




**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><br>Pit 29                                 | <b>MINE/PROSPECTING ID#:</b><br>M-1980-183   | <b>MINERAL:</b><br>Sand and gravel                                 | <b>COUNTY:</b><br>Adams     |
| <b>INSPECTION TYPE:</b><br>Monitoring                       | <b>INSPECTOR(S):</b><br>Jared L. Ebert   | <b>INSP. DATE:</b><br>April 19, 2019                               | <b>INSP. TIME:</b><br>13:00 |
| <b>OPERATOR:</b><br>Brannan Sand and Gravel Company, L.L.C. | <b>OPERATOR REPRESENTATIVE:</b><br>Joshua Oliver   | <b>TYPE OF OPERATION:</b><br>112c - Construction Regular Operation |                             |
| <b>REASON FOR INSPECTION:</b><br>Normal I&E Program         | <b>BOND CALCULATION TYPE:</b><br>None  | <b>BOND AMOUNT:</b><br>\$1,377,450.00                              |                             |
| <b>DATE OF COMPLAINT:</b><br>NA                             | <b>POST INSP. CONTACTS:</b><br>None  | <b>JOINT INSP. AGENCY:</b><br>None                                 |                             |
| <b>WEATHER:</b><br>Clear                                    | <b>INSPECTOR'S SIGNATURE:</b><br> | <b>SIGNATURE DATE:</b><br>April 17, 2019                           |                             |

**GENERAL INSPECTION TOPICS**

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

|   |   |                                  |
|---|---|----------------------------------|
| (AR) RECORDS----- <u>N</u>                  | (FN) FINANCIAL WARRANTY----- <u>N</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>NA</u> | (TS) TOPSOIL----- <u>N</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>N</u>        | (SP) STORM WATER MGT PLAN---- <u>NA</u>   | (RS) RECL PLAN/COMP-- <u>Y</u>   |
| (ES) OVERBURDEN/DEV. WASTE----- <u>NA</u>   | (SC) EROSION/SEDIMENTATION--- <u>Y</u>    | (ST) STIPULATIONS----- <u>NA</u> |
| (AT) ACID OR TOXIC MATERIALS----- <u>N</u>  | (OD) OFF-SITE DAMAGE----- <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

## **OBSERVATIONS**

This was an inspection of Pit 29, Division of Reclamation, Mining and Safety (DRMS or Division) permit number M-1980-183 operated by Brannan Sand and Gravel Company, LLC. (Brannan). This inspection was conducted at the request of Brannan to discuss on-site the remaining reclamation requirements. Joshua Oliver and Fred Marvel with Brannan and Brad Hagen with Civil Resource a consultant for Bromley District Water Providers was in attendance.

This is a 177.67 acre 112c mining operation located in Adams County. The post mining land use approved for the site is developed water resources. The site is split into three areas; Mining Areas I, II and III. Overall, mining appears to be complete at the site with the exception of the extraction and transport of stockpiled material located in Mining Area III.

### **Backfilling and Grading:**

Mining Area I at the southern end of the site has been reclaimed as a water storage reservoir. The reservoir was holding water and the slopes above the waterline appeared stable with the exception of some bank cutting at the southern end of the lake. The bank cutting is most pronounced along the southern end of this reservoir. The slopes in this area appears to have cut due to wave action. The shore cutting is two to three feet in height in most places, however trees and shrubs has established on the cut area and dense vegetation has developed on this slope. Rip-rap has not been placed on the reclaimed slopes. It was discussed that Brannan could submit a Technical Revision to remove the requirement to rip-rap the shoreline as this is currently a requirement of the reclamation plan. Brannan will need to provide a demonstration that rip-rap will no longer be necessary for the long-term stability of the pit slopes.

Mining Area II at the center of the site is being reclaimed as a water storage reservoir. During the previous DRMS inspection, Brannon indicated the slurry wall around this cell was leaking. The reservoir operator has repaired the slurry wall and according to Mr. Hagen the slurry wall has passed the Office of the State Engineer's (SEO) leak test requirement. DRMS requests Brannan provide documentation that the SEO has certified both the Mining Area I and Mining Area II slurry walls. The majority of the slopes of the reservoir have been graded to a 3H:1V ratio or less. The slopes around the pump house located on the west side of the reservoir are steep, likely graded to a 1.5H:1V ratio. Near the southeast corner of this reservoir on the eastern reservoir slope, an area estimated to be 150 to 200 feet in length has not been graded to the required 3H:1V slope. The slope is steep to near vertical at the base at this location. Also on the southern end of the Mining Area II cell, where the slurry wall repair was completed, the slopes have been re-affected and are steeper than the required 3H:1V ratio. The reclamation plan requires all of the graded pit slopes to be at least a 3H:1V ratio. Brannan indicated they would work with the reservoir operator to complete the required earthwork.

### **Hydrologic Balance:**

As discussed above, DRMS will need documentation to confirm the slurry walls at the site have passed the SEO standards.

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

Brannan is continuing to remove stockpiled material from Mining Area III.

Reclamation Success:

Final grading of portions of the Mining Area II pit remains to be completed. The vegetation around the Mining Areas I and II primarily consists of annual weeds with sparse desired vegetation established. The slopes around Mining Area I are vegetated primarily with cheatgrass and patches of thistle were observed. The slopes around Mining Area II have sparse vegetation established around the southern and eastern pit slopes. Brannan will need to conduct appropriate weed control and possibly utilize soil amendments to help facilitate the desired vegetation establishment. Brannan will need to revegetate the site with the approved seed mixture defined in the permit.

Mining Area III contains stockpiles of material and is not currently being reclaimed at this time.

**PHOTOGRAPHS**



**Figure 1. Southern pit slopes of Mining Area II, from the southwest corner looking east.  
Slurry Wall repair area outlined in red.**



**Figure 2. From southwest corner of Mining Area II looking north.**



Figure 3. From the northeast corner of Mining Area I, looking south.



Figure 4. From the southeast corner of Mining Area I looking west. Slope cutting outlined in red.





**Figure 5. Shore cutting on the southern pit slope of Mining Area I.**

**Inspection Contact Address**

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