



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

August 22, 2022

Jim McCuiston
JH Sand & Gravel, LLC
5960 Ln 23
Sugar City, CO 81076

RE: Division's Financial Warranty Cost Estimates for JH Sand & Gravel Pit#1 (M1979-131)

Dear Mr. McCuiston,

On July 26, 2022 the Division performed an inspection as part of the Division's Routine Monitoring Program of the JH Sand & Gravel Pit#1. As part of the inspection the financial warranty for the mine was calculated. The Division used observations made during the inspection, and permit file information during the cost estimate calculations.

A copy of the mine's estimate is attached for your review. The Division will allow 14 days or until September 5, 2022 to review and comment on the bond estimate prior to issuing a surety increase notice for the JH Sand & Gravel Pit#1. Once the surety increase is issued by the Division, the Operator will have 60 days to provide the additional financial warranty.

If you need additional information or have any questions, please contact me 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: Jim McCuiston, JH Sand & Gravel, LLC, jmccuiston@centurytel.net, jhsandgravel@gmail.com



COST SUMMARY WORK

Task description: Cost Summary

Site: JH Sand & Gravel Pit #1

Permit Action: Insp 2022

Permit/Job#: M1979131

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 8/17/2022

County: Crowley

Filename: M131-000

User: JPL

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade Highwall to 3H:1V	DOZER	1	13.20	\$2,928
002	Rip 8 acres of area	RIPPER	1	13.57	\$3,079
003a	Spread 6" topsoil over 19 acres	SCRAPER1	1	12.66	\$12,737
004	Revegetate 19 acres to rangeland	REVEGE	1	16.00	\$33,676
005	Mob/Demob	MOBILIZE	1	4.00	\$6,092
<u>SUBTOTALS:</u>				59.43	\$58,512

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$1,182

Performance bond: 1.05

Total = \$614

Job superintendent: 29.71

Total = \$2,232

Profit: 10.00

Total = \$5,851

TOTAL O & P = \$9,880

CONTRACT AMOUNT (direct + O & P) = \$68,392

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 7.39

Total = \$5,054

Reclamation management and/or administration: 5.00

\$3,420

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$18,853

TOTAL BOND AMOUNT (direct + indirect) = \$77,365

BULLDOZER WORKTask description: **Grade Highway to 3H:1V**Site: **Korinek #1 Pit**Permit Action: **Insp 2022**Permit/Job#: **M1979131****PROJECT IDENTIFICATION**Task #: **001**State: **Colorado**Abbreviation: **None**Date: **8/17/2022**County: **Crowley**Filename: **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:	\$92.78	NA
Operating Cost/Hour:	\$79.33	100
Ripper own.		
Cost/Hour:	\$8.37	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$221.78**Total Fleet Cost/Hour: **\$221.78****MATERIAL QUANTITIES**Initial Volume: **4,500**Swell factor: **1.250**Loose volume: **5,625 LCY**Source of estimated volume: **Division Est 1140' long by 20' high**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **714.3 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **-5 %**Average site altitude: **4,300 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**Operator Skill: **0.750**Source
(AVG.)

Material consistency:	1.000	(CAT HB)
Dozing method:	1.100	(50% SL)
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:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5964

Adjusted unit production: 426.01 LCY/hr

Adjusted fleet production: **426.01** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.521/LCY

Total job time: **13.20** Hours

Total job cost: **\$2,928**

BULLDOZER RIPPING WORK

Task description: Rip 8 acres of area

Site: Korinek #1 Pit

Permit Action: Insp 2022

Permit/Job#: M1979131

PROJECT IDENTIFICATION

Task #: 002

State: Colorado

Abbreviation: None

Date: 8/17/2022

County: Crowley

Filename: 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:	\$92.78	NA
Operating Cost/Hour:	\$79.33	100
Ripper Ownership Cost/Hour:	\$8.37	NA
Ripper Operating Cost/Hour:	\$4.99	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$226.77	
Total Fleet Cost/Hour:	\$226.77	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 8.00 acres

Rip Depth (ft): 2.50

Volume: 32,267

BCY or CCY

Source of estimated quantity: Field estimated

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>2.45</u>	feet/pass
Average Ripping Width:	<u>6.50</u>	feet/pass
Average Ripping Length:	<u>200.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.710</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.710 Acres/hr

Site Altitude: 4,300 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: 13.58

