



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: Gold Hill Mill	MINE/PROSPECTING ID#: M-1994-117	MINERAL: Gold and silver	COUNTY: Boulder
INSPECTION TYPE: Preoperation Inspection	WEATHER: Clear	INSP. DATE: October 24, 2023	INSP. TIME: 09:00
OPERATOR: Colorado Milling Company, LLC	OPERATOR REPRESENTATIVE: Ben Langenfeld and Lewis Perkins	TYPE OF OPERATION: 110(2) - Hard Rock Limited Impact	

REASON FOR INSPECTION: Preoperation Inspection	BOND CALCULATION TYPE: None	BOND AMOUNT: \$77,546.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
INSPECTOR(S): Patrick Lennberg Lucas West Timothy Cazier, P.E.	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: November 9, 2023

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: Acid And Toxic Materials

PROBLEM: Improper storage and presence of hazardous materials on site. During the inspection, 2 barrels of Xanthate, a half pallet of Soda Ash, one barrel of MIBC, several frothing and flotation agents and a few unlabeled containers were observed without secondary containment.

CORRECTIVE ACTIONS: All storage tanks, petroleum and any hazardous materials on site for any period of time shall have appropriate secondary containment. The operator shall provide photo documentation that all hazardous material containers have been removed from the site on or before the corrective action date. Additionally, the Operator shall provide documentation that the hazardous materials have been properly disposed of at a certified disposal facility.

CORRECTIVE ACTION DUE DATE: 11/24/23

OBSERVATIONS

The Gold Hill Mill (Permit No. M-1994-117) site was inspected by Patrick Lennberg, Lucas West and Tim Cazier of the Division of Reclamation, Mining and Safety (Division/DRMS). The inspection was a Pre-Operation inspection for the conversion application 1 (CN-1), received by the Division on September 13, 2022. The operator, Colorado Milling Company, LLC, was represented by Ben Langenfeld and Lewis Perkins during the inspection. The site was previously inspected by the Division on July 14, 2020 as part of the Division's routine monitoring inspection program. The weather was clear and mild.

The Gold Hill Mill is located approximately 10 miles northwest of Boulder, CO in Boulder County. Access to the site is off of Sunshine Canyon Drive. Currently, the site is 110(2) limited impact permitted for 9.2 acres. A mine sign was observed at the entrance to the mine as required by Rule 3.1.12. Photos 1-36 taken during the inspection are included with this report.

This is a 110(2) operation permitted for 9.2 acres, as of Amendment No. 1 (AM-1; approved on September 18, 2019), to process gold and silver ores. The permit area consists of three areas: the mill site (at the top of Gold Hill), the water pipeline (which runs up Lick Skillet Gulch from Left Hand Creek to the Times Mine portal), and an area adjacent to the creek (where water will be pumped from the creek). The mill site includes a mill facility, a small tailings impoundment, and an ore stockpile. AM-1 added the water pipeline and associated infrastructure and the Times Mine portal to the permit to allow the operator to pump water from the creek to the portal to store in the Times and Wynona Mines for use by the mill operation.

The affected lands consist of several patented mining claims owned by Colorado Milling Company, LLC, some unpatented claims managed by the U.S. Bureau of Land Management (BLM) and a portion of land on Left Hand Creek managed by the U. S. Forest Service. The pipeline easement is on land owned by Boulder County Parks and Open Space. Access to the pipeline will be via three historic mine roads off Lickskillet Road and one historic mine road off Sunshine Canyon Drive (for the Times Mine portal area). The pump station area near the creek will be accessed via a 3 foot wide path off Lickskillet Road and is located entirely on U. S. Forest Service land. The approved post-mining land use for the site is forestry.

