




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.

MINE NAME: Longmont Distel Operations	MINE/PROSPECTING ID#: M-1989-029	MINERAL: Sand and gravel	COUNTY: Weld
INSPECTION TYPE: Monitoring	INSPECTOR(S): Peter S. Hays	INSP. DATE: February 16, 2016	INSP. TIME: 09:00
OPERATOR: Aggregate Industries - WCR, Inc.	OPERATOR REPRESENTATIVE: Connie Davis, Mike Refer	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$1,483,800.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: March 2, 2016

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>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>	(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-- <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

OBSERVATIONS

The Longmont Distel Operations site was inspected by Peter Hays and Wally Erickson with the Division of Reclamation, Mining and Safety (Division / DRMS) to observe the flood damage at the site and discuss the proposed revised reclamation plan. The following individuals were present during the inspection: Mr. Mike Refer, Mrs. Connie Davis and Mr. Joel Bolduc with Aggregate Industries, Ms. Christine Felz with Lafarge Holcim, Mr. Nick Wolfrum, Mr. Bard Schol, Mrs. Jennifer Loper and Mr. Dan Wolford with the City of Longmont, Ms. Becky Moores, Mr. Aaron Cook and Mr. Kyle Hamilton with CH2M Hill.

The Division previously met with Aggregate Industries and City of Longmont representatives on January 29, 2016 in the DRMS office to discuss the status of the site. The Division also met with representatives of the City of Longmont on August 17, 2015 in the DRMS office to discuss the currently approved reclamation plan for the site.

Based on Annual Reports submitted by the Operator in 2014 and 2015, all extraction activity was completed at the site in 2011. Reclamation, material processing and sales are ongoing at the site. Material is conveyed from the adjacent Longmont Operation aka Tull Farm site, Permit No. M-1994-027, for processing. The processing area was active during the inspection, but was not inspected.

The St. Vrain Creek flows from west to east along the northern boundary of the site. In the 2014 Annual Report, the Operator stated reclamation activity was being evaluated due to the major flooding of the St. Vrain Creek in September 2013. During the flood event, the affected lands were inundated by flood flows. Ultimately, the affected lands captured the creek, which now flows in braided channels through the affected lands; the native channel, proximal to the affected lands, has been abandoned.

As a result of the flood damage throughout the majority of the St. Vrain Creek and its tributaries, the St. Vrain Creek Coalition was formed to initiate a master plan for the St. Vrain Creek at a watershed scale and develop a long-term flood control and stream resorption approach. The master plan, which was completed in November 2014, includes recommendations and conceptual design strategies for various reaches of the St. Vrain Creek. The Longmont Distel site is included within Reach 1 (Sandstone Reach) of the master plan.

The St. Vrain Creek Master Plan Recommendations and Conceptual Design Strategies report states the primary recommendation from the geomorphic assessment is to return the channel to the pre-flood alignment. The Division agrees with the primary recommendation. However, it is noted in the report the recommendation may be cost prohibitive.

The St. Vrain Creek Master Plan recommends two alternative plans. Alternative 1 – Split Channel proposes to preserve the pre-flood channel alignment and add an additional channel to the south of the pre-flood channel. Flow would be delivered to the pre-flood channel, which would help sustain the existing riparian vegetation in the corridor. The new channel alignment to the south would convey a majority of the flow in the reach. Flood conveyance would be improved with this alternative by eliminating constriction in the floodplain and implementing floodplain culverts to help convey flood flow through embankments. A significant amount of fill would be required to eliminate the risk of a future avulsion through the gravel mine and to allow for the construction of the confluent of the parallel channels near the downstream end of the reach.

Alternative 2 – Minor Stabilization proposes to implement only the improvements required to protect infrastructure and property that are at risk of being damaged and to implement site-specific projects to protect against major modes of failure. Major modes of failure in the reach consist of head cutting through the gravel mining sites and a potential avulsion through the pre-flood channel alignment. Most of the channel would remain in the post-flood alignment and continue to cascade through the gravel mine. The report notes the channel would continue to erode and migrate in the absence of any stabilization measure and continued erosion could eventually encroach upon Boulder Creek and adjacent private property.

The Operator and the City of Longmont have indicated to the Division they intend to implement the Minor Stabilization approach as proposed in the St. Vrain Creek Master Plan. The implementation of the plan would create major changes to the currently approved reclamation plan. The Operator has stated they plan to submit the Minor Stabilization approach as a technical revision to the permit. Rule 1.1(49) defines a technical revision as a change in the permit, which does not have more than a minor effect upon the approved Reclamation Plan. Rule 1.1(6) defines an amendment as a change in the permit which has a significant effect upon the approved Reclamation Plan. Rule 1.8.1(5) states if the Operator notifies the Office of a proposed change in the post-mining land use, the Office shall decide whether such changes in post-mining land use requires a change in the Reclamation Plan and whether such change shall require a technical revision or permit amendment. The Division does not believe the proposed change in the post-mining land use is minor and will require the Operator to submit the Minor Stabilization approach as an amendment to the permit per Rule 1.10.

