




**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.

<b>MINE NAME:</b> Cross Gold Mine	<b>MINE/PROSPECTING ID#:</b> M-1977-410	<b>MINERAL:</b> Gold, and silver	<b>COUNTY:</b> Boulder
<b>INSPECTION TYPE:</b> Monitoring	<b>WEATHER:</b> Clear	<b>INSP. DATE:</b> September 26, 2022	<b>INSP. TIME:</b> 09:00
<b>OPERATOR:</b> Grand Island Resources LLC	<b>OPERATOR REPRESENTATIVE:</b> Richard Mittasch	<b>TYPE OF OPERATION:</b> 110(2) - Hard Rock Limited Impact	
<b>REASON FOR INSPECTION:</b> Normal I&E Program	<b>BOND CALCULATION TYPE:</b> None	<b>BOND AMOUNT:</b> \$546,751.00	
<b>DATE OF COMPLAINT:</b> NA	<b>POST INSP. CONTACTS:</b> None	<b>JOINT INSP. AGENCY:</b> None	
<b>INSPECTOR(S):</b> Patrick Lennberg	<b>INSPECTOR'S SIGNATURE:</b> 	<b>SIGNATURE DATE:</b> October 12, 2022	

**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>Y</u>	(FN) FINANCIAL WARRANTY----- <u>N</u>	(RD) ROADS----- <u>Y</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>Y</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>Y</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>N</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>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

## **OBSERVATIONS**

The Cross Gold Mine was inspected by Patrick Lennberg with the Division of Reclamation, Mining and Safety (Division/DRMS). The inspection was completed as part of the Division's increased inspection frequency, the permit is to be inspected on a quarterly basis. As part of this inspection the Division was also inspecting to investigate citizen complaints CT-2 and CT-3. The site was previously inspected by the Division on June 3, 2022 during second quarter inspection of 2022. Richard Mittasch and Sergio Rivera representing Grand Island Resources, LLC (GIR), the permittee/operator, accompanied me during the inspection. The weather was clear.

The Cross Gold Mine is a 110(2) underground mine operation permitted for 9.9 acres for the mining of gold, silver, and other minerals. The permit area includes two discharging mine openings: the Cross Mine portal (at the Cross Mine) and the Idaho Tunnel portal (at the Caribou Mine). Discharge from these mines is directed to a series of plastic-lined ponds prior to being treated and discharged into Coon Track Creek at the permitted discharge point (CO0032751). The mine is located on land owned by the permittee. The site is located approximately 4 miles northwest of Nederland, CO in Boulder County, at an elevation of approximately 9,760 feet. Access to the site is off of Caribou Road. A separate entrance exists for each of the two mines at the site, the Cross Mine (to the south) and the Caribou Mine (to the north). The approved post-mining land use is a combination of forestry and residential.

Amendment 2 (AM-2) was issued on April 13, 2022, which increased the permit area by 1.04 acres for a total permit area of 9.99 acres, including the addition of the Potosi Shaft and the Caribou 300 Level Portal. It also revised the mining and reclamation plans and maps to address the addition of a new internal haul road between the Cross and the Caribou Mines, and updated ground support and reclamation plan for the Idaho Tunnel Portal at the Caribou Mine. Technical Revision 10 (TR-10) was approved on April 28, 2022. TR-10 modified the water management and treatment program and provide a surface water and groundwater monitoring program (in accordance with corrective action #1 of the Board Order issued for Violation No. MV-2021-017). Currently, the site is under a Cease and Desist Order that prohibits any further activities underground, except those activities approved by the Division, in writing, as necessary to comply with the conditions of the Order.

The site had ongoing surface activities at the time of inspection. Operations included reworking the waste rock pile near the entrance to the Caribou Mine. Reworking the pile created additional storage volume for waste rock and allowed the Operator to salvage potential ore material. The salvaged material was taken to the ore storage building adjacent to the Cross Mine entrance. Once in the building, assay samples were collected for further classification of material. After the assay sample results were received the material separated into waste rock and ore material. The ore material is stored in the building on a concrete pad and the waste rock is removed from the building. Surface activities are not prohibited under the Cease and Desist Order.

