



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.

MINE NAME: Glen Johnston Site 1	MINE/PROSPECTING ID#: M-1982-044	MINERAL: Sand and gravel	COUNTY: Teller
INSPECTION TYPE: Monitoring	INSPECTOR(S): Timothy A. Cazier	INSP. DATE: July 7, 2015	INSP. TIME: 09:15
OPERATOR: Jerry Johnston	OPERATOR REPRESENTATIVE: Jerry Johnston	TYPE OF OPERATION: 110c - Construction Limited Impact	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Partial Bond	BOND AMOUNT: \$7,500.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Foggy	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: August 11, 2016

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.

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>Y</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>Y</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>NA</u>	(CI) COMPLETE INSP---- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>Y</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>NA</u>
(AT) ACID OR TOXIC MATERIALS----- <u>NA</u>	(OD) OFF-SITE DAMAGE----- <u>Y</u>	(ST) STIPULATIONS----- <u>Y</u>

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / **PB = Problem cited** / PV = Possible violation cited

INSPECTION TOPIC: Signs & Markers

PROBLEM/POSSIBLE VIOLATION: Problem: The mine identification sign was not posted at the entrance of the mine site. This is a problem for failure to post a mine identification sign as required by Section 3.1.12(1) of the rule.

CORRECTIVE ACTIONS: The operator shall, at the entrance of the mine site, post a sign which shall be clearly visible from the access road with the following: the name of the operator, a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and the permit number. The operator shall submit photo documentation that a proper sign has been posted by the corrective action date.

CORRECTIVE ACTION DUE DATE: 9/12/16

OBSERVATIONS

This inspection was conducted as part of the Division's regular monitoring program. The Operator, Mr. Jerry Johnston was present for the inspection. The Glen Johnston Site 1 entrance is located approximately 5 miles west of Woodland Park off Hwy 24. This is a 110c sand and gravel mine. It was not operating at the time of the inspection.

Inspection:

Markers & Boundary – A mine sign was not displayed at the site entrance (see **Photo 1**). Mr. Johnston indicated the sign had recently fallen down. **The missing permit sign is cited as a problem on page 2 of this report.** The permit boundary appeared to be adequately marked with fencing and other markers.

Mining Plan – A screen was observed (see **Photo 2**) and several stockpiles of product (see **Photo 3**). Mr. Johnston indicated topsoil stockpiles were on the east side of the site (see **Photo 3**) and more was available offsite on some of his other property. Highwalls appeared to be about 2H:1V or flatter. Mining appeared to be in compliance with the approved mine plan. Mr. Johnston indicated an interest in increasing the size of the permit to 9.9 acres. I explained that would require an amendment to the permit and explained the process.

Reclamation – No reclamation had been initiated on site. However, the north facing slope in the southwest corner of the site shows signs of self-revegetation (see **Photo 4**).

Environmental – Some amount of standing water from the recent rain was observed in the active pit. Other than a few instances of Common Mullein (a List C species), no noxious weeds were observed. The Division recommends treating the Mullein before it becomes a problem.

Records:

- Revisions: **Amendment** (AM-01) was approved in 1993 to expand the pit to 7 acres; two **succession of operator** permit transfers 2, the last (SO-02) was approved in 2000.
- Commitments/Stipulations: None.
- Other Records
 - a) The total permitted area is 7.0 acres.
 - b) The previous inspection was performed on 6/15/2011. No problems were cited.
 - c) The anniversary date is April 23. Annual reports and fees are current through 2016, although no map was submitted with the 2016 annual report.
 - d) The post-mine land use is rangeland.

Bond:

The Division currently holds a \$7,500 bond. The bond has not been updated since AM-01 was approved in 1993. The Division has updated the bond using 2015 unit costs. The updated bond is estimated at \$11,880. Please review the enclosed bond calculations and provide comments to the Division by September 12, 2016. The Division will send a surety increase letter on or near September 13, 2016. If you have questions about different bond options, such as letters of credit or corporate sureties, please contact our Financial Assurance Specialist, Barbara Coria at (303)866-3567, ext. 8148

Summary and Recommendations:

1. The Operator must post a permit sign at the site entrance and provide the Division with photographic evidence of the posting by the Corrective Action Due Date shown on page 2 of this report. The sign shall include the following information as a minimum:
 - a. the name of the Operator;
 - b. a statement indicating "A reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and
 - c. the permit number.
2. The Division recommends treating the Mullein before it becomes a problem.
3. A surety increase letter for and additional \$4,380 will be sent on or near September 13, 2016.
4. Please contact the Division if you intend to increase the permit area.

Please contact Tim Cazier (303-866-3567, ext. 8169) if you have any questions regarding this report.

PHOTOGRAPHS



Photo 1. Site entrance without permit identification sign.

PHOTOGRAPHS (cont.)



Photo 2. Screen and product stockpiles (looking SW).



Photo 3. Product stockpile and topsoil stockpile, circled (looking east).

PHOTOGRAPHS (cont.)



Photo 4. SW corner of site showing signs of self-revegetation (looking SW).

