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: Henderson Mine	**MINE/PROSPECTING ID#:** M-1977-342	**MINERAL:** Molybdenum	**COUNTY:** Clear Creek, Grand
INSPECTION TYPE: Monitoring	**INSPECTOR(S):** Brock Bowles	**INSP. DATE:** May 27, 2022	**INSP. TIME:** 09:00
OPERATOR: Climax Molybdenum Company	**OPERATOR REPRESENTATIVE:** Geoffrey Niggeler and Miguel Hamarat	**TYPE OF OPERATION:** 112d-3 - Designated Mining Operation	

REASON FOR INSPECTION: Citizen Complaint	**BOND CALCULATION TYPE:** None	**BOND AMOUNT:** $135,204,778.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:** 	**SIGNATURE DATE:** June 14, 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---------- N	**(FN) FINANCIAL WARRANTY-------- N**	**(RD) ROADS---------- N**
(HB) HYDROLOGIC BALANCE---------- N	**(BG) BACKFILL & GRADING---------- N**	**(EX) EXPLOSIVES--------- N**
(PW) PROCESSING WASTE/TAILING---- Y	**(SF) PROCESSING FACILITIES------- Y**	**(TS) TOPSOIL---------- N**
(MP) GENL MINE PLAN COMPLIANCE- N	**(FW) FISH & WILDLIFE---------- N**	**(RV) REVEGETATION---- N**
(SM) SIGNS AND MARKERS---------- N	**(SP) STORM WATER MGT PLAN---- N**	**(RS) RECL PLAN/COMP-- N**
(ES) OVERBURDEN/DEV. WASTE--------- N	**(SC) EROSION/SEDIMENTATION--- N**	**(ST) STIPULATIONS------- N**
(AT) ACID OR TOXIC MATERIALS------- N	**(OD) OFF-SITE DAMAGE----------Y**	

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

OBSERVATIONS

This inspection was conducted by Brock Bowles and Jared Ebert of the Division of Reclamation, Mining and Safety (Division). Geoff Niggeler and Miguel Hamarat with Climax Molybdenum- Henderson Operations (Henderson) were present for the inspection. The Henderson Mill is located 15 miles south of Parshall in Grand County. This site is a 112d-3 Designated Mining Operation (DMO) permitted for 11,877.5 acres. At the time of the inspection it was warm, clear, a light wind and the ground was dry.

The purpose of the inspection was to investigate a citizen complaint received by the Division on May 26, 2022. The citizen complaint was filed with CDPHE on May 25, 2022. The complaint form is attached at the end of this report. The complaint alleges that the wind was blowing white crystalline material onto the roadway (CR 3) and the river (Williams Fork River). The reported event took place on May 14, 2022, eleven days before it was reported to CDPHE.

The complainant noted that the source of the material was the Henderson Mine.
The Henderson Mine has a tailing storage facility (TSF) just northwest of the mill and adjacent to CR 3 and the Williams Fork River. The TSF is approximately 1,500 acres in size and contains a pond on the west side which covers about 300 acres, leaving 1,200 acres of exposed tailings. The tailings have a whitish/grey color and the texture ranges from a fine sand to a flour/ powdery consistency (photo 1). The TSF can be a source of dust with the right atmospheric conditions.

Henderson manages the dust by applying Coherex on the top and east face of the TSF. Coherex is product designed to bind soil particles together for the purpose of dust suppression. Coherex is applied to the TSF each spring after the snow melts and after the tailings dry out enough to support the heavy spray applicator equipment (photo 2). The east side of the TSF mostly contains sandy material which drains water well and can support the weight of machinery earlier in the season. The center and western sections of the TSF contain finer grained material which retains moisture longer and takes longer to support the heavy spray applicator equipment.

Henderson was prepared to apply Coherex in the first weeks of May this year but the tailings were too wet to support the equipment and the wind speeds were in excess of 30 mph for several days before the reported May 14 incident (see attached report).

At the time of this inspection, about 90% of the top of the TSF was treated with Coherex. The treatment of the dam face had just begun and two sprayers were treating the dam face during the inspection (photo 3). Henderson estimates all areas of the TSF will be treated within 1 week. It usually takes about 3 weeks to treat the entire TSF each year. Treated areas were easily seen because the Coherex makes the tailing dark orange/brown (photo 4).

The complainant noted that a white crystalline material was blowing onto the roadway (CR3) and river (Williams Fork River).
CR3 is located east of the TSF and both structures roughly parallel each other for 2 miles. At the southern end of the TSF they are about 150 feet apart and at the northern end they are about 4,000 feet apart (photo 5). The entire section of CR3 was inspected. No tailings were seen on the road or on the side of the road. Most of the area between CR3 and the TSF consists of native grasses and shrubs making tailing deposits easy to identify. No tailings were seen in the vegetation.

