




MINERALS PROGRAM INSPECTION REPORT
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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: Goose Haven Reservoir #2- Complex Expans	MINE/PROSPECTING ID#: M-2010-071	MINERAL: Borrow material for d	COUNTY: Boulder
INSPECTION TYPE: Preoperation Inspection	INSPECTOR(S): Brock Bowles	INSP. DATE: May 10, 2022	INSP. TIME: 10:00
OPERATOR: The City of Lafayette	OPERATOR REPRESENTATIVE: Doug Bokelman	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Preoperation Inspection	BOND CALCULATION TYPE: None	BOND AMOUNT: No Bond Held
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: May 20, 2022

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: Topsoil

PROBLEM/POSSIBLE VIOLATION: Problem: The topsoil stockpiles are not stored in places and configurations to minimize erosion and are not located in areas where disturbance by ongoing mining operations are minimized (Rule 3.1.9(3)). Rule 3.1.9(1) states if topsoil is not replaced into the backfill area within a time short enough to avoid deterioration of the topsoil, vegetative cover or other means shall be employed so that the topsoil is protected from erosion. The topsoil stockpiles do not have established vegetation on them and are therefore susceptible to erosion. Stockpiles are to be protected from toxic materials such as diesel fuel (Rule 3.1.9(1)).

CORRECTIVE ACTIONS: The permittee needs to submit a technical revision to the permit along with the appropriate \$216 revision fee to the Division by the corrective action date, outlining a plan for testing, revitalizing, storage, erosion control, seeding and signage for the topsoil stockpiles.

CORRECTIVE ACTION DUE DATE: 7/19/22

OBSERVATIONS

This inspection was conducted by Brock Bowles of the Division of Reclamation, Mining and Safety (Division). Doug Bokelman of Rock Products of Colorado (operator) was present during the inspection. The permittee, City of Lafayette was not present for the inspection. The Goose Haven Pit is located about 2 miles north of Lafayette. The site is an active 112c operation with 232.0 acres permitted and the post mining land use is developed water resource. The weather during the inspection was mostly sunny, warm and the ground was dry.

This inspection was conducted as part of the AM2 application process. AM2 was submitted to comply with the Board Order dated July 19, 2021, for constructing a new clay-lined reservoir, Cell 2A, in the area designated for topsoil and overburden storage. AM2 was deemed complete on October 11, 2021. The original decision date was February 18, 2022. The operator has requested two decision date extensions with the current decision date of May 22, 2022.

AM2 is proposing to add a new Cell 2A that will be a clay lined reservoir with a low hazard jurisdictional embankment dam. The focus of this inspection was the proposed Cell 2A clay lined reservoir.

No mining was taking place in the Cell 2A area. The pit is about 80% complete as noted in the previous April 7, 2021 inspection report. The pit is about 35 acres in size and 30 feet deep on the east side and 10 feet deep on the western side. The west, north and east sides of the reservoir is proposed to be a dam with a 15 foot maximum height above natural grade. No work has been done on the dam above natural grade (photo 1). with an access road at the toe of the dam (photo 1).

The north toe of the dam will be 15 feet away from the permit/property boundary. This area will contain an access road for dam inspection and maintenance. A surface water drainage swale directing water around the reservoir is proposed to be installed north of the access road, on the adjacent property beyond the permit boundary (photo 2). The details are still being worked out with the adjacent landowner. The Division will determine if the area of the swale needs to be incorporated into the permit after the swale design is submitted and reviewed as part of the AM2 permitting process.

The clay liner has been installed up to natural grade on the northeast, northern and western sections of the pit area (photo 3). The northeast inside corner of the pit area has been graded to approximately 3h:1v (photo 4). Some final grading will done before riprap is installed.

A perimeter drain was installed on the outside of the clay liner at the bottom of the liner, near bedrock (photo 5). The purpose of the pipe is to drain any ground water that may accumulate next to the clay liner. The pipe directs the water to the northeast corner of Cell 2A to a pump, where it is discharged. This drainage system was not described in the AM2 application and needs to be added to the application as part of the AM2 adequacy questions process.

The topsoil stockpiles are located on the south side of the permit area. The pile is several acres is size, graded flat for most of the area with a couple of small piles on the perimeter (photo 6). The stockpile was being used to store equipment, tractors, screening equipment (photo 7) and a diesel generator and fuel tank (photo 8). According to Mr. Bokelman, topsoil was being run through the screen.

Topsoil stockpiles are required to be stored in places and configurations which minimize erosion and located in areas where disturbance by ongoing mining operations are minimized (Rule 3.1.9(3)). Topsoil stockpiles are also required to have established vegetation to protect them from erosion (Rule 3.1.9(1)). Stockpiles are to be

protected from toxic materials such as diesel fuel (Rule 3.1.9(1)). Stockpiles need to be handled as little as possible and should not be run through screening equipment (Rule 3.1.9(4)).

Topsoil is a valuable asset needed for the reclamation of a mine site. Topsoil contains organic matter and microbes which need air, water and living vegetation to survive. Without these components, the topsoil will not support vegetation and any reclamation effort will be hampered. This topsoil has been damaged by excessive compaction, excessive handling, exposure to toxic materials, being run through a screen and a lack of vegetation.

The permittee needs to submit a technical revision to the permit along with the appropriate \$216 revision fee to the Division by the corrective action date outlining a plan addressing the following: how much topsoil is required for reclamation, a map showing location and quantity of each stockpile, the expected timeline for topsoil redistribution, de-compaction, steps/amendments to revitalize the topsoil (testing may be required to determine what is needed), seed mix, stockpile signs, and erosion control measures (berms, wattles, mulch etc.)

The Division requires that the topsoil plan be created with the assistance of a qualified soils expert, NRCS or CSU Extension.

Mr. Bokelman was asked to remove the equipment from on top of the topsoil pile but **don't do anything else until the City of Lafayette obtains an approved plan by the Division.**

PHOTOGRAPHS



Photo 1 – Proposed north embankment dam area, facing west



Photo 2 – Stakes marking easement area for surface water swale.



Photo 3 – Top of clay liner at natural grade



Photo 4 – Northeast corner of pit area



Photo 5 – Vertical cleanout pipe indicating location of subsurface perimeter drain



Photo 6 – Topsoil stockpile graded flat and compacted.



Photo 7 – Screening equipment and tractor parked on topsoil pile.



Photo 8 – Diesel generator and tank on topsoil pile

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>PB</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>	(RS) RECL PLAN/COMP-- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>N</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

Inspection Contact Address

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Enclosure

CC: