




**COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY**  
**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>Iverson Mine                   | <b>MINE/PROSPECTING ID#:</b><br>M-2011-001                                                                          | <b>MINERAL:</b><br>Gravel and Sand                                 | <b>COUNTY:</b><br>Weld      |
| <b>INSPECTION TYPE:</b><br>Monitoring               | <b>INSPECTOR(S):</b><br>Peter S. Hays                                                                               | <b>INSP. DATE:</b><br>March 17, 2016                               | <b>INSP. TIME:</b><br>14:00 |
| <b>OPERATOR:</b><br>Martin Marietta Materials, Inc. | <b>OPERATOR REPRESENTATIVE:</b><br>Julie Mikulas                                                                    | <b>TYPE OF OPERATION:</b><br>112c - Construction Regular Operation |                             |
| <b>REASON FOR INSPECTION:</b><br>Citizen Complaint  | <b>BOND CALCULATION TYPE:</b><br>Complete Bond                                                                      | <b>BOND AMOUNT:</b><br>\$275,300.00                                |                             |
| <b>DATE OF COMPLAINT:</b><br>2/23/16                | <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 18, 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.**

**INSPECTION TOPIC:** Backfilling and Grading

**PROBLEM/POSSIBLE VIOLATION:** Problem: Survey stakes indicating cuts from the existing grade were observed during the inspection. The landowner is concerned the overall site grade has been reduced to provide fill material for the breaches and diversion structures repairs at the site. The Operator stated the grading work is required to comply with the Letter of Map Revision (LOMR) required by the Federal Emergency Management Agency (FEMA). The Operator is required to grade the site to the pre-mining grade or lower for the LOMR.

**CORRECTIVE ACTIONS:** The Operator must submit proof of the approved LOMR to document the requirement to regrade the site when available.

**CORRECTIVE ACTION DUE DATE:** 10/18/16

**INSPECTION TOPIC:** Topsoil

**PROBLEM/POSSIBLE VIOLATION:** Problem: Survey stakes indicating cuts from the existing grade were observed during the inspection. The Division is concerned the required minimum of six (6) inches of topsoil is not being salvaged in advance of the grading work. The Operator stated the required topsoil is available and will be placed in accordance with the approved Reclamation Plan.

**CORRECTIVE ACTIONS:** The Operator must document the required minimum of six (6) inches of topsoil depth is present following the completion of grading work at the site.

**CORRECTIVE ACTION DUE DATE:** 10/18/16

**INSPECTION TOPIC:** Reclamation Success

**PROBLEM/POSSIBLE VIOLATION:** Problem: The final lake configuration, including the new areas of shoreline riprap, has been altered from the approved Reclamation Plan. This is a problem pursuant to C.R.S. 34-32.5-116 (1) for failure to follow the approved Reclamation Plan. The Operator must provide sufficient information to describe or identify how the Operator intends to conduct reclamation.

**CORRECTIVE ACTIONS:** The Operator must submit a Technical Revision, with the required \$216 revision fee, per Rule 1.9 to update and clarify the approved Reclamation Plan to reflect existing and proposed reclamation activities by the corrective action date.

**CORRECTIVE ACTION DUE DATE:** 6/18/16

**INSPECTION TOPIC:** Availability of Records

**PROBLEM/POSSIBLE VIOLATION:** Problem: The Operator stated the diversion structure designs were redesigned with additional buried riprap adjacent to the river following the 2015 flood event.

**CORRECTIVE ACTIONS:** The Operator must submit a technical revision as required by Rule 1.9, to update the diversion structures designs by the corrective action date. The technical revision shall include engineering certification and as-built drawings for the diversion structures, if available.

**CORRECTIVE ACTION DUE DATE:** 6/18/16

**INSPECTION TOPIC:** Availability of Records

**PROBLEM/POSSIBLE VIOLATION:** Problem: Rule 8.1 of the Construction Materials Rules and Regulations states, Operators shall notify the Office, as soon as reasonably practicable, but no later than twenty-four (24) hours, after the Operator has knowledge of a failure or imminent failure of an impoundment, embankment, stockpile or slope that poses a reasonable potential for danger to persons or property. The upper breach, located in the northwest corner of the site, was reported in the 2014 Annual Report received by the Division on July 25, 2014. The breach occurred on May 25, 2014, two months before the Operator notified the Division. The Operator failed to comply with the requirements of Rule 8.1.