The reclamation plan includes removing the pipeline and associated infrastructure, decommissioning the bulkhead at the Times Mine adit, sealing the Times Mine portal, removing the fencing from around the tailings impoundment at the mill site, grading the tailings to nearly flat, placing a 2-foot thick rock capillary barrier on top of the tailings (material derived from the mine dump screening operation), replacing 3-4 inches of topsoil across the top of the rock capillary barrier, and revegetating disturbed areas with grasses, shrubs, and trees. The footprint of the ore stockpile will not be revegetated for reclamation as it will be used for equipment storage and parking. The mill building will remain after reclamation. The existing access road will remain after reclamation.

The conversion application (CN-1) that was submitted is to convert the 110(2) permit to a Designated Mining Operation (DMO) or a 110d. Since the Operator is not increasing the currently approved acreage the permit does not need to be 112d. The DMO is required pursuant to Rule 1.1(19) as designated chemicals are defined as toxic or acidic chemicals will be used within the permit area in extractive metallurgical processing, the use of which, at certain concentrations, represents a potential threat to human health, property or the environment. Chemicals used in the milling process at the Gold Hill Mill are considered designated chemicals

thus a DMO conversion is required. Additionally, submittal of the conversion application was a commitment made during the AM-1 process.

During this inspection three primary areas were inspected; inside the Mill Building, outside the Mill Building and the Tailings Storage Facility (TSF). The site was not active at the time of inspection.

Inside the Mill Building the majority equipment had been cleaned since it was last used and only routine maintenance has been performed. The tour of the building evaluated the types and future requirements of an Environmental Protection Plan as well as the designs as an Environmental Protection Facility. During the tour it was discovered that there were at least two 55-gallon drums of Xanthate and one of MIBC (Methyl Isobutyl Carbinol) that are not in secondary containment and additionally the facility is not approved to house toxic chemicals. The improper containment and presence of toxic materials at the site has been cited as a problem within this report. It was also noted there were several other containers, of various sizes, of unknown liquids that are also being stored at the site along with bags, about a half pallets worth, of soda ash which is also a designated chemical. The Operator at the time of inspection committed to removing all containers and hazardous chemicals from the site and properly disposing of them using a certified contractor.

During the tour of the Mill building it was noted there was not adequate secondary containment for any of the vessels in the building. There were numerous floor drains where the precise outfall was unknown. A man door on the lowest floor did not fully seal and is located adjacent to the Gravity Process Thickener, Floatation Cells and Tailing Slurry Line. Located at the bottom of the Gravity Process Thickener there is a floor drain that is accessed by a ladder and exits out the bottom of the building through a small door way.

During the Tailings Storage Facility (TSF) inspection it was noted that there was woody vegetation (small coniferous trees) growing inside the TSF and along the anchor trench location. Moving around the TSF counterclockwise the Division noted animal burrows within the tailings material near the southern most portion. Animal burrows were also found along the southern portion of the TSF between the fence and the top of liner. Burrows were also noted outside of the fence as well.

On the exposed portions of the liner the Division noted several locations where it appears patches on the liner are peeling away. Additionally, numerous cracks and tears through the liner were noted. In the eastern most area of the TSF there is patch (~ 6 inches by ~3 inches) that has peeled away and exposed the embankment material below. The Division measured the approximate depth from this patch to the tailings material in the TSF and found that it was less than 12 inches. The Division measured other areas around the TSF to determine how much available freeboard there was and found depth to tailings material varied but appeared to be 2 feet or less. In one location there was two feet of freeboard but only a foot of depth from where there was a crack through the liner.

The Division observed several location around the TSF where it appears tee-posts have been driven into the embankment in the area where the anchor trench is located. Along the northwestern portion it appears the liner material that should be buried in the anchor trench has been exposed and now may only be buried by a few inches of material.

The diversion ditch along the northern perimeter of the TSF is heavily vegetated and needs maintenance to insure proper functionality. The design capacity of the diversion ditch is under review as part of CN-1 and may require improvements beyond the needed maintenance.

Outside of the Mill Building, the ore storage area and ramp to where material is loaded into the Mill was observed.

The financial warranty was not recalculated as part of this inspection. The Division is waiting on responses to the adequacy review letters to obtain sufficient detail to accurately calculate a financial warranty, as needed.

