



STATE OF  
COLORADO

Simmons - DNR, Leigh <leigh.simmons@state.co.us>

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## M1998014, Gypsum Ranch Pit, March 2023 Inspection Report

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Simmons - DNR, Leigh <leigh.simmons@state.co.us>

Thu, Apr 20, 2023 at 12:28 PM

To: "Burkey, Jason K (CRH Americas Materials)" <jason.burkey@na.crh.com>, "Bartuska, Tyra L (United Companies)" <tyra.bartuska@unitedco.com>

The report from the snowy March 23 inspection of the Gypsum Ranch Pit is attached.

Please note that action is required on your part.

Feel free to call or email with any questions.

Leigh Simmons  
Environmental Protection Specialist



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

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**M1998014\_2023InspectionReportPacket.pdf**  
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## COLORADO

Division of Reclamation,  
Mining and Safety

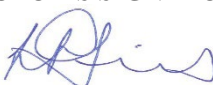
Department of Natural Resources

### MINERALS PROGRAM INSPECTION REPORT

PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

<b>MINE NAME:</b> Gypsum Ranch Pit	<b>MINE/PROSPECTING ID#:</b> M-1998-014	<b>MINERAL:</b> Sand and gravel	<b>COUNTY:</b> Eagle
<b>INSPECTION TYPE:</b> Monitoring	<b>WEATHER:</b> Clear	<b>INSP. DATE:</b> March 23, 2023	<b>INSP. TIME:</b> 09:00
<b>OPERATOR:</b> Oldcastle SW Group, Inc. dba United Companies of Mesa County	<b>OPERATOR REPRESENTATIVE:</b> Scott Barney	<b>TYPE OF OPERATION:</b> 112c - Construction Regular Operation	

<b>REASON FOR INSPECTION:</b> Normal I&E Program	<b>BOND CALCULATION TYPE:</b> Complete Bond	<b>BOND AMOUNT:</b> \$557,918.49
<b>DATE OF COMPLAINT:</b> NA	<b>POST INSP. CONTACTS:</b> None	<b>JOINT INSP. AGENCY:</b> None
<b>INSPECTOR(S):</b> Leigh Simmons	<b>INSPECTOR'S SIGNATURE:</b> 	<b>SIGNATURE DATE:</b> April 19, 2023

**The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.**

**INSPECTION TOPIC:** Financial Warranty

**PROBLEM/POSSIBLE VIOLATION:** Problem: The financial warranty is not adequate to reclaim the site in accordance with the approved reclamation plan. This is a failure to maintain the proper financial warranty amount to complete reclamation of the affected lands pursuant to C.R.S. 34-32.5-117(4)(b) of the Act.

**CORRECTIVE ACTIONS:** Please review the attached Reclamation Cost Estimate and respond with comments within 30 days. After 30 days the Division will initiate a separate Surety Increase notice to increase the financial warranty. The operator will have 60 days from the date on the Surety Increase notice to post the additional financial warranty.

**CORRECTIVE ACTION DUE DATE:** 5/19/23

## **OBSERVATIONS**

This inspection was conducted as part of the normal monitoring program established by the Colorado Division of Reclamation, Mining and Safety (Division). The inspection was conducted by Leigh Simmons of the Division, and accompanied by Scott Barney of United Companies (a subsidiary company of the permittee).

The Gypsum Ranch Pit is a 112c operation with a total permit area of 155.57 acres, located about 1 mile east of Gypsum and 5 miles west of Eagle, with access off Hwy 6. The site was active at the time of the inspection.

The pre-mining land use of the site was General Agriculture, and the site will ultimately be reclaimed to General Agriculture. Per the most recent Annual Report, 145 acres are currently affected and 5 acres at the east end of the site have been backfilled, spread with 12" of topsoil, and seeded. No increase in either disturbed or reclaimed acres were anticipated in 2023. Mr. Barney stated that 60-70,000 tons of material are typically mined from the site annually, and that several hundred thousand tons of material remained to be mined.

