OFFICE OF THE COSTILLA COUNTY ATTORNEY

June 4, 2025

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Division of Reclamation Mining and Safety
Attn: Lucas J. West
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VIA EMAIL and Online Submission Form

RE: Objection and Comments to San Luis Project—File No. M-1988-112, Battle Mountain Resources, Inc. Amendment (AM-4) Installation of a Groundwater Intercept Wall

The Board of County Commissioners for Costilla County ("BOCC") submits the following objections and comments in reference to the Application of Battle Mountain Resources Inc. ("BMRI") for a Regular (112d) Designated Mining Reclamation Permit Amendment with the Colorado Mined Reclamation Board for a location in Costilla County, Colorado, referenced as the San Luis Project. The Public Notice made in this action provides that comments must be received by the Division of Public Mining and Safety (DRMS) by June 4, 2025. These objections and comments, submitted to DRMS prior to June 4, 2025, are as follows.

I. THE PARTIES

The BOCC is a political subdivision of the State of Colorado and generally oversees local government issues for Costilla County. The BOCC is tasked with ensuring that safety of its citizens and is exercising that right by signing on to this response.

II. BACKGROUND OF PUMPING THE WEST PIT

1. BMRI, and its predecessor entity, historically has been involved with a gold mining, reclamation and related activities after closure of a mine in Costilla County. Part of its on-going efforts are to address poor quality waters emanating out of the existing West Pit area and monitor and prevent adverse water quality to the stream and aquifers downgradient of the mine site, including the Rito Seco, a stream that flows next to the West Pit. As part of the post-closure operation, BMRI pumps ground water in and near the backfilled West Pit to prevent contaminated water from reaching the Rito Seco and the alluvium. Water pumped from the West Pit is delivered to an on-site treatment plant and after treatment, discharged to the Rito Seco. "To control the hydraulic gradient in the backfilled West Pit, BMRI will need to continue to pump these wells on a year around basis. Based upon historical operations, it is expected that approximately 30 acre-feet per month (ac-ft/mo) will be pumped on a relatively continuous basis from the West Pit". See p. 3 of Lytle Water Solutions LLC, April 2007 SWSP application before the State Engineer for a Substitute Water Supply Plan.

2. "As part of its reclamation activities, BMRI pumps ground water in and near its backfilled West Pit to prevent ground water flow from the backfilled pit in the alluvium of the Rito Seco, a tributary of Culebra Creek. At the present time, groundwater pumped from the backfilled West Pit and the alluvium down gradient of the backfilled pit is principally delivered directly to the onsite water treatment plant, where it is treated and discharged to the Rito Seco." Case No. 15 CW 3015, Decree of April 14, 2016 in Water Court Division 3.

3. At the inception of the mining activity, a breach occurred of the confining layers of the aquifer(s) underlying the West Pit After the backfill was placed in the West pit, waters continually emanate up and into the West Pit. Pumping of waters in and around the West Pit and treatment of poor-quality waters has been ongoing for many years.

III. COMMENTS TO SPECIFIC STATEMENTS

1. **BMRI STATEMENT:** In its April 11, 2025 letter to Mr. Lucas West, BMRI outlines its contentions when stating it "proposes to install a slurry wall around portions of the West Pit to reduce the inflow of groundwater from the adjacent alluvial aquifer, which will decrease the volume of water requiring treatment in the West Pit. The proposed installation of the

slurry wall meets the objectives of the GWMP and does not affect the function of the current pump and treat remedial action."

A. **COMMENT:** The statement is problematic to the extent that it does not take into account water emanating into the West Pit from a breach of the confining layers, a primary source of water that enters the backfilled West Pit. Assuming a slurry wall is constructed as proposed, by definition, this would have no control over the waters emanating up and into the West Pit. The slurry wall does not prevent flow underneath the wall. Further, without quantifying the amount of water in the West Pit, with a break out of the water emanating from below and that which flows into the West Pit from the alluvial aquifer, it is unclear how a calculation could be made that takes into account the recharge and discharge to and from the West Pit area. To the extent this is feasible, the better practice is to have quantification of each factor, with a clearer understanding of the hydrological conditions of the West Pit area, including the conditions attaching to the upward migration of waters into the West Pit.