Photographs taken during the inspection are attached.

Please contact Patrick Lennberg (303)866-3567 ext. 8114 or email at patrick.lennberg@state.co.us if you have any questions regarding this report.

Inspection Contact Address

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PHOTOGRAPHS



Photo 1: Mine sign at primary mine entrance and DMO Notice sign



Photo 2: Inside the mill, yellow arrow shows the location of the Xanthate drum and circle shows the location of other chemicals



Photo 3: Frother heads and gravity thickener (right) the man door (center right) does not completely seal



Photo 4: Location where other chemicals were stored, blurry photo due to low light conditions



Photo 5: Floor drain in mill building, undetermined if it had an outlet or not



Photo 6: Man door on the lowest level of mill building not completely sealing



Photo 7: Drain located at the bottom of the Gravity Process Thickener, door to the left of the ladder exits the building



Photo 8: Woody vegetation growing in the TSF and the red bush to the left of photo is growing in the approximate location of the anchor trench



Photo 9: Vegetation growing in the TSF looking east



Photo 10: Vegetation growing in the anchor trench of the TSF, looking south



Photo 11: Typical conditions of patches at the TSF



Photo 12: Close-up of patch, note peeling at edges



Photo 13: A view of the southern TSF embankment, looking NE, overhead line was used to deposit tailings into the pond