The locations of photos taken during the inspection are shown on the screenshot of the field map.

### **Financial Warranty:**

As is usual the Reclamation Cost Estimate (RCE) was re-evaluated following the inspection to ensure that Division continues to hold adequate financial warranty to reclaim the site. In this case no new tasks were added to the RCE, but tasks included in the most recent estimate (2017) were updated with 2023 unit costs, some deprecated equipment was updated, and some indirect costs that had been omitted from the original estimate were added. The total amount has increased significantly to \$1,101,545 (see Appendix 1).

### **Gen. Compliance with Mine Plan:**

Mr. Barney indicated that United Companies may wish to retain the ready-mix concrete plant on-site following reclamation of the rest of the site. This is a change in reclamation plan and post-mining land use that would require an amendment to the permit. For now the approved reclamation plan describes the entire site being backfilled, topsoiled, seeded and reclaimed to a post-mining land use of "general agriculture".

### **Reclamation Success:**

Snow cover at the site made an assessment of reclamation success impossible, however evidence of ongoing reclamation at the eastern end of the site was visible despite the snow.



Figure 1: Screenshot of field map (west)

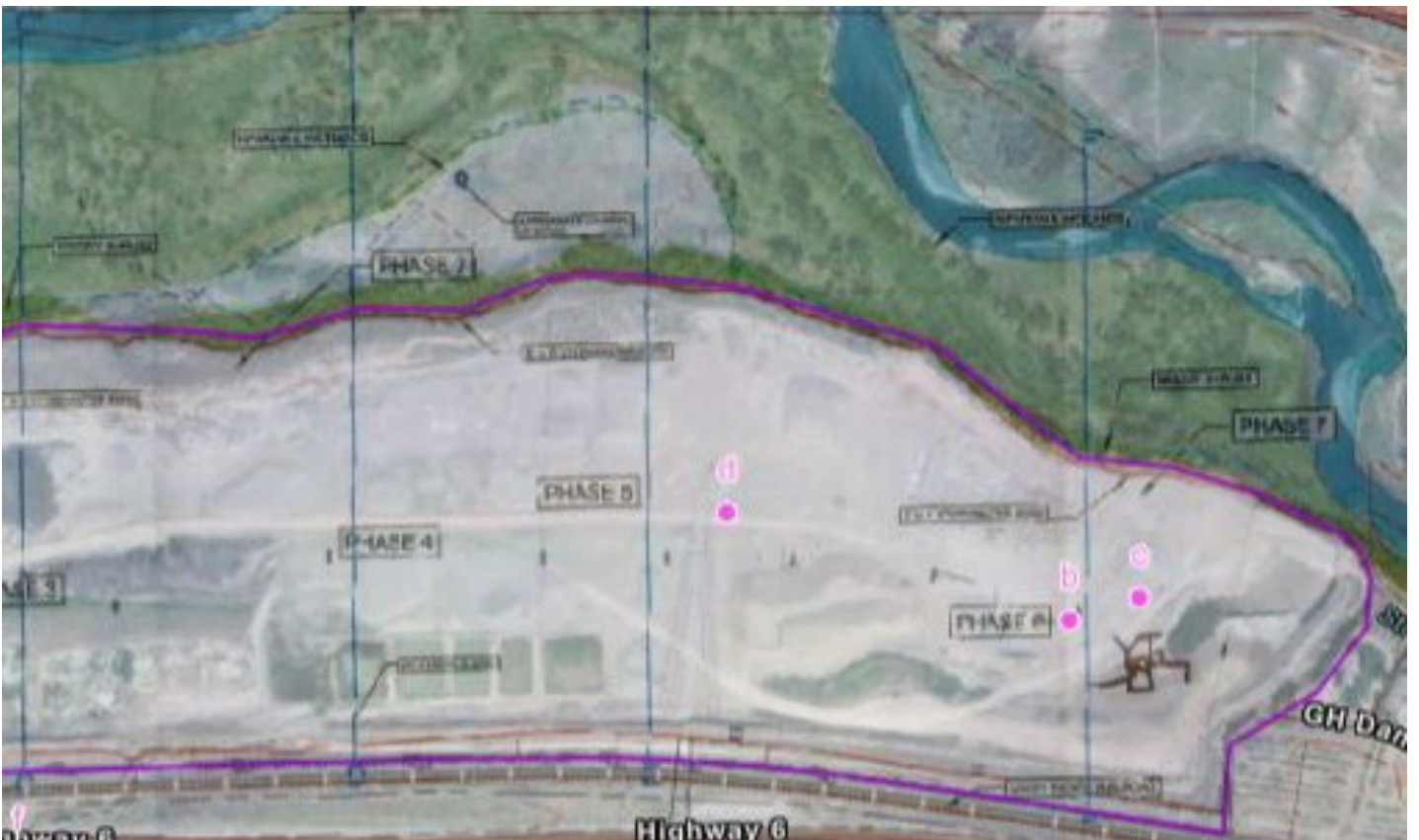


Figure 2: Screenshot of field map (east)



**PHOTOGRAPHS**



Figure 3: Car is at final level of pit floor (a)



Figure 4: Reclamation in progress at east end of site (b)





Figure 5: Overview of eastern end of site, looking west (c)



Figure 6: Crushing and screening equipment (d)





Figure 7: Ready-mix concrete facility (e)



