Re: M1977410. Conversion application from a 110(2) permit to a 112d-3 designated mining operation permit. The application includes increasing the permit area from 9.99 acres to 205.7 acres an increase of 195.71 acres.

Summary:

- Enclosed are General Comments on the Referenced Application.
- I am commenting on “selected” environmental issues with which I am familiar, as the Registered Professional Engineer who consulted for the previous Applicant for over 20 years.
- I hope these comments are helpful to the Applicant and/or the DRMS.
- These comments do not address each and every DRMS requirement, nor requirements of other entities such as EPA, USDA Forest Service, USACOE, State CDPHE, Boulder County, Town of Nederland, etc.

1. Mine Workings

Better definition of the “future” Horizontal and Vertical Extent of Mine Workings would make the Mine Plan more useful, and would allow further evaluation of potential impacts, such as Geotechnical Stability and Financial Assurance for Closure (I.e. a 3D rendering using CAD/GIS).

2. Dewatering

Better definition of the “future” Dewatering plans would allow evaluation of potential impacts to Overlying Aquatic and Terrestrial Habitat due to Passive or Active Dewatering, as well as better characterization of Water Quantity and Quality for Treatment and Milling processes (I.e. starting with a Pump Test and Sampling from the deepest locations to be dewatered, such as the Cross or Caribou shafts).

3. Milling

Better definition of the “future” Milling plans would allow better characterization of Water Quantity and Quality for Treatment (I.e. Laboratory-scale Milling Testing would

define Reagents for Frothing and flow/concentrations of metals Contaminants of Concern for Effluent Discharge).

4. Tailings Treatment and Disposal

Better definition of the “future” Tailings plans would allow better characterization of the Paste Backfill for potential leaching into groundwater (I.e. during Laboratory-scale Milling Testing the Tailings should also be tested to update the 1995 data provided in the Application in order to comply with updated DRMS regulations).

5. Effluent Treatment

Better definition of the “future” Water Quantity and Quality for Treatment would allow more confidence that the current Filtration and Polishing system will meet Water Quality Standards (I.e. “future” passive and active dewatering, as well as any contribution from milling and tailings processing, will likely change the flow rate and concentration of constituents, which may require augmentation of the current treatment system).

6. Surface and Groundwater Monitoring

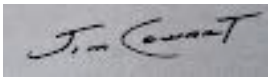
Surface Water concerns downstream of the Mine Property should be addressed scientifically, as there are numerous sources of metals loading, including: abandoned mines North of the Creek, the Boulder County Tunnel, the Boulder County Cardinal Mill, etc. For example, the CDPHE could conduct a TMDL evaluation to characterize the relative contribution of each source.

Groundwater Point of Compliance Well(s) should be located, either on-site or off-site, in order to monitor the Fate and Transport of groundwater contaminants, if any, above background, from Mine Workings and Paste Backfill, under Passive and Active Dewatering scenarios.

Conclusions and Recommendations:

- My conclusion is there are environmental data and information gaps that I would want filled before certifying full-scale mining operations; but that existing data and information are sufficient to continue current limited operations.
- My recommendation is that the Applicant and DRMS create a process for approval of the 112 Permit, based on conditions to be completed in phases over time.

Sincerely,



Jim Cowart, P.E. (CO 28938)