Hours

Unit cost: \$384.921

Per acre

Total job cost: \$3,079

SCRAPER TEAM WORKTask description: Spread 6" topsoil over 19 acresSite: JH Sand & Gravel Pit #1Permit Action: Insp 2022Permit/Job#: M1979131**PROJECT IDENTIFICATION**Task #: 003AState: ColoradoAbbreviation: NoneDate: 8/18/2022County: CrowleyFilename: M131-003aUser: JPLAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS XR Series II
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	NA	NA	25	NA	NA
Ownership cost/hour:	\$200.41	NA	NA	\$92.78	NA	NA
Operating cost/hour:	\$194.76	NA	NA	\$19.83	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	NA	NA	\$0.00	NA	NA
Operator cost/hour:	\$30.90	NA	NA	\$41.30	NA	NA
Unit Subtotals:	\$426.07	NA	NA	\$153.91	NA	NA
Number of Units:	2	0	0	1	0	0
Group Subtotals:	Work:	\$852.14	Support:	\$153.91	Maint:	\$0.00

Total work team cost/hour: \$1,006.05**MATERIAL QUANTITIES**Initial volume: 15,300

CCY

Swell factor: 1.000Loose volume: 15,300

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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: 81,600 pounds
 Payload Capacity: 30.79 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: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4300 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	2.00	4.00	6.00	1069	0.53

Haul Time: 0.53 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-2.00	4.00	2.00	2914	0.36

Return Time: 0.36 minutesTotal Scraper team cycle time: 2.39 minutesAdjusted for job conditions: 604.27 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,208.54 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,208.54 LCY/HourUnadjusted unit production/hour: 728.03 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 12.66 HoursUnit cost: \$0.832 /LCYTotal job cost: \$12,737

REVEGETATION WORKTask description: Revegetate 19 acres to rangelandSite: JH Sand and Gravel Pit #1Permit Action: Insp 2022Permit/Job#: M1979131PROJECT IDENTIFICATIONTask #: 004
Date: 8/17/2022
User: JPLState: Colorado
County: CrowleyAbbreviation: None
Filename: 004Agency or organization name: DRMSFERTILIZING**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
Ammonium nitrate, 33-0-0	120.00	pound	\$0.37	\$44.40
Triple superphosphate, 0-46-0	80.00	pound	\$0.47	\$37.60
			Total Fertilizer Materials Cost/Acre	\$82.00

Application

Description	Cost / Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
Total Fertilizer Application Cost/Acre	\$39.64

TILLING

Description	Cost / Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Blue Grama - Native	3.00	48.97	\$41.18
Sand Dropseed	0.50	59.69	\$4.88
Sideoats Grama - Vaughn	9.00	29.55	\$75.38
Galleta	4.00	14.60	\$89.40
Western Wheatgrass - Rosanna	16.00	40.40	\$92.00
Totals Seed Mix	32.50	193.20	\$302.83

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	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Total Mulch Application Cost/Acre	\$73.00

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:	19	Cost /Acre:	\$1,670.62
Estimated Failure Rate:	15%	Cost /Acre*:	\$534.83
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$31,741.78
Reseeding Job Cost:	\$1,524.27
Total Job Cost:	\$33,266
Job Hours:	16.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob**Site: **Korinek #1 Pit**Permit Action: **Insp 2022**Permit/Job#: **M1979131****PROJECT IDENTIFICATION**Task #: **005**State: **Colorado**Abbreviation: **None**Date: **8/17/2022**County: **Crowley**Filename: **005**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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

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	\$101.15	\$101.82	1	\$202.97	\$101.82	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	2	\$148.94	\$136.44	\$250.00
Cat 631G	52.50	\$200.41	\$136.92	2	\$674.66	\$273.84	\$750.00

Subtotals: **\$1,026.57** **\$512.10** **\$1,250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
---------------------	------------------------	------------	-----------------------------	-------------------------------

Subtotals: **\$0.00** **\$0.00**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	LA JUNTA	
Total one-way travel distance:	25.00	miles
Average Travel Speed:	50.00	mph

Total Non-Roadable Mob/Demob Cost *	\$6,091.81
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$0.00
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.50	0.50
Return Time (Hours):	0.50	0.50
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.00	1.00

JOB TIME AND COST

Total job time:	4.00	Hours
-----------------	------	-------

Total job cost:	\$6,092
-----------------	---------