Figure 8: Mine ID sign (f)

### GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS----- <u>N</u>	(FN) FINANCIAL WARRANTY----- <u>PB</u>	(RD) ROADS----- <u>N</u>
(HB) HYDROLOGIC BALANCE----- <u>N</u>	(BG) BACKFILL & GRADING----- <u>N</u>	(EX) EXPLOSIVES----- <u>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>Y</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>N</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>N</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

#### Inspection Contact Address

Scott Barney  
Oldcastle SW Group, Inc. dba United Companies of Mesa County  
2273 River Road  
Grand Junction, CO 81502

Enclosure:  
Appendix 1 – 2023 Reclamation Cost Estimate



## Appendix 1: 2023 Reclamation Cost Estimate

## COST SUMMARY WORK

Task description: Update of Reclamation Cost Estimate

Site: Gypsum Ranch Pit

Permit Action: 2023 Inspection

Permit/Job#: M1998014

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 4/14/2023

County: Eagle

Filename: 000-014

User: LDS

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demo/Disposal concrete batch plant and feeder bin	DEMOLISH	1	80.00	\$60,567
01b	Demo/disposal of site facilities	DEMOLISH	1	40.00	\$2,673
02a	Highwall slope reduction (Phase 1-4)	DOZER	2	174.12	\$91,861
02b	Transport backfill material	SCRAPER1	4	44.27	\$303,673
03a	Rip pit floor and access road	RIPPER	2	57.16	\$32,489
04a	Replace topsoil	SCRAPER1	4	15.57	\$106,807
05a	Distribute topsoil	DOZER	2	34.87	\$18,395
06a	Revegetate pit floor	REVEGE	1	80.00	\$202,720
06b	Revegetate slopes	REVEGE	1	40.00	\$31,795
07a	Mobilize/demobilize reclamation crew/equipment	MOBILIZE	1	3.14	\$7,385
<b><u>SUBTOTALS:</u></b>				<b>569.13</b>	<b>\$858,365</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$17,339

