


**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: 83rd Joint Venture	MINE/PROSPECTING ID#: M-1992-069	MINERAL: Sand and gravel	COUNTY: Weld
INSPECTION TYPE: Monitoring	INSPECTOR(S): Peter S. Hays	INSP. DATE: July 12, 2016	INSP. TIME: 12:00
OPERATOR: Aggregate Industries - WCR, Inc.	OPERATOR REPRESENTATIVE: Connie Davis, Mike Refer	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Citizen Complaint	BOND CALCULATION TYPE: None	BOND AMOUNT: \$71,404.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: December 14, 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: Sediment Control

PROBLEM/POSSIBLE VIOLATION: Problem: The City of Greeley submitted a report titled "Engineering Evaluation of Nature and Causes of Erosion in Agricultural Field Adjacent to Boyd Irrigation Company Pipeline and Damage to Pipeline" by Wright Water Engineers, Inc. (WWE) dated September 2, 2016. A copy of the report was forwarded to the Operator on September 7, 2016. Aggregate Industries (AI) and their consultant are reviewing the WWE report and are preparing a response to the report, according to AI.

CORRECTIVE ACTIONS: The Division awaits a response from the Operator to the WWE report and has imposed a 30-day deadline for receipt of the Operator's response.

CORRECTIVE ACTION DUE DATE: 1/13/17

OBSERVATIONS

The 83rd Joint Venture site was inspected by Peter Hays and Wally Erickson with the Division of Reclamation, Mining and Safety (Division/DRMS) in response to complaints (CT-01 and CT-02) received on June 2, 2016 and June 3, 2016 from the City of Greeley and Boyd Irrigation Company, respectively. Mrs. Connie Davis and Mr.

Mike Refer with Aggregate Industries - WCR, Inc. (AI), and Mr. Eric Reckentine and Mrs. Christie Coleman with the City of Greeley (City) and Boyd Irrigation Company (Boyd) were present during the inspection. Copies of the complaint letters were mailed to the Operator on June 16, 2016.

The City of Greeley complaint letter requested the Division investigate and determine whether AI complied with the permit requirement of the Reclamation Plan. The City stated they want AI to stabilize the eroded west pit slope, armor the west slope to prevent further erosion and restore the City property located west of the site. The Boyd Irrigation Company complaint letter requested the Division require AI to stabilize an unstable, eroded gravel pit embankment, stabilize the Boyd's structures located adjacent to the pit and reimburse Boyd for erosion related repair costs.

The complaints are regarding flood damage which occurred in 2010 and 2013 to the Boyd Freeman Ditch and 83rd Joint Venture site and in 2014 to the Boyd Freeman Ditch, 83rd Joint Venture site and the City of Greeley "F" street property. The 2010 flood damage occurred in the southeast corner of the 83rd Joint Venture site at the 90 degree turn of the open-channel Boyd Ditch where the ditch turns from east to north. The blow-out of the ditch occurred as a result of the flood water by-passing the Boyd Freeman Ditch head gate. The flood flow exceeded the capacity of the ditch, which resulted in the failure of the ditch at the 90 degree corner. Material from the ditch failure was deposited as an alluvial fan in the 83rd Joint Venture site. The ditch was repaired by reconstructing the ditch with buried pipe adjacent to the western edge of the 83rd Joint Venture site. The 2013 flood resulted in damage to a section of the Boyd Ditch pipeline and created an erosion gully between the west bank of the 83rd Joint Venture Site and the piped Boyd Ditch. The damaged piped section of the ditch was repaired following the 2013 flood according to the Ditch Company. However, the erosion feature from the 2013 flood was apparently not repaired. The 2014 flood flowed across the "F" street property and advanced the erosion feature, originating from the 2013 flood, to the west and across the "F" street property. The 2014 flood damage to a section of the pipeline (Boyd Ditch) was repaired by the Ditch Company in 2016. However, the erosion features from the 2013 and 2014 floods were not repaired. The repaired pipeline is considered temporary by the Ditch Company due to a nonconformity in alignment and grade at the pipeline crossing of the erosion feature. Rather than backfill the erosion feature to original grade, as necessary to restore the pipeline at its former alignment and grade, the repaired section of pipeline is buried beneath the erosion feature, resulting in an abrupt "dip" or nonconformity in the alignment and grade of the pipeline.