The Operator has recently completed Cross Shaft surface depression remediation and the activity was approved by the Division on June 23, 2022. The activities included filling in of a surface depression using locally sourced material, grading to match the surrounding topography, installation of erosion control mats, and revegetation. As part of the approval the Operator committed to submitting a brief summary report of activities including photographic documentation and approximate quantities of material used.

At the Cross Mine entrance the snow shed has been removed along with the associated narrow gauge railroad tracks and timbers. The Operator found the snow shed timbers were rotten and needed to be replaced for safety considerations. During the shed removal it was determined the timbers under the rails were also in very poor condition and need to be replaced. The shed and rails had been removed at the time of inspection and the Operator was waiting for delivery of timbers to begin reconstruction.

The Division observed the water treatment system which has been operating on site since December of 2021. The system is located inside an insulated Conex box located at the Cross Mine, and includes both filtration and heavy-metal polishing components. Discharge from the Caribou Mine is being routed via pipeline to Pond 1, after passing through Ponds 3a, 3b, and 3c located at the portal, where it combines with discharge from the Cross Mine. Water levels in the pond are being maintained via a pump and pressure transducer system. Water from Pond 1 is pumped via pipeline to the treatment system inside the Conex box. Water entering the treatment system goes through a series of bag filters (5-micron) before entering a vessel with adsorptive materials (MetSorb). A pipeline then routes the treated water from the Conex box to the existing monitoring shed near Pond 2, where it joins with the existing discharge pipeline to Coon Track Creek, the permitted discharge point (CO0032751). Pond 2 is not used to manage mine water under the current treatment regime.

The Operator has been monitoring the outfall in accordance with their approved WQCD permit. Since March 2022 time they have been in compliance with their discharge permit.

At the time of inspection Pond 2 was close to being completely dewatered. The Operator stated they were in the process of characterizing the sediment remaining in the pond. Initial indications show the sediment is not hazardous. The Operator is in the initial phases of determining how to decommission the pond. Since Pond 2 is part of approved TR-10, as an emergency over flow pond, decommissioning of the pond will need a Technical Revision. At a minimum, the revision shall detail water accounting of where overflow may be directed in case of emergencies and how the sediment will be disposed of properly. The Operator stated they are trying to evaluating whether or not using a wetland as a passive water treatment system might be an effective use of the pond area.

The Operator inquired whether or not relocating the water treatment Conex box would require a technical revision. The Operator was informed, after the inspection, that indeed a technical revision would need to be submitted to update the maps approved in TR-10 to show where the treatment plant was relocated to and to account for piping configurations.

The Operator informed the Division during the inspection that a crew was in the process of collecting surface water samples. The Division was unable to observe sample collection. The Division did observe the upstream surface water location was dry. The downstream location did have water available to sample.

As stated earlier the Division was also inspecting the site in response to two citizen complaints, CT-2 and CT-3. The anonymous complaint, CT-2, asserted that there was illegal dumping activities occurring at the Cross and Caribou mines that are putting the complainant's and neighbor's drinking water at risk. Citizen complaint, CT-3, stated mining waste is being dumped directly into drinking water at Barker Reservoir. The Division reached out to both complainants to try and gather additional information about the items but neither returned the Division's request for additional information. The Division found the Operator was abiding by the terms of the Cease and Desist Order and did not find any evidence to suggest that illegal dumping was occurring at the site

or Barker Reservoir. The complaints have been resolved to the Division's satisfaction and no further investigation is planned at this time.

Photographs taken during the inspection are attached.