Performance bond: 1.05

Total = \$9,013

Job superintendent: 284.57

Total = \$21,379

Profit: 10.00

Total = \$85,836

TOTAL O & P = \$133,568

CONTRACT AMOUNT (direct + O & P) = \$991,933

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$500

Engineering work and/or contract/bid preparation: 6.00

Total = \$59,516

Reclamation management and/or administration: 5.00

\$49,597

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$243,180

**TOTAL BOND AMOUNT (direct + indirect) = \$1,101,545**



## DEMOLITION WORK

Task description: Demo/Disposal concrete batch plant and feeder bin

Site: Gypsum Ranch Pit

Permit Action: 2023 Inspection

Permit/Job#: M1998014

### PROJECT IDENTIFICATION

Task #: 01A

State: Colorado

Abbreviation: None

Date: 4/14/2023

County: Eagle

Filename: 014-01a

User: LDS

Agency or organization name: DRMS

### UNIT COSTS

Location adjustment: 102.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Concrete batch plant	20' x 24' x 65'H	Plant (3S) demo./off-site disposal in approved landfill - Max. 15 mile haul	31,200.00	CF	\$0.77	\$24,024.00
Concrete batch plant stem wall	1.5'T x 4'H x 64'L	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	384.00	SF	\$2.53	\$971.52
Concrete plant pad/wash area	20' x 24' (3)	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	1,440.00	SF	\$1.61	\$2,321.28
Plant storage building	40' x 40' x 14'H	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	22,400.00	CF	\$0.36	\$8,153.60
Plant storage building stemwall	1'T x 6'H x 126'L	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	756.00	SF	\$2.53	\$1,912.68
Conveyer	192.5'L	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	192.50	LF	\$44.51	\$8,567.98
Lower feeder bin walls and dividers	1752.65 cf., 14.5'H	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	1,752.65	SF	\$2.53	\$4,434.20
Upper feeder bin walls and dividers	3.5'H x 115'L	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	402.50	SF	\$1.68	\$676.20
Feeder bin pad	80' x 60' x 8"T	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	4,800.00	SF	\$1.61	\$7,737.60
Fuel storage facility	3'H x 96'L x 8"T	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	288.00	SF	\$1.61	\$464.26

Job Hours: 80.00

Subtotal  
(unadjusted): \$59,263.32

Total Cost  
(adjusted for location): \$60,567.11





## DEMOLITION WORK

Task description: Demo/disposal of site facilities

Site: Gypsum Ranch Pit

Permit Action: 2023 Inspection

Permit/Job#: M1998014

### PROJECT IDENTIFICATION

Task #: 01B

State: Colorado

Abbreviation: None

Date: 4/14/2023

County: Eagle

Filename: 014-01b

User: LDS

Agency or organization name: DRMS

### UNIT COSTS

Location adjustment: 102.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Office Trailer	8' x 10' x 40'	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 15 mile haul	3,200.00	CF	\$0.36	\$1,164.80
Scale	60' x 10'	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	600.00	SF	\$2.42	\$1,450.80

Job Hours: 40.00

Subtotal  
(unadjusted): \$2,615.60

Total Cost  
(adjusted for location): \$2,673.14

**BULLDOZER WORK**Task description: **Highwall slope reduction (Phase 1-4)**Site: **Gypsum Ranch Pit**Permit Action: **2023 Inspection**Permit/Job#: **M1998014****PROJECT IDENTIFICATION**Task #: **02A**State: **Colorado**Abbreviation: **None**Date: **4/14/2023**County: **Eagle**Filename: **014-02a**User: **LDS**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:	\$124.85	NA
Operating Cost/Hour:	\$97.63	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$263.78**Total Fleet Cost/Hour: **\$527.56****MATERIAL QUANTITIES**Initial Volume: **219,907**Swell factor: **1.124**Loose volume: **247,088 LCY**Source of estimated volume: **Observations made during Oct. 2010 inspection**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **1,400.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **-20 %**Average site altitude: **6,400 feet**Material weight: **2,900 lbs/LCY**Weight description: **Sand and gravel - Dry****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:	1.426	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5068

Adjusted unit production: 709.52 LCY/hr

Adjusted fleet production: **1419.04** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)

