



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

May 29, 2020

Ms. Jodi Schreiber
Fremont Paving and Redi Mix, Inc.
PO Box 841
839 MacKenzie Avenue
Canon City, CO 81212

RE: Division's Financial Warranty Cost Estimates for SPN Pit (M2020-006)

Dear Ms. Schreiber,

On May 21, 2020 the Division performed a pre-operation inspection as part of the new permit application for the SPN Pit. As part of the inspection the financial warranty for the pit was calculated.

A copy of the Division's bond estimate is attached for your review. The Division will allow 14 days to review and comment on the estimate. The bond estimate for the SPN Pit will be the bond amount required once the permit is issued.

If you need additional information or have any questions, please contact me at Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, by telephone at **303-866-3567 x8114**, or by email at patrick.lennberg@state.co.us.

Sincerely,

Patrick Lennberg
Environmental Protection Specialist

cc: Jared Ebert, DRMS

ec: Jodi Schreiber, Fremont Paving & Redi-Mix jodi@arycorp.com



COST SUMMARY WORK

Task description: Cost Summary New Permit

Site: SPN Pit

Permit Action: NewPermit

Permit/Job#: M2020006

PROJECT IDENTIFICATION

Task #: 999

State: Colorado

Abbreviation: None

Date: 5/28/2020

County: Huerfano

Filename: M006-999

User: JPL

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Highwall Reduction	DOZER	1	2.70	\$500
002	Rip 1.5 acre Processing Area	RIPPER	1	2.54	\$480
003	Spread Overburden 3 ft over 36 acres	GRADER	1	12.08	\$1,193
004	Spread TS 5 inches over 36 acres	GRADER	1	33.84	\$3,341
005	Reveg	REVEGE	1	24.00	\$53,776
006	Mob/Demob	MOBILIZE	1	3.37	\$2,736
<u>SUBTOTALS:</u>				78.53	\$62,026

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 30.00
Profit: 10.00

Total = \$1,253

Total = \$651

Total = \$2,082

Total = \$6,203

TOTAL O & P = \$10,188

CONTRACT AMOUNT (direct + O & P) = \$72,214

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 4.25

Total = \$3,069

Reclamation management and/or administration: 5.00

\$3,611

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$17,368

TOTAL BOND AMOUNT (direct + indirect) = \$79,394

BULLDOZER WORKTask description: **Highwall Reduction**Site: **SPN Pit** Permit Action: **NewPermit** Permit/Job#: **M2020006****PROJECT IDENTIFICATION**

Task #: **001** State: **Colorado** Abbreviation: **None**
 Date: **5/28/2020** County: **Huerfano** Filename: **M006-001**
 User: **JPL**

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

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

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$71.52	NA
Operating Cost/Hour:	\$64.34	100
Ripper own. Cost/Hour:	\$6.80	NA
Ripper op. Cost/Hour:	\$1.17	25
Operator Cost/Hour:	\$41.24	NA
Total unit Cost/Hour:	\$185.07	
Total Fleet Cost/Hour:	\$185.07	

MATERIAL QUANTITIES

Initial Volume: **635**
 Swell factor: **1.430**
 Loose volume: **908 LCY**

Source of estimated volume: **DRMS Calculated 17.5' x 400'**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **100 feet**
 Unadjusted hourly production: **714.3 LCY/hr**

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

Average push gradient: **-5 %**
 Average site altitude: **6,000 feet**

Material weight: **3,300 lbs/LCY**Weight description: **Decomposed rock - 75% Rock, 25% Earth****Job Condition Correction Factor**Operator Skill: **0.750**Source
(AVG.)

Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4702

Adjusted unit production: 335.86 LCY/hr

Adjusted fleet production: **335.86** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.551/LCY

Total job time: **2.70** Hours

Total job cost: **\$500**

BULLDOZER RIPPING WORK

Task description: Rip 1.5 acre Processing Area

Site: SPN Pit Permit Action: NewPermit Permit/Job#: M2020006

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 5/28/2020 County: Huerfano Filename: M006-002
User: JPL

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D7R DS XR Series II Horsepower: 240
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$71.52	NA
Operating Cost/Hour:	\$64.34	100
Ripper Ownership Cost/Hour:	\$6.80	NA
Ripper Operating Cost/Hour:	\$4.69	100
Operator Cost/Hour:	\$41.24	NA
Total Unit Cost/Hour:	\$188.58	
Total Fleet Cost/Hour:	\$188.58	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 1.50 acres Rip Depth (ft): 2.45 Volume: 5,929 BCY or CCY

Source of estimated quantity: Calculated

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.45 feet/pass
Average Ripping Width: 6.50 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: 0.710 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.710 Acres/hr
Site Altitude: 6,000 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.59 Acres/hr
Adjusted Hourly Fleet Production: 0.59 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 2.55 Hours

