




**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> Friederichs Pit 112	<b>MINE/PROSPECTING ID#:</b> M-2010-080	<b>MINERAL:</b> Gravel and sand	<b>COUNTY:</b> Prowers
<b>INSPECTION TYPE:</b> Monitoring	<b>INSPECTOR(S):</b> Robert Zuber, P.E.	<b>INSP. DATE:</b> October 29, 2020	<b>INSP. TIME:</b> 13:20
<b>OPERATOR:</b> Riverside Aggregates, LLC	<b>OPERATOR REPRESENTATIVE:</b> Rudy Torres	<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> \$29,300.00
<b>DATE OF COMPLAINT:</b> NA	<b>POST INSP. CONTACTS:</b> None	<b>JOINT INSP. AGENCY:</b> None
<b>WEATHER:</b> Clear	<b>INSPECTOR'S SIGNATURE:</b> 	<b>SIGNATURE DATE:</b> November 3, 2020

**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:** Signs & Markers

**PROBLEM/POSSIBLE VIOLATION:** Problem - The identification sign at the mine entrance did not contain any mention of the Division of Reclamation, Mining and Safety. This is a problem for failure to post an adequate mine identification sign as required by Section 3.1.12(1) of the rule. The Operator shall, at the entrance of the mine site, post a sign, which shall be clearly visible from the access road, with a minimum size equaling 187 square inches (such as 11 inches in height and 17 inches in width), with the following: the name of the Operator, a statement that a reclamation permit for the operation has been issued by the Colorado Division of Reclamation, Mining and Safety; and the permit number.

**CORRECTIVE ACTIONS:** The operator shall post a sign to include all required information. The operator shall submit photo documentation that a proper sign has been posted by the corrective action date.

**CORRECTIVE ACTION DUE DATE:** 1/06/21

## **OBSERVATIONS**

Rob Zuber of DRMS inspected the Friederichs Pit 112, approximately two miles southwest of Wiley, Colorado. Rudy Torres, representing Riverside Aggregates, also participated in the inspection.

The weather was clear and warm for late October. The ground was dry from limited recent moisture.

A pile of road base and a pile of trash need to be removed from the site.

### **Backfilling and Grading:**

The backfilling and grading of the site have been completed, and there is a general grade from northeast to southwest, with water directed toward the stormwater rock filter. This grading is in line with the reclamation plan.

There are some small areas that are not a continuous grade, including a low spot where cottonwood trees are growing and five berms along contours. Each berm is approximately 80 feet long and 18 inches high. Both the cottonwood patch and the berms are at the south side of the site, just up-gradient of the stormwater rock filter. This inconsistent grade does not appear to be problematic, because these areas do not look like they will pond more than a very small amount of water (less than 100 cubic feet). In fact, these area will likely help with revegetation efforts by encouraging the infiltration of water, limiting erosion, and encouraging species diversity.

### **Financial Warranty:**

The Division has updated the Reclamation Cost Estimate for the Friederichs Pit 112 and is including it with this inspection report as an enclosure. The new estimate is \$13,007. The financial warranty was found to be adequate to complete reclamation at the site.

### **Hydrologic Balance:**

No erosion or other hydrology problems were seen at the site. The stormwater rock filter appeared stable and appeared to be functioning, with no signs of flow going around this structure.

### **Off-site Damage:**

It did not appear that off-site damage is an issue. The site was walked with a GPS device, and the mine disturbance was found to be entirely within the disturbance boundary shown in the application for CN-01 (2015) and recent Annual Report maps. A bare area on the east side (north of the brush pile that is offsite) can be seen in Google Earth images, but it does not appear to be the result of mine disturbance. It is likely due to the general drought in Southeast Colorado.

### **Revegetation:**

The site was seeded in 2018, per Mr. Torres. There are some patches where the grass seed has grown.

A large amount of the site has not seen good vegetation growth, with large bare spots and kochia dominating the vegetation that exists. Re-seeding will be necessary over much of the site. Initial seeding is needed at the area around the pile of road base, approximately 0.5 acre.

Mr. Torres indicated that he does not want to mow the kochia because it functions to protect the soil from wind and stormwater runoff. The Division does not have a problem with this approach, as long as other measures are taken to improve future vegetation growth, such as re-seeding (possibly hydroseeding or drill seeding with mulching and crimping) and possibly other erosion prevention practices are implemented (e.g., erosion mats).

Signs and Markers:

The mine entrance sign was in place. It contained the mine name, operator name, operator phone numbers, and DRMS permit number. It did not say that the permit number is associated with the Division of Reclamation, Mining, and Safety. This information should be added to the sign.

Permit boundary markers (a fence) were found all around the site, and these were checked using GPS. The markers/fence appears to be accurate.

Topsoil:

Two topsoil piles remain, and total approximately 600 cubic yards. These can be used to enhance reclamation around the site, where re-seeding will be done. Most of the site has been topsoiled, per Mr. Torres.