The 83rd Joint Venture site was inspected by the Division with representatives of Aggregate Industries, City of Greeley and Boyd Irrigation Company. The City owned "F" street property, the realigned and configured section of the Boyd Ditch, portions of the west bank of the 83rd Joint Venture site, the storm water structure located in the east pit of the 83rd Joint Venture site, and the culverts under the railroad tracks located in the northeast corner of the 83rd Joint Venture site were observed during the inspection.

The Boyd Ditch pipeline has been realigned and lowered to follow the topography of the breeched portion of the AI and City properties. The pipeline was not operational at the time of the inspection due to leaking joints in the pipeline. The joints were scheduled to be repaired soon. Groundwater was flowing from the manhole and vault located in the reconstructed portion of the pipeline. The "F" Street agricultural field was being irrigated during the inspection. The continued irrigation was causing additional erosion of the gullies within the "F" Street property. The breeched section of the 83rd Joint Venture site contained evidence of two alluvial fans created during the 2013 and 2014 flood events. Water from the irrigation of the "F" Street property was observed flowing down the alluvial fans and cutting gullies through the alluvial fans.

The stormwater outlet located in the southwest corner of the east pit of the 83rd Joint Venture site and the culverts under the railroad tracks, located in the northeast corner of the east pit, were observed. The stormwater outlet was dry, evidence of recent flows was not observed. The culverts under the railroad tracks were dry, evidence of recent flows was not observed.

The approved Reclamation Plan for the site states the lake shorelines will be stabilized by grading the slopes to no greater than 3H:1V and the slopes will be stabilized with a protective vegetative cover. A structure agreement between the Operator and Boyd was not provided with the original permit application. The permit was approved with a stipulation preventing the Operator from disturbing lands within 200 feet of the Boyd ditch until a stability analysis or structure agreement was provided to the Division from the Operator. A slope stability analysis was submitted by the Operator on February 22, 1993, and approved by the Division on May 17, 1993.

The Division conducted follow-up meetings with AI, and separately with the City and Boyd, on August 26, 2016 to further discuss the complaints. Following the meeting, the City submitted a report titled "Engineering Evaluation of Nature and Causes of Erosion in Agricultural Field Adjacent to Boyd Irrigation Company Pipeline and Damage to Pipeline" by Wright Water Engineers, Inc. (WWE) dated September 2, 2016. A copy of the report was forwarded to AI on September 7, 2016. AI and their consultant are reviewing the WWE report and are preparing a response to the report, according to AI.

At this time, the evidence collected during the Division's investigation appears inconclusive. The Division awaits a response from the Operator to the WWE report and has imposed a 30-day deadline from the signature date of this inspection report for receipt of the Operator's response.

Photographs taken during the inspection are attached.

Inspection Contact Address

Mrs. Connie Davis
Aggregate Industries - WCR, Inc.
1687 Cole Blvd., Ste. 300
Golden, CO 80401

Cc: Wally Erickson, DRMS
Burt Knight, City of Greeley Director of Water & Sewer
Roger Schmidt, Boyd Irrigation Company President
Eric Reckentine, City of Greeley

PHOTOGRAPHS



View of repaired Boyd Freeman Ditch looking east into 83rd Joint Venture site



View of erosion gully through "F" Street Property looking west



View of alluvial fan in 83rd Joint Venture site looking west



View of erosion feature in "F" Street Property looking east



View of erosion feature in "F" Street Property looking west



Stormwater outlet structure in east lake of the 83rd Joint Venture site

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>N</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>	(CI) COMPLETE INSP---- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- PB	(RS) RECL PLAN/COMP-- <u>N</u>
(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