**CORRECTIVE ACTIONS:** The Operator must submit a revised 2014 Annual Report for the Iverson Mine to describe the repair work required to fix the breach with engineering certification and as-built drawings for the repairs, if available, by the corrective action date.

**CORRECTIVE ACTION DUE DATE:** 5/18/16

**INSPECTION TOPIC:** Availability of Records

**PROBLEM/POSSIBLE VIOLATION:** Problem: Rule 8.1 of the Construction Materials Rules and Regulations states, Operators shall notify the Office, as soon as reasonably practicable, but no later than twenty-four (24) hours, after the Operator has knowledge of a failure or imminent failure of an impoundment, embankment, stockpile or slope that poses a reasonable potential for danger to persons or property. The Division received the 2015 Annual Report from the Operator on September 15, 2015. The Operator did not indicate in the report or on the map the site was breached at the diversion structures or that the diversion structures were destroyed during the flood event. The Operator failed to comply with the requirements of Rule 8.1.

**CORRECTIVE ACTIONS:** The Operator must submit a revised 2015 Annual Report for the Iverson Mine to indicate the breaches and destruction of the diversion structures (spillways) and describe the repair work required to fix the breaches and diversion structures with engineering certification and as-built drawings for the repairs, if available, by the corrective action date.

**CORRECTIVE ACTION DUE DATE:** 5/18/16

## **OBSERVATIONS**

The Iverson Mine was inspected by Peter Hays with the Division of Reclamation, Mining and Safety (Division/DRMS) for a complaint investigation. A citizen complaint (CT-01) was received by the Division on February 23, 2016 from Mr. Tim Iverson. The letter and the 2015 annual report map for the site edited by Mr. Iverson were forwarded to the Operator on February 29, 2016. Mr. Iverson is the landowner of the mine site operated by Martin Marietta Materials.

The complaint letter and map identified the following issues:

- Martin Marietta failed to report in the Annual Report filed on July 25, 2015 the two (2) diversion structures (spillways) at the site were washed away on May 12, 2015 during a flood event.
- The destruction of the spillways allowed debris to wash into the pit, causing hundreds of thousands of dollars in damage.
- The site topsoil was scavenged to fill washed away areas.
- No weed control (has been conducted at the site) at any time.

The complaint inspection began by meeting with Mr. Iverson. The site was observed and Mr. Iverson's concerns were discussed on site. The Division met with Mrs. Julie Mikulas with Martin Marietta Materials, Inc. and Mr. Gary Linden with Tetra Tech following the meeting the Mr. Iverson.

### **Diversion structures**

The approved Reclamation Plan states inflow and outflow spillways (diversion structures) will be installed in conjunction with site reclamation to control the manner in which high river flows impact the site. The spillway locations are placed to allow river water to enter and leave the pond in a manner that follows the natural flow of the river. The Army Corps of Engineers hydrologic analysis of the Cache La Poudre River at Greeley, CO, states a flow greater than 1600 cfs would overtop the Cache La Poudre River bank and flow onto the Iverson Mine property. A 1600 cfs flow is slightly greater than the 2-year peak flow of the river. The spillways for the reclamation pond are designed to convey one third of the streamflow of the river, or 533 cfs.

Rule 8.1 of the Construction Materials Rules and Regulations states, Operators shall notify the Office, as soon as reasonably practicable, but no later than twenty-four (24) hours, after the Operator has knowledge of a failure or imminent failure of an impoundment, embankment, stockpile or slope that poses a reasonable potential for danger to persons or property.

### **2014 Upper Breach**

The upper breach, located in the northwest corner of the site, was reported in the 2014 Annual Report received by the Division on July 25, 2014. The breach occurred on May 25, 2014, two months before the Operator notified the Division. The Operator failed to comply with the requirements of Rule 8.1.

**As cited as a problem, the Division will require the Operator to submit a revised 2014 Annual Report for the Iverson Mine to describe the repair work required to fix the breach.**

### **2015 Diversion Structures and Breaches**

The Division received the 2015 Annual Report from the Operator on September 15, 2015. The Operator did not indicate in the report or on the map the site was breached at the diversion structures or that the diversion

structures were destroyed during the flood event. The Operator failed to comply with the requirements of Rule 8.1.

