost/Hour:	<u>\$41.52</u>	<u>NA</u>

Total unit Cost/Hour: \$221.31Total Fleet Cost/Hour: \$221.31**MATERIAL QUANTITIES**Initial Volume: 12,100Swell factor: 1.125Loose volume: 13,613 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,400.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 7,200 feetMaterial 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	(SSD-AC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4043

Adjusted unit production: 566.02 LCY/hr

Adjusted fleet production: 566.02 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.391/LCY

Total job time: 24.05 Hours

Total job cost: \$5,322

REVEGETATION WORKTask description: Revegetate 8 acresSite: Line Camp PitPermit Action: SR-3Permit/Job#: M2001001**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 11/27/2018County: MontezumaFilename: M001-005User: THMAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.34	\$68.00
			Total Fertilizer Materials Cost/Acre	\$68.00

Application

Description	Cost /Acre
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$111.94
Total Fertilizer Application Cost/Acre	\$111.94

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$106.29
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
Total Tilling Cost/Acre	\$299.89

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Orchardgrass - Latar	0.80	9.92	\$2.70
Meadow Brome - Regar	5.50	5.05	\$28.16
Intermediate Wheatgrass - Oahe	5.00	10.67	\$19.65
Milk Vetch, Cicer - Monarch	1.20	3.99	\$10.08
Timothy - Climax	0.30	8.61	\$0.48
Totals Seed Mix	12.80	38.25	\$61.07

Application

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Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Application Cost/Acre	\$232.00

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.34	\$7.34
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$583.34

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$68.78
Weed spray, truck, aquatic area, nox. [DMG]	\$70.14
Total Mulch Application Cost/Acre	\$138.92

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Willow, Sandbar	20	Tubling, 3 cu. in. container (MEANS)	\$1.12	\$0.00	\$22.40
Totals Nursery Stock Cost / Acre					\$22.40

JOB TIME AND COST

No. of Acres:	8	Cost /Acre:	\$1,517.56
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,495.16
*Selected Replanting Work Items:	FERTILIZING,TILLING,SEEDING,MU LCHING		

Initial Job Cost:	\$12,140.48
Reseeding Job Cost:	\$2,990.32
Total Job Cost:	\$15,131
Job Hours:	10.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Mobilize/DemobilizeSite: Line Camp PitPermit Action: SR-3Permit/Job#: M2001001**PROJECT IDENTIFICATION**Task #: 006State: ColoradoAbbreviation: NoneDate: 11/27/2018County: MontezumaFilename: M001-006User: THMAgency 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:	\$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/uni t	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	47.71	\$93.62	\$117.55	2	\$422.34	\$235.10	\$250.00
Cat 637G w/push-pull	59.59	\$165.84	\$125.45	2	\$582.58	\$250.90	\$250.00
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: **\$1,206.13** **\$663.34** **\$1,000.00****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.	\$12.23	1	\$12.23	\$12.23

Subtotals: **\$12.23** **\$12.23**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	CORTEZ	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	45.00	mph

Total Non-Roadable Mob/Demob Cost *	\$5,243.14
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$5.44
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.22	0.22
Return Time (Hours):	0.22	0.22
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.44	0.44

JOB TIME AND COST

Total job time:	2.89	Hours
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Total job cost:	\$5,249
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