

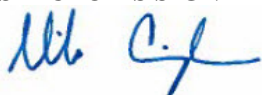
**COLORADO**Division of Reclamation,
Mining and Safety

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: Empire Pit	MINE/PROSPECTING ID#: M-1977-534	MINERAL: Sand and gravel	COUNTY: Clear Creek
INSPECTION TYPE: Surety Release Inspection	INSPECTOR(S): Michael A. Cunningham	INSP. DATE: September 1, 2017	INSP. TIME: 10:00
OPERATOR: City of Golden	OPERATOR REPRESENTATIVE: Anne Breierle, John Hardy	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$0.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: September 13, 2017

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: Revegetation

PROBLEM/POSSIBLE VIOLATION: Problem: The current reclamation plan needs to be updated and clarified pursuant to C.R.S. 34-32.5-116 (1). The operator must revise the reclamation plan to address the establishment of vegetation within portions of Phase II which currently lack vegetation.

CORRECTIVE ACTIONS: The operator shall submit a Technical Revision, with the required \$216 revision fee, to update and clarify the current approved reclamation plan to reflect existing and proposed activities by the corrective action date.

CORRECTIVE ACTION DUE DATE: 12/12/17

OBSERVATIONS

The inspection was conducted by Michael Cunningham of the Division of Reclamation, Mining and Safety (Division). Anne Beierle and John Hardy were present on behalf of the City of Golden. The landowner was represented by Glenda Guanella and Brian Buckland. The Empire Pit is located approximately one mile west of Empire, Colorado. The site is permitted for 138.58 acres and the post-mining land uses include developed water resource and pastureland.

On July 10, 2017, the Division received a request for a release from further reclamation responsibility. Pursuant to Rule 4.17.2(1), the Division sent notice of the release request to the Clear Creek County Commissioners, the Jefferson Conservation District and the owners of record of the affected land. The Division received a letter from Sally Guanella Buckland and Glenda Guanella on August 1, 2017, which outlined their objections to the release of the Empire Pit from further reclamation responsibility. The purpose of the Division's inspection was to determine if the Operator had successfully completed reclamation of the Empire Pit in accordance with the approved Reclamation Plan and the reclamation performance standards.

Reclamation Success:

The landowner's objection to the release of the site stated fencing along the southern permit boundary had only been replaced in sections. The Division reviewed the permit file and determined there is no requirement in the Reclamation Permit to replace fence around the site. In addition, the landowner's objection letter also stated grading was not properly conducted between the southern boundary of Phase II and the existing hillside to the south. The Reclamation Plan calls for grading the eastern portion of the mine (Phase II) to approximate original contour. The area the landowner is concerned with accounts for approximately 50 linear feet along the southern edge of Phase II. There is a shallow swale between the edge of the reclaimed area and the hillside to the south. The difference in elevation between the reclaimed pasture and the bottom of the swale is less than 1 foot. There is no evidence that water is being trapped along the edge of the pasture and the shallow swale does not impede the landowner's use of the pasture. The Division is satisfied that grading has been carried out in accordance with the approved Reclamation Plan.

In the landowner's objection letter, it was stated that the soils in the reclaimed pasture consist of gravel and cobble, rather than loam with humus. The soil inventory report from the Soil Conservation Service provided under Exhibit I of the Reclamation Permit describes the native soils in this area as gravelly, cobbly and sandy. The native soils were formed from glacial outwash plains and consist of very gravelly and cobbly alluvial materials. The soils in this area have been disturbed for over 40 years and it will take considerable time for humus to accumulate within the A Horizon. The Reclamation Plan does not require the Operator to import and integrate organic matter into the topsoil. The Division has found the replaced soils are consistent with the soils described in the soil inventory report.

During the last inspection, the Division noted the presence of trash throughout Phase II of the mine. Following the last inspection, the Operator removed all of the refuse from the pasture. The Division did not observe any refuse while traversing the mine site.

Revegetation:

During the inspection the Division traversed the east side (Phase II) of the Empire Pit to assess the establishment of vegetation. Phase II was previously utilized as the plant and stockpile area for the mine and has been reclaimed to pastureland. The dominant grass growing in the pasture is crested wheatgrass. However, the Division also observed perennial ryegrass and Canada bluegrass throughout the pasture. No additional seeding of the site has occurred since 2013, when all major reclamation tasks were completed. Drill rows from the last seeding can still be observed. Although, they are becoming less evident as the grasses mature and begin to fill in.

During the last inspection, the Division noted areas devoid of vegetation along the west and southwest sides of Phase II. The bare areas contain a white crust which is characteristic of saline soils. An inspection report from 1985 documents the presence of CDOT salt stockpiles in this area. It is possible the long term stockpiling of road salt contributed to the saline soil conditions. The failure to adequately establish vegetation along portions of the west and southwest sides of Phase II has been cited as a problem and will require corrective action from the Operator. The reclamation plan will need to be revised to address the establishment of vegetation in these areas. Please see the first page of this report for additional information.

Noxious weeds have been previously documented at the site including, Canada thistle, chamomile, yellow toadflax and diffuse knapweed. The City of Golden has continued to monitor and treat the noxious weeds annually and there are noticeably fewer occurrences of noxious weeds at the site. During this inspection, the Division only observed Canada thistle and chamomile along the perimeter of the pasture and along the reservoir's outflow channel. The noxious weeds adjacent to the outflow channel were identified as a problem during the inspection. The Operator promptly removed the noxious weeds along the outflow channel and provided documentation of this work immediately following the inspection. The Division also observed Kochia throughout the pasture. Kochia is not a state listed noxious weed and does provide some forage value during early growth stages, but its presence should be monitored to ensure that it does not outcompete the desired vegetation at the site. Pursuant to Rule 3.1.10(6), weed control methods shall be employed whenever invasion of a reclaimed area by other weeds threatens the continued development of the desired vegetation.

Sediment Control:

The Division inspected the access road along the northern portion of Phase II. During the last inspection, the Division cited a problem for erosion along the access road. The Operator made the necessary repairs to the access road, which included installing erosion control netting and rock check dams. The repairs which were made have been effective and no additional erosion was noted in this area. In addition, the Division inspected an area along the northeastern boundary of Phase II on the slope between the upland terrace and the lower floodplain. Rills and gullies had formed on the slope and the Operator repaired them by armoring the slope with riprap.

Notice of the Division's decision regarding the release request will be sent under separate cover. This concluded the inspection.

PHOTOGRAPHS



1. Overview of Phase II, facing west.



2. Overview of Phase II, facing east.



3. Vegetation establishment in Phase II.



4. Area requiring revegetation, southwest corner of Phase II.



5. Area requiring revegetation, west side of Phase II.



6. Erosion repair along northeast corner of Phase II.



7. Erosion repair along access road.



8. Erosion repair along access road.



9. Overview of reservoir in Phase I.



10. Overview of reservoir in Phase I.

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>NA</u>	(RD) ROADS----- <u>N</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>N</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>PB</u>
(SM) SIGNS AND MARKERS----- <u>N</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(CI) COMPLETE INSP---- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(AT) ACID OR TOXIC MATERIALS----- <u>NA</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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