The Williams Fork River is located east of CR3 and they are also roughly parallel (photo 5). The distance between the river and the TSF is greater than 2,600 feet. Most of the area between the river and TSF contains an aspen/pine forest and the river is in a fairly deep ravine. Only one section of the river was inspected due to accessibility. The section of the river that was inspected had the least amount of trees to block the wind (photo 5, red star) and is the most likely area to see tailings deposits actually reaching the river (photo 6). No white crystalline material was seen

in any of the areas between CR3 and the river. Henderson also maintains a gravel pit onsite located between CR 3 and the river. No white crystalline material was seen in the pit area.

The complainant stated the incident took place on May 14 and reported it to CDPHE on May 25, who then reported it to DRMS on May 26. DRMS inspected the site on May 27, 13 days after the incident. The Division could not find evidence of white crystalline material (tailings) deposits on CR3 or anywhere near the Williams Fork River. There was no evidence seen that tailings left the immediate area of the TSF or that there were any offsite impacts.

The Henderson Mill permit addresses air quality issues in Section 6.5-Air (page 6-49). Blowing tailings becoming airborne is cited as a major concern. Tailings are continuously being deposited while the mill is in operation and Coherex was determined to be the best product for the mine's needs. Coherex will be applied much in the same manner as water is applied to roads. Wide-tracked vehicles will be utilized for maneuvering on the tailings pile. The operator submitted a memo dated June 7, 2022 to the Division outlining the dust control procedures and Coherex application performed each year (see attached). The procedures described in the memo are in compliance with the dust control measures outlined in the DRMS permit.

It is possible that the high winds picked up material from the TSF creating a dust cloud which extended over CR3 and the Williams Fork River. Dust generated from tailings piles are not a DRMS jurisdictional issue. The operator maintains AQ Permit #95CC899.CP4 which is issued by the CDPHE - Air Pollution Control Division.

The operator took water samples of the Williams Fork River on May 16, 2022 as part of the routine water monitoring program approved in TR-16 (2012). The upstream (WFR-20) and downstream (WFR-40) locations in relation to the TSF were sampled. The operator has committed to submit the data to the Division as soon as the data becomes available.

On May 24, 2022, the operator reported to the Division that water was surfacing along the west access road, south of the TSF. The water was tested and determined to be a combination of spring runoff and Mill Process Water. A leaky vent valve was determined to be the source of the water. The Division inspected the location where the water was surfacing and the leaky valve, and made the following observations:

The locations of the valve and surface expression are within the permit boundary, south of the TSF. Both sites are within the drainage area below the East Branch dam and west of the mill (photo 7). The overall topography of the area slopes toward the TSF so there is no potential for off-site impacts. All the Mill Process Water is contained within the TSF area system.

The leaky valve is part of the buried Mill Water Return Line which transports water from the TSF to the East Branch Reservoir. The route of the line roughly follows the west access road. The leaky valve is a vent valve located at the highest point along the line. Its purpose is to let air into the line when the pumps are turned off, preventing the hydrological force from collapsing the line. When the pumps are running, the water pressure in the line is used to close the valve. The valve is suspected to be stuck in the open position and when the pump is running, water escapes through the valve and fills the vault in which the valve is located (photo 8). Water was not being pumped through the Mill Water Return Line at the time of the inspection.

The Mill Water Return Line is about 15 feet deep and bedded in a stone-lined trench. When the water filled the vault, it seeped into the stone-lined trench and flowed down to the next low spot, filling the trench until it started expressing at the surface. The expression point is about 400 feet lateral and 15 feet below the valve (photo 9).

The water was tested again since the incident report was filed and the amount of Mill Process Water seems to be decreasing. This indicates that the valve is the most likely source of the water. Henderson has a new valve on order which is expected to take a couple of months for delivery. When the new valve is installed, a leak check will be

performed on the entire Mill Water Return Line.