2. **BMRI STATEMENT:** Also problematic is the statement that "the volume of groundwater requiring treatment will be substantially reduced (to a predicted 10% of current rates"

A. **COMMENT:** Again, what are the "current rates" for the alluvial groundwater that enters the West Pit along with the attendant amounts of discharge from the West Pit, such as seepage and losses? Presumably, these factors have not been measured or are incapable of measurement based upon the lack of knowledge of the hydrological condition underlying the West Pit area. Without complete hydrogeological characterization, it is impossible to determine proper design and whether the slurry wall will be as promising as promised.

3. **BMRI STATEMENT:** The April 11 letter further contends that "a reduction in the production of the brine/treatment solids generated from the treatment may allow different disposal options. If the brine treatment solids no longer have to be discharged to the tailings impoundment, this will allow for eventual closure of tailings facility."

A. **COMMENT:** Generally, the less water that has to be treated is a good thing. However, the suggestion of closing the

tailings facility or no longer needing a pumping program is highly problematic. Closure ignores the continual migration of waters up and into the West Pit with these waters interacting with the backfilled materials in the West Pit and creating poor quality water. Closure ignores the possibility that a breach of the slurry wall may occur in the future. There is no evaluation of the failure of the slurry wall or the consequences of such a failure. Further, BMRI does not assert that the "leak can be plugged" in the confining layers. As such, continual treatment of poor-quality water must continue into perpetuity.

IV. GENERAL OBJECTION AND COMMENTS

1. The hydrology/geology underlying the southern half of Costilla County is to large extent unknown and at best only partially understood.

2. Several provisions in the BMRI engineering report: are noteworthy: 1) "BMRI proposes to install a slurry wall around the southern portions of the West Pit that will act as a hydraulic barrier to prevent the inflow of groundwater from the adjacent alluvial aquifer" p.1, ii) "Once mine dewatering ceased, groundwater began to saturate the backfilled material within the West Pit." p.2, iii) "By October 1998, seeps were observed along the North Bank of the Rito Seco, directly south of the West Pit. The occurrence of the seeps was attributed to discharge of groundwater from the West Pit" p.2, iii) "The Precambrian rocks within the mine area contain an aquifer of unknown extent" p.3, iv) "The Santa Fe Fm is a laterally extensive-stratigraphic unit extending regionally to the south and west. Groundwater flows within this unit may be facture-dominated and may be compartmentalized by faults and igneous dikes". p.4, v) "Key components in addressing the hydrologic system of the West Pit study are aquifer recharge and discharge… Discharge from a hydrologic unit can occur via pumping wells, evapotranspiration, seeps, springs, and vertical or horizontal movement to another hydrologic unit" p.6. vi) "Discharge of groundwater in the vicinity of the West Pit occurs primarily through pumping wells, evapotranspiration, seeps and springs and lateral flow into surrounding hydrologic units and the Rito Seco." p.7, vii) "Seeps were observed along the north banks of the Rito Seco following re-establishment of the hydraulic gradient from the West Pit to the stream. The seeps appear to have dried up in response to pumping from the West Pit." p.7, and viii) As part

of Engineering Analytics inc.'s assessment for the reduction/elimination of wastewater treatment, "Multiple numerical models were constructed to address uncertainty in the site hydrogeology (i.e. the source of water inflow to the West Pit" p.10.

3. The lack of quantification of key component of what constitutes recharge/discharge in the West pit area is not unimportant. Because the various inflow/outflow components of the West Pit area cannot be quantified with a reasonable degree of scientific certainty, and the hydrology/geology is obviously complex, the better practice is to wait and see the results of the RGDSS modeling efforts to determine if that groundwater model and engineering analysis based upon it provide for a better understanding of the West Pit area. As currently proposed by BMRI, it is unclear if the geology/hydrology of the area allows for a high degree of comfort that the construction of a slurry wall will produce an acceptable result without having unwanted side effects.