Unit cost: \$320.097 Per acre Total job cost: \$480

MOTOR GRADER WORK

Task description: Spread Overburden 3 ft over 36 acres

Site: SPN Pit

Permit Action: NewPermit

Permit/Job#: M2020006

PROJECT IDENTIFICATION

Task #: 003

State: Colorado

Abbreviation: None

Date: 5/28/2020

County: Huerfano

Filename: M006-003

User: JPL

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 12M

Horsepower: 158

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$33.62	NA
Operating Cost/Hour:	\$34.22	100
Ripper Ownership Cost/Hour:	\$2.37	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$28.52	NA
Total Unit Cost/Hour:	\$98.71	
Total Fleet Cost/Hour:	\$98.71	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 36.00 acres

Source of estimated acreage: Permit

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>10.40</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>8.40</u>	feet
Unadjusted Hourly Unit Production:	<u>3.3091</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 6000 feet

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

Adjusted Hourly Unit Production: 2.9782 acres/Hour

Adjusted Hourly Fleet Production: 2.9782 acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 12.09 Hours

Unit cost: \$33.14 per acre Total job cost: \$1,193

MOTOR GRADER WORK

Task description: Spread TS 5 inches over 36 acres

Site: SPN Pit

Permit Action: NewPermit

Permit/Job#: M2020006

PROJECT IDENTIFICATION

Task #: 004

State: Colorado

Abbreviation: None

Date: 5/28/2020

County: Huerfano

Filename: M006-004

User: JPL

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 12M

Horsepower: 158

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$33.62	NA
Operating Cost/Hour:	\$34.22	100
Ripper Ownership Cost/Hour:	\$2.37	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$28.52	NA
Total Unit Cost/Hour:	\$98.71	
Total Fleet Cost/Hour:	\$98.71	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 36.00 acres

Source of estimated acreage: Permit

HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>45</u>	degrees
Effective Blade Length:	<u>8.50</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>6.50</u>	feet
Unadjusted Hourly Unit Production:	<u>1.1818</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 6000 feet

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

Adjusted Hourly Unit Production: 1.0636 acres/Hour

Adjusted Hourly Fleet Production: **1.0636** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **33.85** Hours

Unit cost: \$92.80 per acre Total job cost: **\$3,341**

REVEGETATION WORKTask description: RevegSite: SPN PitPermit Action: NewPermitPermit/Job#: M2020006**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 5/28/2020County: HuerfanoFilename: M006-005User: JPLAgency 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
Chisel plowing {DMG}	\$94.63
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
Total Tilling Cost/Acre	\$288.23

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.80	29.38	\$28.76
Indian Ricegrass - Paloma	1.20	3.88	\$13.35
Little Bluestem - Cimarron	0.70	4.18	\$8.74
Sideoats Grama - Butte	1.80	5.91	\$16.20
Galleta	0.40	1.46	\$8.94
Western Wheatgrass - Arriba	9.60	24.24	\$62.40
Needle and Thread	2.20	5.81	\$92.07
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78

Totals Seed Mix	18.70	79.02	\$242.23
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Application

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
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$295.00	\$590.00
Total Mulch Materials Cost/Acre				\$590.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$70.17
Total Mulch Application Cost/Acre	\$70.17

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:	36	Cost /Acre:	\$1,422.63
Estimated Failure Rate:	15%	Cost /Acre*:	\$474.23
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$51,214.68
Reseeding Job Cost:	\$2,560.84
Total Job Cost:	\$53,776
Job Hours:	24.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob**Site: **SPN Pit**Permit Action: **NewPermit**Permit/Job#: **M2020006****PROJECT IDENTIFICATION**Task #: **006**State: **Colorado**Abbreviation: **None**Date: **5/28/2020**County: **Huerfano**Filename: **M006-006**User: **JPL**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:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D7R DS XR Series II	35.93	\$78.32	\$123.81	1	\$202.13	\$123.81	\$250.00
CAT 12M	16.01	\$35.99	\$67.39	1	\$103.38	\$67.39	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$18.15	\$67.39	1	\$85.54	\$67.39	\$250.00

Subtotals: **\$391.05** **\$258.59** **\$750.00****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.	\$12.96	1	\$12.96	\$12.96

Subtotals: **\$12.96** **\$12.96**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>WALSENBURGH</u>	
Total one-way travel distance:	<u>12.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$2,727.57</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$8.89</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.34</u>	<u>0.34</u>
Return Time (Hours):	<u>0.34</u>	<u>0.34</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.69</u>	<u>0.69</u>

JOB TIME AND COST

Total job time:	<u>3.37</u>	Hours
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Total job cost:	<u>\$2,736</u>
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