Inspection





QATESTOCR



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:	MINE/PROSPECTING ID#:	MINERAL:	COUNTY:
Hazeltine Mine	M-2004-031	Sand and gravel	Adams
INSPECTION TYPE:	INSPECTOR(S):	INSP. DATE:	INSP. TIME:
Monitoring	Tyler V. O'Donnell	October 31, 2014	09:00
OPERATOR:	OPERATOR REPRESENTATIVE:	TYPE OF OPERATION:	
Aggregate Industries - WCR, Inc.	Connie Davis	112c - Construction Regular Operation	

REASON FOR INSPECTION: Citizen Complaint	BOND CALCULATION TYPE: None	BOND AMOUNT:
DATE OF COMPLAINT:	POST INSP. CONTACTS:	\$670,602.00 JOINT INSP. AGENCY:
On or about March 19, 2014	None	None
WEATHER: Clear	INSPECTOR'S SIGNATURE:	SIGNATURE DATE: November 5, 2014

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: Hydrologic Balance and Off-site Damage

PROBLEM: Alluvial groundwater is mounding against the slurry wall on the upgradient side of the site and causing flooding on a neighbor's property. A mitigation plan is needed to ensure compliance with C.R.S. 34-32.5-116(4)(h) and (i).

CORRECTIVE ACTIONS: CORRECTIVE ACTIONS: Submit to DRMS by November 25, 2014 a groundwater mounding mitigation plan as either a Technical Revision or Amendment to the permit. The plan must include:

- 1) A detailed description of the measures the operator will take to reduce groundwater mounding outside the Hazeltine Mine to a level that eliminates flooding on the Orr property,
- 2) A time schedule for implementing the plan, and
- 3) Enough information for DRMS to estimate the cost of implementing the plan.

CORRECTIVE ACTION DUE DATE: 11/25/14

OBSERVATIONS

This inspection was conducted by Tyler O'Donnell of the Division of Reclamation, Mining and Safety (DRMS). The inspection was conducted as a follow-up to a citizen complaint about flooding on the adjacent landowner's property, owned by Fred Orr. DRMS received an initial written complaint from Mr. Orr on September 14, 2011. The complaint explained that the Orr's property has been flooded since a slurry wall was constructed around the Hazeltine Mine in 2005. DRMS received a more recent complaint from Mr. Orr by phone on or about March 19, 2014 explaining that his property adjacent to the Hazeltine mine was still submerged. Aggregate Industries - WCR, Inc., the Operator, was represented by Connie Davis during the inspection. Fred Orr was present during the inspection. Steve O'Brian with Environment, Inc., the consultant representing Fred Orr, was also present during the inspection.

The Hazeltine Mine is located in Adams County approximately 3 miles south of Henderson, Colorado, just north of 104th Ave. and east of the South Platte River. The Hazeltine Mine is a 203.90-acre 112 Construction Materials Reclamation Permit. The approved post-mining land use is developed water resource. At the time of the inspection it was sunny. The majority of the mine was dry; the northeastern corner of the Hazeltine Mine had water stored in the pit.

The inspection began at the Orr property. The inspection consisted of a visual examination of the Orr property and a discussion of the ongoing issues detailed in the complaint. The visual inspection of the Orr property found that portions of the land surface remain submerged. DRMS visually estimates that the water level on the Orr property has dropped approximately one foot since the March 27, 2014 inspection (see photo 1 from the March 27, 2014 inspection, compared to photo 2, which was taken during the October 31,2014 inspection). DRMS believes the lowest point of the Orr property is located in the northwest corner with an approximate elevation of 5,038.5 feet. The northwest corner of the Orr property remains submerged (see photo 3 from the March 27, 2014 inspection, compared to photo 4, which was taken during the October 31, 2014 inspection). It appears that the groundwater elevation in the northwest corner of the Orr property has not changed much since the March 27, 2014 Inspection. Based on visual estimates made during the current inspection, portions of the Orr property were still covered by 1 to 2 feet of water.