Unit cost: \$0.372/LCY

Total job time: **174.12** Hours

Total job cost: **\$91,861**

**SCRAPER TEAM WORK**Task description: **Transport backfill material**Site: **Gypsum Ranch Pit**Permit Action: 2023 InspectionPermit/Job#: M1998014**PROJECT IDENTIFICATION**Task #: 02BState: ColoradoAbbreviation: NoneDate: 4/14/2023County: EagleFilename: 014-02bUser: LDSAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 657G
-Dozer:	Cat D8T - 8SU
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:	\$429.70	\$124.85	NA	NA	NA	NA
Operating cost/hour:	\$363.82	\$97.63	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:	\$30.90	\$41.30	NA	NA	NA	NA
Unit Subtotals:	\$824.42	\$263.78	NA	NA	NA	NA
Number of Units:	8	1	0	0	0	0
Group Subtotals:	Work: \$6,859.14		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$6,859.14****MATERIAL QUANTITIES**Initial volume: 219,907

CCY

Swell factor: 1.124Loose volume: **247,088**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY  
 Material description: Sand and gravel - Dry  
 Rated Payload: 104,000 pounds  
 Payload Capacity: 35.86 LCY

Struck Volume: 32.00 LCY  
 Heaped Volume: 44.00 LCY  
 Average Volume: 38.00 LCY  
 Adjusted Capacity: **35.86** LCY

Cycle Time:

Scraper Loading Time: 1.00 Minutes  
 Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:

Site Altitude: 6400 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	2335	0.57

Haul Time: 0.57 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	2888	0.39

Return Time: 0.39 minutesTotal Scraper team cycle time: 2.56 minutesAdjusted for job conditions: 697.63 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,395.26 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 5,581.03 LCY/HourUnadjusted unit production/hour: 840.52 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 4 Team(s)Total job time: 44.27 HoursUnit cost: \$1.229 /LCYTotal job cost: \$303,673

## BULLDOZER RIPPING WORK

Task description: Rip pit floor and access road

Site: Gypsum Ranch Pit Permit Action: 2023 Inspection Permit/Job#: M1998014

### PROJECT IDENTIFICATION

Task #: 03A State: Colorado Abbreviation: None  
Date: 4/14/2023 County: Eagle Filename: 014-03a  
User: LDS

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:	\$124.85	NA
Operating Cost/Hour:	\$97.63	100
Ripper Ownership Cost/Hour:	\$13.10	NA
Ripper Operating Cost/Hour:	\$7.30	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$284.18	
Total Fleet Cost/Hour:	<b>\$568.36</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 78.00 acres Rip Depth (ft): 1.00 Volume: 125,840 BCY or CCY

Source of estimated quantity: Annual report

### 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: 500.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.822 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.822 Acres/hr  
Site Altitude: 6,400 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.68 Acres/hr  
Adjusted Hourly Fleet Production: **1.36** Acres/hr

### JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: **57.16** Hours

Unit cost: \$416.521 Per acre Total job cost: **\$32,489**



**SCRAPER TEAM WORK**Task description: **Replace topsoil**Site: **Gypsum Ranch Pit**Permit Action: 2023 InspectionPermit/Job#: M1998014**PROJECT IDENTIFICATION**Task #: 04AState: ColoradoAbbreviation: NoneDate: 4/14/2023County: EagleFilename: 014-04aUser: LDSAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 657G
-Dozer:	Cat D8T - 8SU
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:	\$429.70	\$124.85	NA	NA	NA	NA
Operating cost/hour:	\$363.82	\$97.63	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:	\$30.90	\$41.30	NA	NA	NA	NA
Unit Subtotals:	\$824.42	\$263.78	NA	NA	NA	NA
Number of Units:	8	1	0	0	0	0
Group Subtotals:	Work: \$6,859.14		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$6,859.14****MATERIAL QUANTITIES**Initial volume: 83,893