The St. Vrain Creek breached the site in at least 3 locations and remains flowing through the Longmont Distel site. The approximate locations of the breaches are indicated on the attached inspection map. The Operator and the City of Longmont, the owner of a majority of the site, have stated the Army Corps of Engineers has determined the Creek should remain flowing through the site and the historic channel will be abandoned, except during high flow events when an estimated 100 CFS will flow in the historic channel. The site is incorporated into the City's open space master plan.

The City of Longmont has stated thirty million dollars of FEMA funding is available for the site to implement the Minor Stabilization approach of the St. Vrain Creek Master Plan. The FEMA funds must be spent by October 2017. The City expects to begin construction activities at the site with the FEMA funds by July 2016.

Five areas of the flood damaged site were observed during the inspection. The Breach No. 1 area was observed from the Peschel driveway. The creek has migrated approximately one thousand feet south of the historic channel, consisted of multiple braids and vertical cut banks were observed in the new stream bed. The north portion of the driveway had been temporarily backfilled to protect the structure. Additional backfilling and grading is proposed as part of the proposed Minor Stabilization approach. The City stated the south braid of the St. Vrain River along the north Peschel property boundary would be moved to the north to protect the property in the future. The FEMA funds acquired for the site cannot be used for this propose since the funds cannot be used on private property. The eagle nest northeast of the Peschel residence would also be protected as part of the Minor Stabilization approach plan.

The St. Vrain Creek was observed from the bridge over the creek from Weld County Road 1. The first breach location and the dry historic channel and flood damage west of the site were observed.

The No. 1 and No. 2 breach locations were observed from the end of the damaged St. Vrain Trail between the Sherwood and Bigelow properties. Sections of the St. Vrain trail were undermined and destroyed during the 2013 flood event. The pedestrian bridge over St. Vrain Creek in the Bigelow property was damaged during the flood. The remaining portions of the trail will be protected as part of the Minor Stabilization approach plan. A berm will be constructed in the Bigelow property east of the old trail alignment. A new trail and pedestrian bridge will be constructed over the new St. Vrain Creek channel.

The northeast portion of the site was observed from the northeast corner of the Distel property. The flood event destroyed the access road to the oil and gas well located on the property. The new St. Vrain Creek channel is constricted in this area. The constricted channel will be protected as part of the Minor Stabilization approach plan. Vertical erosion cut banks were observed at this location. The flow of the creek from the Distel property towards the east, the confluence with South Boulder Creek and the second eagle nest on the site were observed from this location.

The northeast portion of the site was observed from the former City of Longmont landfill. The elevated location allowed for views of the second eagle nest on the site, a portion of dry St. Vrain Creek historic channel and the new confluence location for the St. Vrain and South Boulder Creeks. The confluence of the creeks has moved upstream and has created approximately two hundred feet of abandoned channel of Boulder Creek.

A meeting at the City of Longmont offices followed the inspection to discuss the proposed Minor Stabilization plan. Mr. Dale Rademacher with the City of Longmont was present for the post-inspection meeting. The Minor Stabilization plan from the St. Vrain Creek Master was discussed. A representative from CH2M stated the Army Corps of Engineers 404 permit application required to complete the proposed Minor Stabilization plan was in its third public comment period and was expected to be approved next month.

Photographs taken during the inspection are attached.

Inspection Contact Address

Mrs. Connie Davis
Aggregate Industries - WCR, Inc.
1707 Cole Blvd., Ste. 100
Golden, CO 80401

Enclosure – Inspection Map

Cc: Wally Erickson, DRMS
Tony Waldron, DRMS

PHOTOGRAPHS



Looking NW at Breach No. 1 area from Peschel driveway



Looking north at Breach No. 1 area from Peschel driveway



Looking NW at Breach No. 1 area from Peschel driveway



Looking east at Breach No. 1 area from Peschel driveway



Looking west at Breach No. 1 area from south of Peschel house



Looking NE at Breach No. 1 area from south of Peschel house



Looking east from WCR No. 1 bridge



Looking north at Breach No. 1 and 2 areas from end of damaged trail.



Looking west at Breach No. 1 and 2 areas from end of damaged trail.



Looking NE from the NE corner of the Distel Property.



Looking north from the NE corner of the Distel Property.



Looking east from the NE corner of the Distel Property.

Inspection Map

Longmont Distil Operations
M-1989-029
February 16, 2016

Legend

- Approx. Breach No. 1 Location
- Approx. Breach No. 2 Location
- Approx. Breach No. 3 Location
- Approx. Current Main Channel
- Approx. Permit Boundary
- Eagle Nest
- Historic St. Vrain Creek Channel
- Inspection