Inspection Contact Address

Jerry Johnston
13800 Hwy. 24
Divide, CO 80814

Enclosure

ec: Wally Erickson, DRMS
DRMS file

COST SUMMARY WORK

Task description: 2016 Reclamation Cost Summary

Site: Glen Johnston Site 1

Permit Action: 2016 Cost Update

Permit/Job#: M1982044

PROJECT IDENTIFICATION

Task #: 160

State: Colorado

Abbreviation: None

Date: 8/10/2016

County: Teller

Filename: M044-160

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
161	Grading and Shaping	DOZER	1	11.90	\$1,515.00
162	Construct Dike	DOZER	1	4.73	\$603.00
163	Seeding/Mulching/Fertilizing	REVEGE	1	10.00	\$6,174.00
164	Mob/Demob	MOBILIZE	1	1.44	\$697.00
<u>SUBTOTALS:</u>				28.07	\$8,989

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 15.46
Profit: 10.00

Total = \$181.58

Total = \$94.38

Total = \$1,151.46

Total = \$898.90

TOTAL O & P = \$2,326.32

CONTRACT AMOUNT (direct + O & P) = \$11,315.32

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

\$565.77

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$2,892.09

TOTAL BOND AMOUNT (direct + indirect) = \$11,881.09

BULLDOZER WORKTask description: **Grading and Shaping**Site: **Glen Johnston Site 1** Permit Action: **2016 Cost Update** Permit/Job#: **M1982044****PROJECT IDENTIFICATION**

Task #: **161** State: **Colorado** Abbreviation: **None**
 Date: **8/10/2016** County: **Teller** Filename: **M044-161**
 User: **TC1**

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

Basic Machine: **Cat D6T XL**
 Horsepower: **185**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$41.63	NA
Operating Cost/Hour:	\$46.82	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: **\$127.34**
 Total Fleet Cost/Hour: **\$127.34**

MATERIAL QUANTITIES

Initial Volume: **2,420**
 Swell factor: **1.250**
 Loose volume: **3,025 LCY**

Source of estimated volume: **1 ac. grading/shaping, assume 1.5-ft depth (Orig. Cost Est.)**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **444.6 LCY/hr**

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

Average push gradient: **-10 %**
 Average site altitude: **8,960 feet**

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(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:	0.800	(FND-RF)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5719

Adjusted unit production: 254.27 LCY/hr

Adjusted fleet production: **254.27** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.501/LCY

Total job time: **11.90** Hours

Total job cost: **\$1,515**

BULLDOZER WORKTask description: **Construct Dike**Site: **Glen Johnston Site 1** Permit Action: **2016 Cost Update** Permit/Job#: **M1982044****PROJECT IDENTIFICATION**

Task #: **162** State: **Colorado** Abbreviation: **None**
 Date: **8/10/2016** County: **Teller** Filename: **M044-162**
 User: **TC1**

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

Basic Machine: **Cat D6T XL**
 Horsepower: **185**
 Blade Type: **Semi-Universal**
 Attachment: **NA**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$41.63	NA
Operating Cost/Hour:	\$46.82	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: **\$127.34**
 Total Fleet Cost/Hour: **\$127.34**

MATERIAL QUANTITIES

Initial Volume: **500**
 Swell factor: **1.330**
 Loose volume: **665 LCY**

Source of estimated volume: **Assume 6 ft H x 150 ft L w/ 2.5H:1V side slopes**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **444.6 LCY/hr**

Materials consistency description: **Dry, non-cohesive 0.8**

Average push gradient: **0 %**
 Average site altitude: **8,960 feet**

Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3159

Adjusted unit production: 140.45 LCY/hr

Adjusted fleet production: **140.45** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.907/LCY

Total job time: **4.73** Hours

Total job cost: **\$603**

REVEGETATION WORKTask description: Seeding/Mulching/FertilizingSite: Glen Johnston Site 1Permit Action: 2016 Cost UpdatePermit/Job#: M1982044**PROJECT IDENTIFICATION**Task #: 163State: ColoradoAbbreviation: NoneDate: 8/10/2016County: TellerFilename: M044-163User: TC1Agency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	40.00	pound	\$0.37	\$14.80
Triple superphosphate, 0-46-0	40.00	pound	\$0.51	\$20.40
			Total Fertilizer Materials Cost/Acre	\$35.20

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$21.34
Total Fertilizer Application Cost/Acre	\$21.34

TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.45	7.35	\$4.80
Arizona Fescue - Redondo	1.20	13.77	\$13.26
Crested Wheatgrass - Ephraim	2.00	9.18	\$4.46
Russian Wildrye - Bozoisky	1.50	6.03	\$9.38
Western Wheatgrass - Native	4.00	10.10	\$12.20
Totals Seed Mix	9.15	46.43	\$44.10

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$246.00	\$492.00
Total Mulch Materials Cost/Acre				\$492.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$66.02
Power mulcher (MEANS 32 91 13.16 0350)	\$97.14
Total Mulch Application Cost/Acre	\$163.16

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: 5 Cost /Acre: \$987.80
 Estimated Failure Rate: 25% Cost /Acre*: \$987.80
 *Selected Replanting Work Items: FERTILIZING,SEEDING,MULCHING

Initial Job Cost: **\$4,939.00**
 Reseeding Job Cost: **\$1,234.75**
 Total Job Cost: **\$6,174**
 Job Hours: **10.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob**Site: **Glen Johnston Site 1**Permit Action: 2016 Cost UpdatePermit/Job#: M1982044**PROJECT IDENTIFICATION**Task #: 164State: ColoradoAbbreviation: NoneDate: 8/10/2016County: TellerFilename: M044-164User: TC1Agency 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/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D6T XL	23.25	\$41.63	\$88.67	1	\$130.30	\$88.67	\$250.00
Subtotals:					\$130.30	\$88.67	\$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	\$52.78	1	\$52.78	\$52.78
Power Mulcher (Reinco M90)	\$26.19	1	\$26.19	\$26.19
Subtotals:			\$78.97	\$78.97

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: WOODLAND PARK
 Total one-way travel distance: 5.00 miles
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost * \$678.96
 * two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$17.55
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.11	0.11
Return Time (Hours):	0.11	0.11
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	0.72	0.22

JOB TIME AND COST

Total job time: 1.44 Hours

Total job cost: \$697