Battle Mountain Resources, Inc
PO Box 310
San Luis, CO 81152-0310

VIA UNITED STATES MAIL
and VIA EMAIL
Wallace H. Erickson
Division of Reclamation, Mining and Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203
wally.erickson@state.co.us

Re: Correspondence dated November 20, 2013 from McClure & Eggleston, on Behalf of Costilla County, to the Division of Reclamation, Mining and Safety ("McClure Correspondence")
San Luis Project, Permit No. M-1988-112

Dear Mr. Erickson:

I am writing on behalf of Battle Mountain Resources Inc. (BMRI) in reply to your December 4, 2013 letter requesting that BMRI provide DRMS with information addressing the above-referenced McClure Correspondence. BMRI understands that DRMS is preparing a response to that correspondence, and we are providing the following information for DRMS to consider in preparing its response.

The McClure Correspondence contains 11 numbered paragraphs raising questions or comments on a September 11, 2013 DRMS Minerals Inspection Report (DRMS Report). The DRMS Report summarizes DRMS's findings and observations from a May 13, 2013 inspection of the San Luis Project. The May 13 inspection was the second site inspection that DRMS conducted at the San Luis Project in response to a February 26, 2013 complaint letter submitted by John C. McClure and Edwin J. Lobato on behalf of the Costilla County Commissioners and the Costilla County Conservancy District. This second inspection focused on the main embankment of the tailing impoundment, and found that the operations were in full compliance with permit requirements and the Colorado Mined Land Reclamation Board regulations.

Although the tailing impoundment is not subject to the Colorado State Engineer's Office (SEO) regulations, Mr. Mark Perry from the SEO participated in the May 13 inspection to provide technical support to DRMS. A copy of Mr. Perry's Engineer's Inspection Report, dated June 3, 2013, was included with the DRMS Report. Questions/comments raised in the McClure Correspondence relate to both DRMS's findings and Mr. Perry's report.

The numbered paragraphs from the McClure Correspondence are shown in italics below. BMRI's responses to each paragraph follow. These responses supplement the information that

BMRI provided to DRMS by letter dated April 15, 2013 in response to the original February 26 complaint letter.

> *1) It refers to the Division encountering Allen Jewell, a geotechnical engineer, who was conducting a stability and safety evaluation of the tailings facility (LTF). Mr. Jewell reported that he had been retained by the Operator Battle Mountain Resources, Inc. (Report p.3) Has Mr. Jewell ever submitted an oral or written report or written materials to DRMS as to his evaluation of the LTF? Will the County be able to receive a copy of the information that Mr. Jewell has provided to DRMS, or presumably will be providing to DRMS in the future? If so, we would like to receive a copy.*

Response to Paragraph 1:

Mr. Alan Jewell, P.E. is an employee of Miller Geotechnical Consultants, Inc. (MGC), an engineering consulting firm based in Fort Collins, Colorado that specializes in dam engineering. MGC is conducting a dam safety evaluation for BMRI in accordance with the approved Technical Revision No. 33 (TR-33) of the San Luis Project Permit No. M-1988-112. TR-33 is a *Tailing Dam Safety Inspection and Reporting Program* (Program). MGC is in the process of completing the "Initial Formal Technical Inspection," as described in Section 3.1 of the Program document. Mr. Jewell was conducting the "Initial Site Inspection" task in accordance with Section 3.1.2 of the Program on May 13, 2013, at the time he encountered Mr. Erickson as referenced in the DRMS Report.

Work in progress by MGC under the Program includes: reviewing previous engineering studies and analyses that were completed by others as part of the original facility design; evaluating historic monitoring data; and conducting additional engineering surveys and analyses needed to complete the dam safety evaluation. The results of the site inspection, data review and supplemental engineering analyses will be documented in the "Initial Detailed Inspection Report," as described under Section 3.1.3 of the Program document. The Initial Detailed Inspection Report will be submitted to DRMS upon completion, which is anticipated to be in February 2014. BMRI has no objection to DRMS providing Mr. McClure with a copy of that report.

> *2) It indicates that a 20 acre free water pool was observed in the 192 acre LTF and that the Operator indicated that the current depth of the free water pool is approximately 2 feet. (Complaint p.3) The pool reflects the free water surface. The area of containment of water appears to be used as a reservoir and storage facility. Deposition testimony of Bill Lyle and Julio Madrid in November 2012, current and former supervisors of the mine site, indicate that the depth of water in the pool and the volumetric configuration of the*

area underlying the pool could not be determined as there was no available information to make that determination. (Complaint p.5) If an additional study has been conducted to determine the depth and configuration of the reservoir, and its volumetric capacity, please provide the study or studies. The volumetric capacity of the reservoir and quantity of water contained within it would presumably be a material component of any engineering analysis used in determining the relative risk factors associated with its ability to have safe storage and avoid an unintended release of waters.

Response to Paragraph 2:

At the request of MGC, ground surveys of the tailing impoundment area were conducted in May 2013 to develop accurate area-capacity information for existing conditions at the facility in support of the Initial Formal Technical Evaluation. The surveys included topographic mapping of the interior, low-lying ponded area, which appears to be the area referenced in paragraph 2of the McClure Correspondence. Based upon these data, the average depth of water in the ponded area is less than 2 feet. The Initial Detailed Inspection Report will include the area-capacity data and associated graphs for the dam and impoundment area.