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

**Inspection Contact Address**

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## PHOTOGRAPHS



**Photo 1:** Upgradient surface water sampling location, adjacent to Caribou Road, dry



**Photo 2:** Downgradient surface water sampling location





**Photo 3:** Looking west towards the Cross shaft remediation area from the main parking lot



**Photo 4:** Looking down along the Cross shaft remediation area



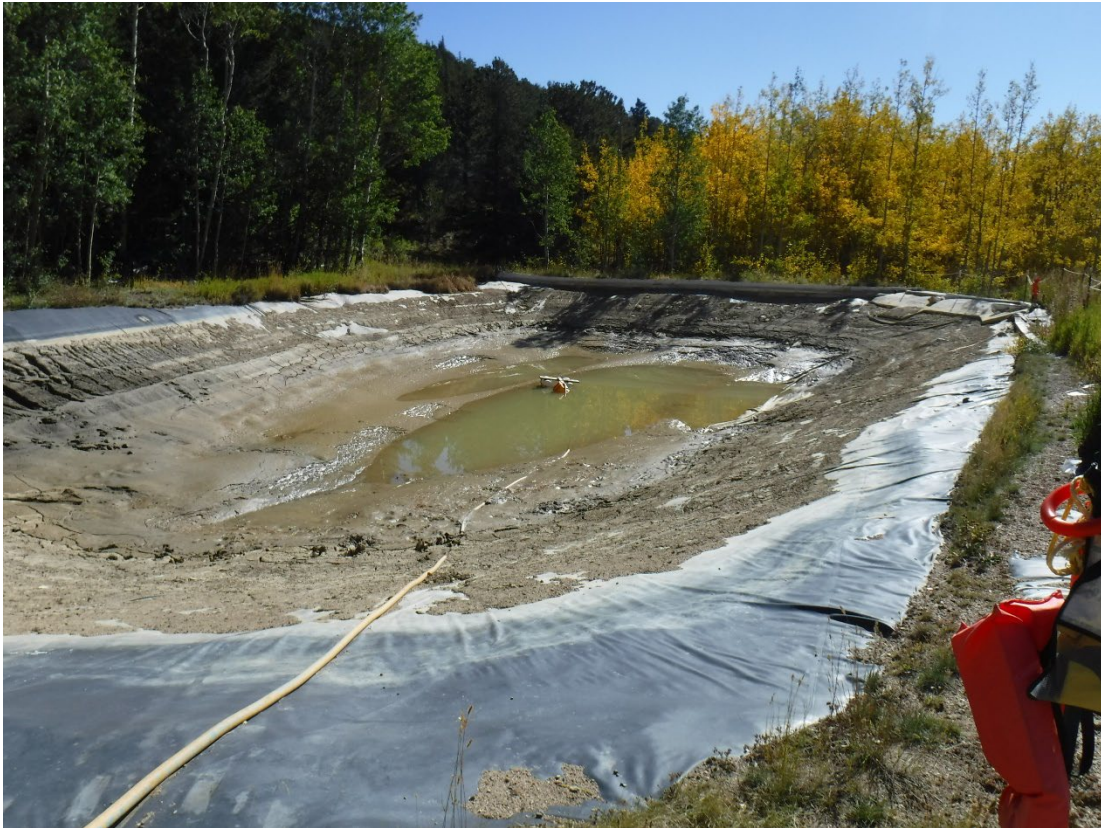


**Photo 5:** Looking up at Cross shaft remediation area from the Cross Mine portal



**Photo 6:** Snow shed and rail removal from the Cross Mine portal





**Photo 7:** Dewatering of Pond 2 with sediment exposed



**Photo 8:** Permitted discharge point to Coon Track





**Photo 9:** Water treatment plant



**Photo 10:** Pond 1





**Photo 11:** Rock check dam to aid in surface erosion control near Pond 3c



**Photo 12:** Pond 3c





**Photo 13: Pond 3b**



**Photo 14: Pond 3a**





**Photo 15:** Reworked waste rock pile area



**Photo 16:** Assayed material available to be processed