PHOTOGRAPHS

Photo 1 – Top of TSF, tailing are sandy and whitish/grey, no Coherex applied

Photo 2 – Coherex applied on the right, giving the tailings an orange/brown color

Photo 3 – Coherex application on 3-Dam

Photo 4 – Coherex applied above dashed line

Photo 5 – TSF on left, yellow line- CR3, blue line- Williams Fork River, red star- river inspection point

Photo 6 – Williams Fork River (left), TSF on other side of knoll (red arrow), CR3 (yellow arrow)

Photo 7 – Red arrow- leaky valve, yellow arrow- water surfacing along road

Photo 8 – Leaky vent valve on the Mill Water Return Line

Photo 9 – Water expression along west access road, facing southeast, the leaky valve is just beyond the trees above the truck

Inspection Contact Address
Geoffrey Niggeler and Miguel Hamarat
Climax Molybdenum Company
19302 County Rd. #3
Parshall, CO 80468

Enclosure Henderson Mill Dust Control Memo, June 7, 2022
CDPHE – Spills or Release Reporting Form, May 25, 2022

CC: Jared Ebert, DRMS
Peter Hays, DRMS

Climax Molybdenum
A Freeport-McMoRan Company

COLORADO OPERATIONS
Henderson Mill
19302 County Road 3
Parshall, CO 80468

June 7, 2022

To: Mr. Brock Bowles
Division of Reclamation, Mining and Safety
1313 Sherman St., Rm. 215
Denver, CO 80203

Re: Memo Summarizing Dust Control Activities at the Henderson Mill Tailings Storage Facility in May 2022

Henderson has prepared this Memo at the request of the DRMS as follow up to an inspection held on May 27th. The DRMS inspection was in response to a report regarding dust observed from County Road 3 near the Henderson Mill.

Henderson has rigorous controls in place to prevent mobilization of dust from the tailings storage facility. We maintain a team of up to 19 employees who operate and maintain the equipment (Figure 1) needed to apply a petroleum-based soil stabilizer known as Coherex onto over 1,100 acres of the tailings storage facility (Figure 2).

Figure 1. Typical Coherex spray truck. Henderson owns and operates 4 spray vehicles.

Figure 2. The Henderson Tailings Storage Facility consists of dry tailings impoundment (shaded light green) and reclaim pond (dark green). The dry beach and embankment are treated with Coherex to suppress dust mobilization.

The tailings storage facility is covered with snow during the winter months, and therefore dust suppression activities take place in the summer when the tailings are exposed. The work to control the dust starts in November of the prior year when the spray trucks are cleaned and maintained. This ensures that when the conditions allow in the spring all needed equipment is ready to start the Coherex campaign. This campaign consists of an initial application of Coherex over the entire tailings impoundment in the spring followed by maintenance of Coherex coverage throughout the rest of the summer and fall, until the snow once again covers the facility.

The spring of 2022 presented particularly difficult conditions for applying Coherex. Even though the spray trucks are specially designed with low ground pressure, the tailings beach saturation levels from the snow melt need to dissipate in order to ensure the trucks do not sink in the tailings. Snowpack peak is typically in mid-April and usually thaws over a period of 4-6 weeks. With snowpack at Henderson being below average this year, Henderson anticipated to start the Coherex campaign in mid-May. However, large storm events on May 3rd and 4th increased saturation levels within the tailings. The operations crew started to develop the needed access ramps and paths on the beach on May 6th. Unfortunately, the equipment persistently sank into the tailings on the 6th. The decision was made to wait until the 9th to start spraying Coherex. On the week of the 9th, it was determined that the beach was ready for truck traffic. The operations crew started spraying on the 11th. However, this week also correlated with very high winds throughout the State of Colorado, including in Grand County. The Henderson weather station measured wind speeds in excess of 40 mph during the week (Figure 3). The Henderson anemometer only collects data every 10 minutes, therefore, wind gusts in excess of those shown are likely. Due to the high winds, full crew spray operations were further delayed until May 16th.