Mr. Iverson is correct in his statement the Operator failed to report the breach of the site and the destruction of the diversion structures in the 2015 Annual Report.

The Operator stated the lack of reporting the breaches and destroyed diversion structures was an oversight since the repair of the breaches and replacement of the diversion structures was planned to occur soon after the annual report due date.

**As cited as a problem, the Division will require the Operator to submit a revised 2015 Annual Report for the Iverson Mine to indicate the breaches and destruction of the diversion structures (spillways) and describe the repair work required to fix the breaches and diversion structures.**

The Operator emailed the Division a copy of a revised 2015 Annual Report map on March 21, 2016. A complete revised 2015 Annual Report and map with an explanation of the repair work required to fix the breaches and diversion structures is still required.

The new diversion structures were installed a month and a half prior to the inspection date according to Mr. Iverson.

The Operator stated the diversion structure designs were redesigned with additional buried riprap adjacent to the river following the 2015 flood event. As cited as a problem, the Operator must submit a technical revision as required by Rule 1.9, to update the diversion structures designs.

The south shoreline in the southwest corner of the lake has been reinforced with riprap. The Operator stated the shoreline was eroded during the 2015 flood event. The riprap was installed to protect the shoreline from future erosion.

#### Debris in pit

The complaint letter stated the destruction of the spillways allowed debris to wash into the pit. The debris caused hundreds of thousands of dollars in damage to the pit according to Mr. Iverson.

An alluvial fan was observed east of the west diversion structure. No other evidence of debris in the pit was observed during the inspection. The Division is unable to verify Mr. Iverson's statement that the debris caused hundreds of thousands of dollars in damage. Mr. Iverson mailed the Division a letter following the inspection dated March 21, 2016 with pictures taken during the 2015 flood event at the site. The pictures show portions of the diversion structure, trees and deposited alluvial material in the pit. The pictures also show the breached diversion structures. The portions of the diversion structures and trees were not observed in the pit during the inspection.

#### Topsoil / Site Grading

During the inspection, Mr. Iverson was concerned the overall site grade has been reduced to provide fill material for the breaches and diversion structures repairs. Survey stakes indicating cuts from the existing grade were observed during the inspection. The Division is concerned the required minimum of six (6) inches of topsoil is not being salvaged in advance of the grading work.

The Operator stated the source of the material to backfill the breached areas was dredged from the pit. Topsoil was not used as backfill material to repair the breached areas.

The Operator stated the planned grading work is required to comply with the Letter of Map Revision (LOMR) required by the Federal Emergency Management Agency (FEMA). The Operator is required to grade the site to the pre-mining grade or lower for the LOMR. As cited as a problem, the Division will require the Operator to submit proof of the approved LOMR to document the Operators need to regrade the site. The Division will also require the Operator to document the required minimum of six (6) inches of topsoil depth is present following the completion of grading work at the site.

#### Weeds

No noxious weeds were identified during the inspection. The Operator stated the site would be seeded this spring with the approved Reclamation Plan seed mixture. The Division will require the Operator to comply with the approved Weed Control Plan to control any noxious weeds at the site.

#### Reclamation Plan

As cited as a problem, the Operator must submit a technical revision to update the Reclamation Plan to indicate the new lake configuration, including the new areas of shoreline riprap, prior to the Division's consideration of all future release request by the Operator.

Photographs taken during the inspection are attached.

**PHOTOGRAPHS**



Looking north at west end of west diversion structure



Looking east from west end of west diversion structure





Looking east from east end of west diversion structure



Looking west from east end of west diversion structure



Looking at grade stake in the southwest corner of the site



Looking at the alluvial fan east of the west diversion structure





Looking north at shoreline of repaired upper breach area



Looking southeast at repaired upper breach area



Looking east at repaired upper breach area



Looking southeast at the west end of east diversion structure





Looking northeast from the west end of the east diversion structure



Looking north at the east end of the east diversion structure





Looking southwest from east end of the east diversion structure



Looking at grade stake in the southeast corner of the site



### **GENERAL INSPECTION TOPICS**

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

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

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

#### **Inspection Contact Address**

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Fort Collins, CO 80521

CC: Wally Erickson, DRMS  
Tim Iverson, Landowner