CCY

Swell factor: 1.000Loose volume: **83,893**

LCY

Source of estimated volume: 78 ac. at 8" depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>32.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>44.00</u>	LCY
Rated Payload:	<u>104,000 pounds</u>	Average Volume:	<u>38.00</u>	LCY
Payload Capacity:	<u>65.00 LCY</u>	Adjusted Capacity:	<b><u>38.00</u></b>	LCY

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

Site Altitude: 6400 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	1000.00	0.00	5.00	5.00	2335	0.65

Haul Time: 0.65 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	5.00	5.00	2888	0.56

Return Time: 0.56 minutesTotal Scraper team cycle time: 2.81 minutesAdjusted for job conditions: 673.45 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,346.90 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 5,387.62 LCY/HourUnadjusted unit production/hour: 811.39 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 4 Team(s)Total job time: 15.57 HoursUnit cost: \$1.273 /LCYTotal job cost: \$106,807

**BULLDOZER WORK**Task description: Distribute topsoilSite: Gypsum Ranch Pit Permit Action: 2023 Inspection Permit/Job#: M1998014**PROJECT IDENTIFICATION**

Task #: 05A State: Colorado Abbreviation: None  
 Date: 4/14/2023 County: Eagle Filename: 014-05a  
 User: LDS

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>\$124.85</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>\$41.30</u>	<u>NA</u>

Total unit Cost/Hour: \$263.78  
 Total Fleet Cost/Hour: **\$527.56**

**MATERIAL QUANTITIES**

Initial Volume: 83,893  
 Swell factor: 1.000  
 Loose volume: **83,893 LCY**

Source of estimated volume: 78 ac. at 8" depth  
 Source of estimated swell factor: Cat Handbook

**HOURLY PRODUCTION**

Average push distance: 50 feet  
 Unadjusted hourly production: 1,400.0 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %  
 Average site altitude: 6,400 feet

Material weight: 1,600 lbs/LCYWeight description: Top Soil

<u>Job Condition Correction Factor</u>	<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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8593

Adjusted unit production: 1,203.02 LCY/hr

Adjusted fleet production: **2406.04** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)

Unit cost: \$0.219/LCY

Total job time: **34.87** Hours

Total job cost: **\$18,395**



**REVEGETATION WORK**Task description: Revegetate pit floorSite: Gypsum Ranch PitPermit Action: 2023 InspectionPermit/Job#: M1998014**PROJECT IDENTIFICATION**Task #: 06AState: ColoradoAbbreviation: NoneDate: 4/14/2023County: EagleFilename: 014-06aUser: LDSAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
<b>Total Tilling Cost/Acre</b>	<b>\$388.83</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Meadow Brome - Regar	10.00	9.18	\$39.75
Orchardgrass - Potomac	4.00	49.59	\$17.06
Alfalfa - Ladak (inoculated)	3.00	14.46	\$7.65
Red Clover - Medium	2.00	12.40	\$26.65
Ryegrass, Perennial - Zero Nui	4.00	22.68	\$7.20
Timothy - Climax	1.00	28.70	\$1.60
<b>Totals Seed Mix</b>	<b>24.00</b>	<b>137.01</b>	<b>\$99.91</b>

**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.94	\$7.94
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
<b>Total Mulch Materials Cost/Acre</b>				<b>\$850.66</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
<b>Total Mulch Application Cost/Acre</b>	<b>\$135.72</b>

**NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
<b>Totals Nursery Stock Cost / Acre</b>					<b>\$0.00</b>

**JOB TIME AND COST**

No. of Acres: 95 Cost /Acre: \$1,707.12  
 Estimated Failure Rate: 25% Cost /Acre\*: \$1,707.12  
 \*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$162,176.40  
 Reseeding Job Cost: \$40,544.10  
 Total Job Cost: \$202,720  
 Job Hours: 80.00