## **PHOTOGRAPHS**



**Looking west from east side at large area of kochia plants**



**Minimal grass was seen near the northeast part of mine (topsoil stockpile on right)**



**Bare ground at north end of site**



**Stormwater rock filter**





**Good stand of grass near the cottonwood patch**



**Entrance sign lacking a reference to the Division**

### **GENERAL INSPECTION TOPICS**

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

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

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

#### **Inspection Contact Address**

Rudy Torres  
Riverside Aggregates, LLC  
30687 CR 19  
Lamar, CO 81052

Enclosure

## COST SUMMARY WORK

Task description: COST SUMMARY

Site: Friederichs Pit 112

Permit Action: RDZ 2020

Permit/Job#: M2010080

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 11/2/2020

County: Prowers

Filename: M080-000

User: RDZ

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
002	Spread topsoil	DOZER	1	2.27	\$426
003	Revegetate 6 acres to pastureland	REVEGE	1	58.00	\$9,225
004	Mobilization/Demobilization	MOBILIZE	1	4.15	\$1,305
<b><u>SUBTOTALS:</u></b>				<b>64.42</b>	<b>\$10,956</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$221

Performance bond: 1.05

Total = \$115

Job superintendent: 0.00

Total = \$0

Profit: 10.00

Total = \$1,096

TOTAL O & P = \$1,432

CONTRACT AMOUNT (direct + O & P) = \$12,388

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0

Total = \$0

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$619

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$2,051

**TOTAL BOND AMOUNT (direct + indirect) = \$13,007**



**BULLDOZER WORK**Task description: **Spread topsoil**Site: **Friederichs Pit 112**Permit Action: **RDZ 2020**Permit/Job#: **M2010080****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **11/2/2020**County: **Prowers**Filename: **M080-002**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D7R DS XR Series II**Horsepower: **240**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$74.64	NA
Operating Cost/Hour:	\$71.55	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$187.49**Total Fleet Cost/Hour: **\$187.49****MATERIAL QUANTITIES**Initial Volume: **600**Swell factor: **1.215**Loose volume: **729 LCY**Source of estimated volume: **Operator estimate and DRMS check**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **300 feet**Unadjusted hourly production: **311.1 LCY/hr**Materials consistency description: **Loose stockpile 1.2**Average push gradient: **0 %**Average site altitude: **3,785 feet**Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor**Operator Skill: **0.750**Source  
(AVG.)

Material consistency:	1.200	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
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: 1.0312

Adjusted unit production: 320.81 LCY/hr

Adjusted fleet production: **320.81** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.584/LCY

Total job time: **2.27** Hours

Total job cost: **\$426**

**REVEGETATION WORK**Task description: Revegetate 6 acres to pasturelandSite: Friederichs Pit 112Permit Action: RDZ 2020Permit/Job#: M2010080**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 11/3/2020County: ProwersFilename: M080-003User: ZTTAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	40.00	pound	\$0.27	\$10.60
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$10.60</b>

**Application**

Description	Cost /Acre
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$15.25
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$15.25</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$107.16
<b>Total Tilling Cost/Acre</b>	<b>\$107.16</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	4.00	12.95	\$35.50
Blue Grama - Lovington	1.50	24.48	\$23.96
Little Bluestem - Cimarron	3.50	20.89	\$43.69
Sideoats Grama - Vaughn	4.50	14.77	\$37.69
Western Wheatgrass - Arriba	8.00	20.20	\$52.00
<b>Totals Seed Mix</b>	<b>21.50</b>	<b>93.30</b>	<b>\$192.84</b>

**Application**

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

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

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$301.00	\$602.00
<b>Total Mulch Materials Cost/Acre</b>				<b>\$602.00</b>

**Application**

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

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 6 Cost /Acre: \$1,230.02  
 Estimated Failure Rate: 25% Cost /Acre\*: \$1,230.02  
 \*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,MU  
LCHING

Initial Job Cost: \$7,380.12  
 Reseeding Job Cost: \$1,845.03  
 Total Job Cost: \$9,225  
 Job Hours: 58.00

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilization/Demobilization**Site: **Friederichs Pit 112**Permit Action: **RDZ 2020**Permit/Job#: **M2010080****PROJECT IDENTIFICATION**Task #: **004**State: **Colorado**Abbreviation: **None**Date: **11/2/2020**County: **Prowers**Filename: **M2010080-004**User: **RDZ**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:	\$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	32.01	\$74.64	\$123.81	1	\$198.45	\$123.81	\$250.00

Subtotals: **\$198.45** **\$123.81** **\$250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Drill/Broadcast Seeder with Tractor	\$15.63	1	\$15.63	\$15.63

Subtotals: **\$15.63** **\$15.63**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: LAMAR, CO  
 Total one-way travel distance: 9.00 miles  
 Average Travel Speed: 55.00 mph

Total Non-Roadable Mob/Demob Cost \* \$1,300.04  
 \*\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$5.12  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.16	0.16
Return Time (Hours):	0.16	0.16
Loading Time (Hours):	1.00	NA
Unloading Time (Hours):	0.75	NA
Subtotals:	2.08	0.33

**JOB TIME AND COST**

Total job time: 4.15 Hours

Total job cost: \$1,305