Photo 14: Animal borings in TSF



Photo 15: Typical crack in TSF liner



Photo 16: Vegetation growing in the anchor trench of the TSF, looking SW



Photo 17: Crack in TSF liner with exposed subgrade material



Photo 18: Looking SW along the TSF fenceline

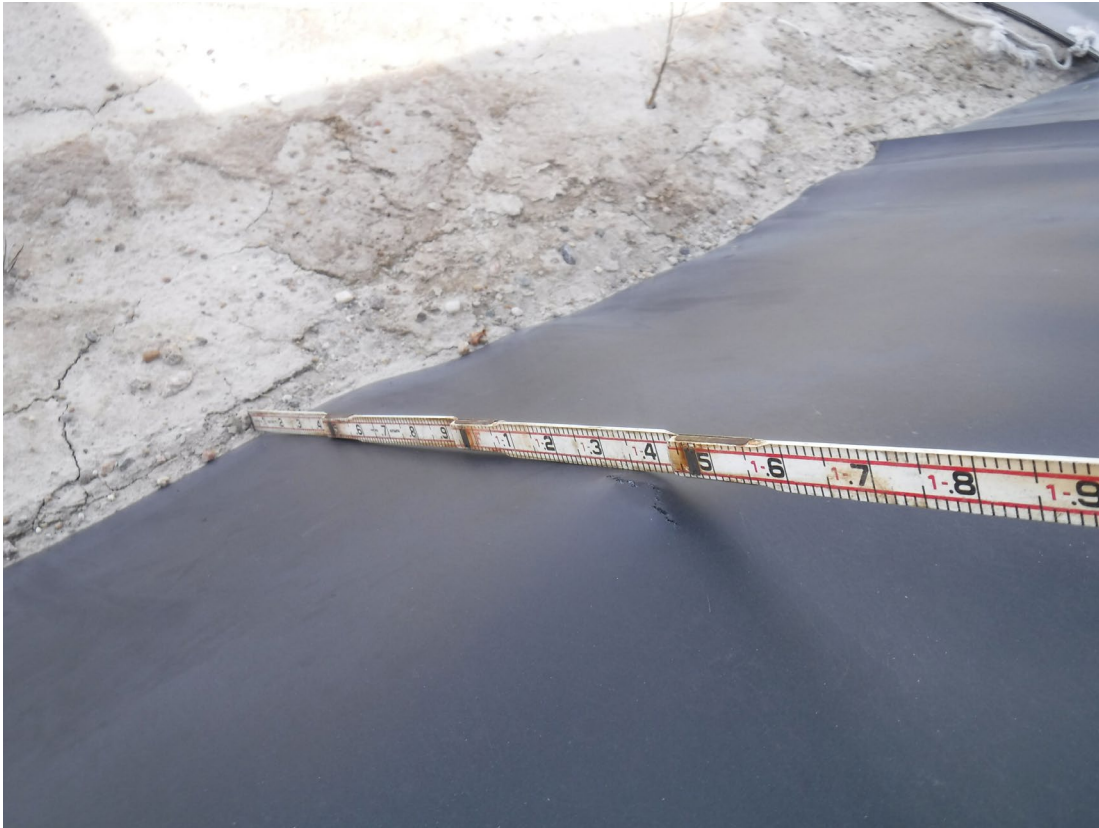


Photo 19: A view of the distance from a crack through the liner to tailings material



Photo 20: What appears to be tailings material deposited outside of the fence around the TSF



Photo 21: What appears to be tailings material deposited outside of the TSP and a tee-post driven in the location of the anchor trench