**REVEGETATION WORK**Task description: Revegetate slopesSite: Gypsum Ranch PitPermit Action: 2023 InspectionPermit/Job#: M1998014**PROJECT IDENTIFICATION**Task #: 06BState: ColoradoAbbreviation: NoneDate: 4/14/2023County: EagleFilename: 014-06bUser: LDSAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

**TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
<b>Total Tilling Cost/Acre</b>	<b>\$388.83</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Arrowleaf Balsamroot	0.25	0.31	\$17.55
Bitterbrush, Antelope	0.13	0.04	\$2.44
Indian Ricegrass - Native	1.00	3.24	\$6.50
Creeping Red Fescue - Cindy	2.00	25.25	\$3.80
Bottlebrush Squirreltail	1.00	4.41	\$16.23
Sandberg Bluegrass - VNS	2.00	42.47	\$16.80
Idaho Fescue	2.00	25.25	\$18.95
Holly or Oregon Grape	0.25	0.31	\$43.88
Lupine, Silver	0.25	0.15	\$17.49

Slender Wheatgrass - Native	4.00	14.60	\$18.50
Rabbitbrush, Rubber	0.13	1.86	\$8.04
Western Wheatgrass - Native	4.00	10.10	\$24.00
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Rose, Wood's	0.25	0.00	\$5.13
Sage, Fringed	0.06	5.22	\$2.56
Sagebrush, Mountain or Big	0.13	6.60	\$2.47
Prairie Junegrass	1.00	53.15	\$26.00
Globemallow, Scarlet (or copper)	0.25	2.83	\$33.88
Sulphur Flower (or Buckwheat)	0.25	0.52	\$32.25
Yarrow, Western	0.01	0.76	\$0.52
<b>Totals Seed Mix</b>	20.95	205.39	<b>\$320.53</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Seed Application Cost/Acre</b>	<b>\$0.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.94	\$7.94
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
<b>Total Mulch Materials Cost/Acre</b>				<b>\$850.66</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
<b>Total Mulch Application Cost/Acre</b>	<b>\$135.72</b>

**NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
<b>Totals Nursery Stock Cost / Acre</b>					<b>\$0.00</b>

**JOB TIME AND COST**

No. of Acres: 15 Cost /Acre: \$1,695.74  
 Estimated Failure Rate: 25% Cost /Acre\*: \$1,695.74  
 \*Selected Replanting Work Items: TILLING,SEEDING,MULCHING  
 Initial Job Cost: **\$25,436.10**  
 Reseeding Job Cost: **\$6,359.03**



Total Job Cost:	<b>\$31,795</b>
Job Hours:	<b>40.00</b>

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: Mobilize/demobilize reclamation crew/equipmentSite: Gypsum Ranch PitPermit Action: 2023 InspectionPermit/Job#: M1998014**PROJECT IDENTIFICATION**

Task #: 07A State: Colorado Abbreviation: None  
 Date: 4/14/2023 County: Eagle Filename: M014-07a  
 User: LDS

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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
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 D8T - 8SU	53.08	\$137.95	\$136.92	2	\$549.74	\$273.84	\$500.00
Cat 657G	78.88	\$429.70	\$136.92	2	\$1,133.24	\$273.84	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00
Subtotals:					<b>\$1,757.45</b>	<b>\$615.90</b>	<b>\$1,250.00</b>

**ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$24.30	1	\$24.30	\$24.30
Subtotals:			<b>\$24.30</b>	<b>\$24.30</b>

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: EAGLE  
 Total one-way travel distance: 10.00 miles  
 Average Travel Speed: 35.00 mph

Total Non-Roadable Mob/Demob Cost \* \$7,371.10  
 ‘\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$13.89  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.29</u>	<u>0.29</u>
Return Time (Hours):	<u>0.29</u>	<u>0.29</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.57</u>	<u>0.57</u>

**JOB TIME AND COST**

Total job time: 3.14 Hours

Total job cost: \$7,385