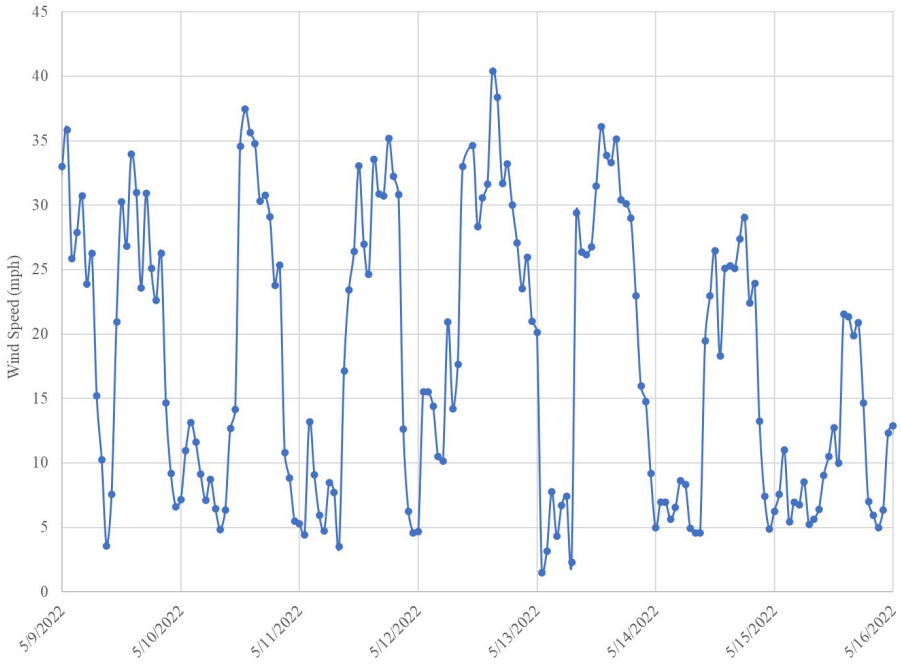

Figure 3. Maximum measured wind speeds at the Henderson Mill for the week of May 9th.

The crew of operators and mechanics work 10 hour shifts, 5 days a week throughout the summer season to maintain all aspects of the Tailings Storage Facility with dust suppression being a primary focus throughout the season. As of May 27th, the crew had applied just under 150,000 gallons of Coherex with ~65% of the facility covered (Figure 4). In a typical year, the application process takes close to 3 weeks, and utilizes ~250,000 gallons of Coherex.

(a)

(b)

Figure 4. Coherex spray truck on the tailings beach applying Coherex on May 16th (a) and 27th (b).

Lastly, the DRMS has requested the most recent surface water sampling data. Coincidently, a surface water sampling event that occurs in Mid-May annually, took place on May 16th per Henderson's Groundwater Management Plan (Technical Revision 16). Surface water sampling location WFR-20 (upstream from the tailings facility) and WFR-40 (downstream from the tailings facility) were sampled during this event. As requested by the Division, these data will be provided as soon as results are available.

Colorado Environmental Spills or Releases Reporting Form

This form should be completed for any type of petroleum product or hazardous materials / waste spill or release or to satisfy any federal or state reporting requirements.

Date Reported	05-25-2022 12:00 (in military time)
Who completed the "CDPHE Only" fields for this report?	⊗ Ann Nedrow
CDPHE Only - NRC Number:	1336765
Reporting Party Information	
Reporting party's name	Lance Howe
Reporting party's organization	unknown
Phone number	(970) 509-0390
Email address	lancehowe@hotmail.com
State	⊗ Colorado
Potentially Responsible Party's (PRP) Information	
Is the Potentially Responsible Party (PRP) the same as the Reporting Party above?	⊗ No
PRP's organization	Henderson Mine
PRP's street addess	County Road 3
PRP's city	Kremmling
PRP's state	⊗ Colorado
Event Information	
Event date	05-14-2022
Event time	12:00 ((click the clock to use sliding bars or enter in Military Time))
Do you have the physical address, highway, or intersection, or the legal description of where the event occured?	☒ Physical Address, Highway, or Intersection
Physical address, highway, or intersection where the event occurred	CR 3

City where the event occurred	Kremmling
County where the event occurred	⊗ Grand
State where the event occurred	⊗ Colorado
Do you also have the latitude and longitude of where the event occurred?	⊗ No
Material Information	
CDPHE Only - Type of Material	⊗ Other
Is this a Permit Exceedance?	⊗ No
Material	crystals ((If oil, please specify type))
Did any of the released material impact a waterway or storm drain, even if dry?	⊗ Yes
List waterways impacted in order	Unknown river
Was there a second material?	⊗ No
Source Information	
Please identify source of the spill or release. This is the entity from which the material(s) are discharged, such as a motor vehicle, a railcar or a storage tank.	
General source	⊗ Other
Specific source	⊗ Other
Other source, please describe	Henderson Mine Concentrator
Cause	⊗ Other
Other cause, please describe briefly	unknown
Please describe the cause of the spill, release, or incident and whether the spill impacted concrete, asphalt, gravel, dirt, water, dry waterway, fixed facility or air.	Caller observed white crust-like material released from the mine site onto the tailing pond. Wind was stated to be blowing the white crystalline material onto the roadway and the river which he doesn't know the name of. Caller has photos, but I haven't gotten an answer when I called.
CDPHE Only - Medium Impacted	land and ground
CDPHE Only - Medium Impacted Categories	☒ Land and Water
CDPHE Only - Waterway Impacted	unnamed river

Actions Taken Information	
Was a clean-up contractor contacted?	⊗ No

Incident Report Number

Please select the Incident Report Number generated in the drop down. Please save this number for your reference and communication with CDPHE staff.	⊗ 2022-0245

2022-0245