Photo 22: A TSP patch that has worn away and exposed subgrade material

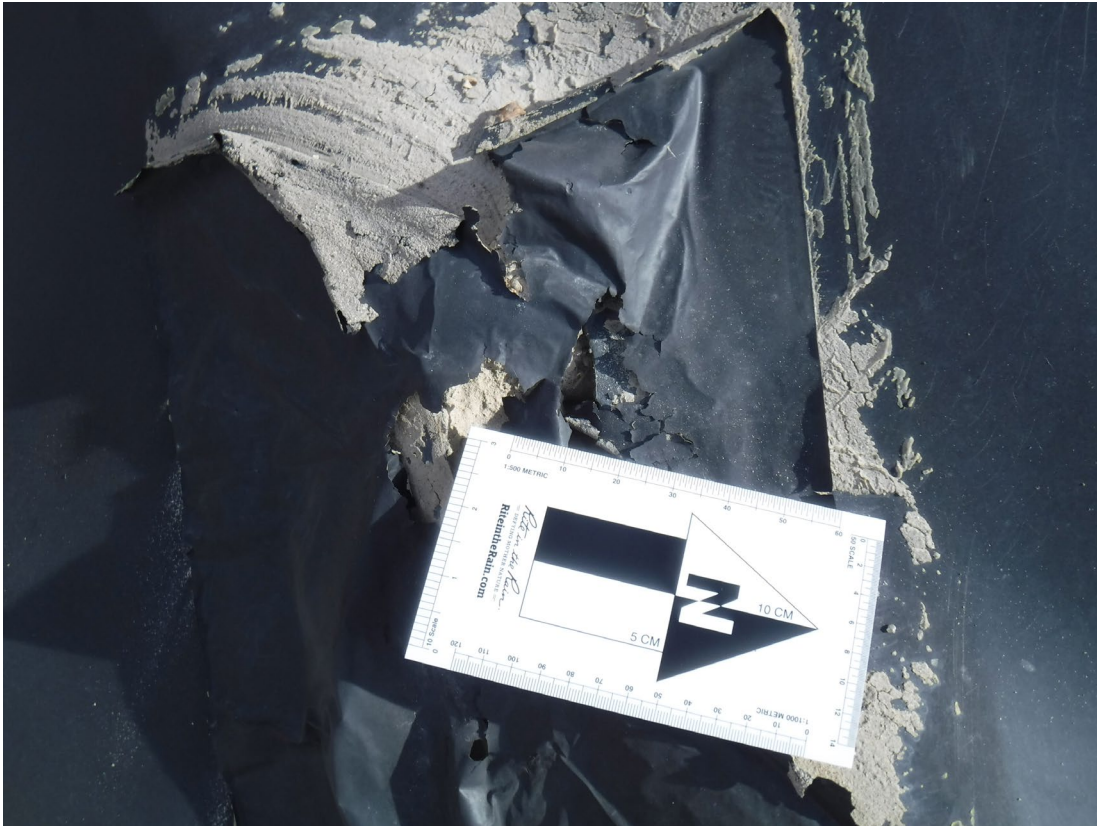


Photo 23: A TSP patch that has worn away and exposed subgrade material



Photo 24: The distance between the tailings material and the worn out patch



Photo 25: Evidence of burrowing in the TSF embankment, yellow circles

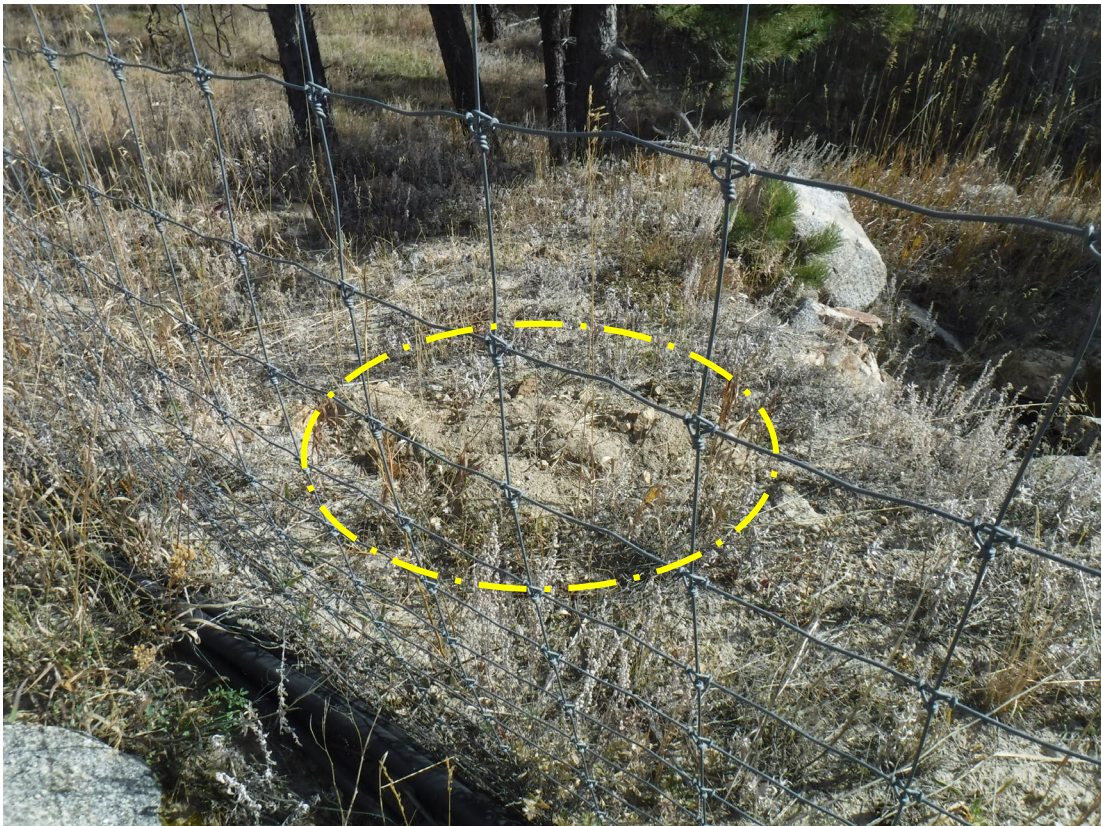


Photo 26: Evidence of burrowing in the TSF embankment outside the fence, yellow circle



Photo 27: Evidence of burrowing in the TSF embankment, center of picture



Photo 28: Diversion ditch around the TSF



Photo 29: Crack through TSF liner



Photo 30: Anchor trench with the TSF liner apparently being uncovered



Photo 31: Crack through TSF liner



Photo 32: Drum of Xanthate in Mill Building



Photo 33: Drums and containers of designated chemicals in Mill Building



Photo 34: Ore Storage area west of Mill Building



Photo 35: Drums of possible crushed ore material located in the area west of Mill Building



Photo 36: Typical permit boundary marker

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

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