4. In summary, the BOCC object to BMRI proceeding with any construction/modifications of the existing remediation regime until the result of the contemplated change can be determined with a high degree of certainty. Clearly, no comprehensive understanding exists of the hydrology/geology of the underlying confining layers/aquifers beneath the West Pit area, including with knowledge of the nature of the upward pressure that exists. The initial piercing of the confining layers at the inception of the mining activity was due to an apparent miscalculation and lack of understanding of the complex geology/hydrology of the area. The existing regime that calls for pumping as required and treatment of poor-quality waters appears to be adequately performing. BMRI is requesting to change that regime with an uncontrolled experiment with public groundwater resources without a complete understanding of the hydrogeology of the site and what can go wrong. This is gambling with the potential of irreversible effects. Further, with the RGDSS groundwater model continually being refined, and as more information becomes available and input is provided, theoretically the model should provide a means to more precisely evaluate the underlying hydrology/geology of the Costilla Plains in the southern part of Costilla County and the area in and around the West Pit.

5. If DRMS is considering approval of installing the slurry wall, the BOCC requests that the pumping as required and current

treatment of water continue and that no other conditions of the reclamation be changed. Facing potential irreversible harm to groundwater resources with incomplete scientific understanding, the DRMS should place the burden on BMRI to demonstrate how safe the slurry wall can be constructed and operated. DRMS should require a trial period of no less than 5 years to study the effects of the slurry wall. During that time, BMRI should be required to provide quarterly chemical compatibility evaluation, annual geophysical surveys of slurry wall integrity, continuous multi-parameter monitoring in all wells, install more monitoring wells if necessary, quarterly comprehensive water quality analysis in the West Pit and the Rito Seco, and a statistical trend analysis with early warning triggers. In essence, DRMS should not allow BMRI to discontinue any of its current remediation measures without a proven time period of how the slurry wall, in fact and not in theory, operates.

6. The DRMS cannot gamble the waters of the state on an unproven effect of a slurry wall. If DRMS approves the permit, the BOCC requests that DRMS implement contingency measures for BMRI to follow, including the following: a. If contamination is detected, require a detailed emergency response plan by BMRI; b. if water levels exceed the quantity and quality parameters, require BMRI to maintain its facilities to treat waters at the current level and to deploy such treatment.

7. The BOCC along with the Costilla County Conservancy District intend to retain its own engineer to review the lengthy and detailed BMRI engineering analysis that appears to have been an ongoing endeavor over several years.

8. The BOCC request that the BMRI amended permit application be denied subject to reconsideration after consulting with its engineering expert. For the present, the unknown hydrological/geological beneath the West pit area and lack of a clear understanding of the components and quantities of each that impact the area create a risk as proposed. If allowed to proceed, at a minimum a modified monitoring system with clear safeguards/protocols should be in place so that activities cease if the plan does not proceed as expected.

9. Aside from the initial mining error in drilling into an area with the aquifer layers under confining pressure allowing water to flow up and into the backfilled West Pit, BMRI has had to address an August 20, 1999, CDPHE Cease and Desist

Order which ultimately resulted in having a permanent water treatment facility in place. See CDPHE Settlement Agreement and Stipulated Order of May 26, 2000 with BMRI as a participant. This is not designed to rehash old events that caused problems, but to reinforce that having better knowledge and information has a distinct benefit in planning.

10. The Colorado Department of Public Health and Environment (CDPHE) has authority over the West Pit area and discharge of treated waters into the Rito Seco. There has been no showing that the BMRI contemplated action has received CDPHE approval.

Respectfully submitted through counsel on behalf of the Board of County Commissioners for Costilla County.

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