Following the investigation at the Orr property, DRMS entered the mine site to observe the operation of the Agridrain that was installed in the northeast end of the Hazeltine Mine for the purpose of draining the Orr Property. Water was flowing through the Agridrain (see photo 5 from the March 27, 2014 inspection compared to photo 6, which was taken during the October 31, 2014 inspection). It appears that the Agridrain has lowered the water level in the surrounding wetlands by approximately one foot.

CONCLUSION

Although it appeared during the current inspection that the Agridrain has lowered the water level to the elevation predicted in Technical Revision No.2 (TR-02), the Orr property remains locally submerged, resulting in the Operator's failure to minimize disturbance to the prevailing hydrologic balance.

The Operator monitors alluvial groundwater levels in three monitoring wells located near the Orr property. Monitoring well MW-2 is located along the west edge of the Orr property. Monitoring wells MW-11A and MW-11B are located near the northeast corner of the Orr property. All three wells showed significant rises in alluvial groundwater levels after the construction of the slurry wall around the Hazeltine Mine in 2005. The water level in MW-2 rose from approximately 5,035 feet in the late winter and spring of 2004 to approximately 5,042 feet in the fall of 2006. MW11-A rose from approximately 5,038 feet in the late winter and spring of

2004 to approximately 5,040.20 feet in the fall of 2005. MW11-B rose from approximately 5,036 feet in the late winter and spring of 2004 to approximately 5039 feet in the fall of 2005. The Operator has indicated in several of the annual reports containing the results of the groundwater monitoring plan that the wells are inaccessible do to saturated conditions at the surface. DRMS believes the saturated conditions at the Orr property and the increases in alluvial groundwater levels in the monitoring wells are the result of alluvial groundwater mounding against the slurry wall.

Based on the observations made during this inspection and review of groundwater monitoring data, DRMS cites the mounding of alluvial groundwater on the outside of the Hazeltine Mine as a problem, and requires as a corrective action that the Operator of the mine submit to DRMS by November 25, 2014 a groundwater mounding mitigation plan. The plan must be submitted as a Technical Revision or Amendment to the permit and must include the following three items:

- 1) A detailed description of the measures the operator will take to reduce groundwater mounding outside of the Hazeltine Mine to a level that eliminates flooding on the Orr property,
- 2) A time schedule for implementing the plan, and
- 3) Enough information for DRMS to estimate the cost of implementing the plan (for establishing the amount of required financial warranty).

If the corrective action is not completed as described above, then DRMS may pursue enforcement action for:

- 1) Failure to minimize disturbance to the prevailing hydrologic balance in the surrounding area (C.R.S. 34-32.5-116(4)(h)), and
- 2) Failure to protect areas outside the affected land from damage (C.R.S. 34-32.5-116(4)(i)).

PERMIT #: M-2004-031 INSPECTOR'S INITIALS: TOD INSPECTION DATE: October 31, 2014

PHOTOGRAPHS



Photo 1: Submerged depression on the west side of the Orr property, photo taken on March 27, 2014.



Photo 2: Submerged depression on the west side of the Orr property, photo taken on October 31, 2014.



Photo 3: Northwest corner of the Orr property, photo taken on March 27, 2014.



Photo 4: Northwest corner of the Orr property, photo taken on October 31, 2014.



Photo 5: Agridrain, photo taken on March 27, 2014.



Photo 6: Agridrain, photo taken on October 31, 2014.

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>N</u>	(RD) ROADS <u>N</u>
(HB) HYDROLOGIC BALANCE <u>PB</u>	(BG) BACKFILL & GRADING <u>N</u>	(EX) EXPLOSIVES <u>N</u>
(PW) PROCESSING WASTE/TAILING <u>N</u>	(SF) PROCESSING FACILITIES <u>N</u>	(TS) TOPSOIL <u>N</u>
(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>	(SP) STORM WATER MGT PLAN <u>N</u>	(SB) COMPLETE INSP <u>N</u>
(ES) OVERBURDEN/DEV. WASTE <u>N</u>	(SC) EROSION/SEDIMENTATION <u>N</u>	(RS) RECL PLAN/COMP <u>N</u>
(AT) ACID OR TOXIC MATERIALS <u>N</u>	(OD) OFF-SITE DAMAGE <u>PB</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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