




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: Loloff Mine	MINE/PROSPECTING ID#: M-1985-112	MINERAL: Sand and gravel	COUNTY: Weld
INSPECTION TYPE: Monitoring	INSPECTOR(S): Peter S. Hays	INSP. DATE: March 11, 2016	INSP. TIME: 11:15
OPERATOR: Loloff Construction, Inc.	OPERATOR REPRESENTATIVE: Kelly Hodge	TYPE OF OPERATION: 112c - Construction Regular Operation	
REASON FOR INSPECTION: Citizen Complaint	BOND CALCULATION TYPE: None	BOND AMOUNT: \$689,552.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: March 16, 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: Hydrologic Balance

PROBLEM/POSSIBLE VIOLATION: Problem: The dewatering activity at the Loloff Mine has caused disturbances to the prevailing hydrologic balance and is affecting the groundwater well located at 417 East 8th Street, Greeley, CO 80631 owned by Mr. Tyrrell. This is a problem related to Rule 3.1.6 of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and CRS 34-32.5-116(4)(h) of the Colorado Land Reclamation Act for the Extraction of Construction Materials.

CORRECTIVE ACTIONS: Loloff Construction, Inc. must implement the approved mitigation plan for the site and work with the affected well owner to investigate and rehabilitate the well within 30 days of the mailing date of this inspection report. Failure to comply may result in the problem escalating to a possible violation and an enforcement hearing being scheduled in front of the Mined Land Reclamation Board.

CORRECTIVE ACTION DUE DATE: 4/15/16

OBSERVATIONS

The Loloff Mine was inspected by Peter Hays with the Division of Reclamation, Mining and Safety (Division/DRMS) in response to a citizen complaint (CT-07) received on March 7, 2016 from Mr. Jack Tyrrell. The complaint letter was forwarded to the Operator on March 8, 2016. The complaint letter identified the Loloff Mine as the cause of the groundwater impacts. The Tyrrell property, 417 East 8th Street, Greeley, CO 80631, is located south of the Loloff Mine.

Tyrrell Well

The Division met with Mr. Tyrrell on his property prior to inspecting the Loloff Mine site. The complaint letter states well water for the house and shop on the property were lost on February 28, 2016. The Tyrrell well is registered with the Office of the State Engineer under permit # 134824-A. The well was constructed in 1983 to a total depth of thirty five (35) feet below grade. Shale bedrock was encountered at twenty nine and a half (29.5) feet below grade. The well is approved for domestic use at a rate of 15 GPM.

The upper well casing and wellhead were observed during the inspection. The groundwater and pump elevations could not be determined during the inspection, due to the lack of an access port in the well. The well location was GPS surveyed using a Trimble Juno 3B by the Division.

Mr. Tyrrell stated Quality Well and Pump (Quality) inspected the well on February 28, 2016. Mr. Tyrrell stated Quality determined the well pumps were operational and the reason for the lack of water was insufficient groundwater in the well. The Division requested Mr. Tyrrell contact Quality for information on the depth to water, well depth and depth to the pump measured during the Quality inspection, if available. The information has not been received by the Division as of the mailing date of this inspection report. The Tyrrell well pumps to a cistern before water is pumped to the house and shop building. Mr. Tyrrell did not know the capacity of the cistern or if the cistern could be filled with delivered water as a possible short term mitigation measure for the well.

The approved Groundwater Impact Mitigation Plan for the site states should the levels in the existing wells change by 2-4 feet then Loloff Construction, Inc. will mitigate by recharging at locations along the pit to increase the levels of the groundwater so that the impact from dewatering is minimized. If the recharging method is not effective the mitigation measures would be:

1. Work with the well owner that is affected to re-set their existing pumps to a lower level in order to mitigate any flow impacts to the existing well.
2. If the method in Number 1 is not effective then drilling a new well or deepening the existing well or providing water service from the City of Greeley or North Weld Water.

The Operator is currently mitigating impacts to other wells surrounding the mine site by recharging groundwater from the mine site into the irrigation ditch along the western boundary. The recharging effect does not appear to have increased the groundwater elevations in Mr. Tyrrell's well.

Loloff Mine

The Division met with Mr. Kelly Hodge with Northern Colorado Gravel & Sand, LLC to discuss the citizen complaint at the Loloff Mine site.

The mine site was actively mining and dewatering during the inspection. The depth from the top of slope to the top of the dewatering trench in the southwest corner of the site was determined to be 30 feet based on the GPS survey result and Google Earth Pro data. Dewatering pumps with 8" diameter discharge pipes were observed in the southwest corner of the mine site. The water is discharged into a ditch which runs southeast from the site, crosses under Balsam Ave and East 8th St. and into the Ogilvy Ditch. The discharge activity is permitted under NPDES permit # COG500375.

Conclusion

Based on the GPS data and calculations from Google Earth Pro, the Division estimates the Tyrrell well is located 900 feet (275 meters) south of the southern Loloff Mine boundary. The pit radius of Loloff Mine was estimated at 270 feet (82 meters). Using the USGS Analytical and Numerical Simulation of Steady-State Hydrologic Effects of Mining Aggregate in Hypothetical Sand-and-Gravel and Fractured Crystalline-Rock Aquifers, Report 02-4267, the Division calculated a drawdown of 7.5 feet (2.3 meters) for the Tyrrell well due to the dewatering of the Loloff Mine.

The Division believes sufficient evidence exists to support the Tyrrell complaint that the current dewatering activity at the Loloff Mine is affecting the groundwater well located at 417 East 8th Street, Greeley, CO 80631. This is a problem related to Rule 3.1.6 of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and CRS 34-32.5-116(4)(h) of the Colorado Land Reclamation Act for the Extraction of Construction Materials.

As cited as a problem, Loloff Construction, Inc. must implement the approved mitigation plan for the site and work with Mr. Tyrrell to investigate and rehabilitate the well on this property within 30 days of the mailing date of this inspection report. Failure to comply with the corrective action may result in the problem escalating to possible violation and an enforcement hearing being scheduled in front of the Mined Land Reclamation Board.

The E 8th Street Operation mine site, M-2000-082, operated by Superior Oilfield Services was also inspected and a problem was cited for groundwater impacts to the Tyrrell well associated with this complaint. The cumulative effect of dewatering at both sites has caused disturbances to the prevailing hydrologic balance. The Division recommends the Operator coordinate with Superior Oilfield Services Co., LTD, to provide mitigation measures.

Photographs taken during the inspection and the inspection map are attached.

PHOTOGRAPHS



Tyrrell wellhead and casing

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>	(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

Inspection Contact Address

Mr. Randy Geist
Loloff Construction, Inc.
801 8th Street, Suite 130
Greeley, CO 80631

Enclosure – Inspection Map






Cc: Wally Erickson, DRMS
Jack Tyrrell, Well Owner
Jack Miller, Superior Oilfield Services Co., LTD
Kelly Hodge, Northern Colorado Gravel and Sand, LLC

Certified Mail No. 7014 0150 0000 9138 8854
Return Receipt Requested

Tyrrell Well Complaint Map

March 11, 2016 Inspection

Legend

-  Hill Petroleum Monitoring well
-  Loloff Mine
-  Superior MW-2
-  Superior Oilfield - E 8th Street Operation
-  Tyrrell Well