3) It refers to the observation of a small excavation in the upstream slope of the embankment, which according to Mr. Mark Perry, Dam Safety Engineer for the Colorado Division of Water Resources, must be appropriately backfilled, compacted and the vegetative cover re-established in accordance with the approved designs. (Report p.3) Has any action been taken by Operator to remedy this matter? Also, we are unsure of the significance of the reference to the approved design. Based upon Mr. Dorey's and Ms. Baldridge's testimony that the facility was never designed for long term storage of water (Complaint - 1990 MLRB hearing - Complaint p.3), any repairs to an approved design may not be relevant other than to repair an area in obvious need. The approved design for the facility in the mining phase and its current use deal with two different concepts.

Response to Paragraph 3:

The small area referenced in Mr. Perry's report is situated at the crest of the main embankment where the collection pond pump-back line is located. This area will be backfilled, compacted and revegetated in spring 2014 when frost-free conditions allow for completion of those activities. This small disturbed area is not posing any dam safety concerns.

4) It refers to the need for the Operator to treat water at the water treatment facility, and dispose of untreated waters. Further, untreated waters, sludge, and brine have been taken to the LTF. The report refers to treatment of waters appearing to be a perpetual

activity. (Report p.2) However, the focal point of the County's complaint is that the LTF is being used as a storage facility for untreated waters. As such, we are unsure what is intended by Mr. Perry's note "there is no spillway currently installed for the embankment". (Report p.3) A spillway connotes a means to release waters from the LTF to some downgradient location, which is a result that is unacceptable to the County for reasons set forth in its Complaint. Because the LTF is being used as a reservoir to store untreated waters, at a minimum any analysis should first determine: a) that it was designed and constructed for the purpose of permanent storage; b) that it can be used for safe storage of untreated waters based upon current practices. However, in no circumstance should the LTF be re-designed in a manner to allow untreated waters to escape the area of confinement. If Battle Mountain intends to convert the LTF to a permanent storage facility for untreated waters (which is unacceptable to the County absent a convincing showing that it is safe practice to do so), it should only be permitted to do so after a clear and convincing showing that the LTF was initially designed and constructed for safe water storage of waters and that in 2013 and future years it continues to be a vessel for safe storage of untreated waters.

Response to Paragraph 4:

The current operation of the tailing facility with a small pool in a low-lying area located approximately 600 feet upgradient from the dam does not present a dam safety concern. Monitoring well data at the dam document that low pore pressures within the dam embankment are maintained by the drainage blanket that underlies the dam. Thus, the drain system is functioning properly to prevent buildup of pore water pressures within the body of the dam; thereby ensuring dam stability with a high factor of safety. The Initial Detailed Dam Inspection Report will further describe and document the dam stability.

For dam safety purposes, preventing an embankment from overtopping during a flood event is typically accomplished by either: (a) providing an armored (non-erosive) spillway that is designed to safely convey over the dam and/or a channel to carry around the dam storm water discharges in excess of the quantity that can be safely stored in the "flood pool" portion of the reservoir volume, or (b) providing adequate storage capacity (volume) within the impoundment area to fully contain the entire inflow design flood volume without overtopping the dam. No spillway is required for dam safety purposes as long as adequate storage for potential runoff is maintained.

As recommended in the DRMS Report (page 3), the Initial Detailed Inspection Report will reconfirm, based on recent topographic mapping, that the existing impoundment area behind the dam has sufficient storage capacity to fully contain the estimated total volume of runoff from

a worst-case probable maximum flood (PMF) storm event. The Initial Detailed Inspection Report will further discuss the stability of the dam under the flood loading condition.

5) It states that the Operator has completed certain repairs including "installation of a new liner material to replace the eroded liner". (Report p.3) Have actions been taken by the Operator or by DRMS to determine the viability of the entire liner underlying the LTF as it impacts its ability to contain water? Note the testimony by the Operator in the 1990 MLRB transcript that "the synthetic liner was designed for use during the operational period of the mine, and not for an indeterminate period of time". (Complaint p.3) Further reclamation at the mine site should have been achieved 10-15 years after mining had ceased (or by 2012). (Complaint p.3, Lyle testimony)

Response to Paragraph 5:

A liner is situated on the north, downgradient side of the tailing embankment to manage stormwater infiltration and runoff. An approximately 10 feet by 200 feet section of the liner in this area is exposed on the surface to convey clean stormwater runoff from the embankment. In April 2013, an approximately 15 feet section of this exposed liner was replaced and tied into the adjacent covered liner on the downgradient side of the embankment.

BMRI maintains an extensive monitoring system, consisting of monitoring wells and lysimeters, to ensure that the lined tailing facility and collection pond system are functioning properly and remain protective of downgradient water resources. The current monitoring system is summarized in Technical Revision 32, and is further described in BMRI's April 15, 2013 submittal to DRMS.

6) Have repairs been conducted on the disturbed area that is 200 feet long by 50 feet wide? (Report p.4)

Response to Paragraph 6:

The referenced disturbance was associated with the replacement of a portion of the stormwater conveyance liner on the north, downgradient side of the embankment as described in the response to paragraph 5 above. That repair work was completed in April 2013. Final reseeding will be completed in spring 2014.

7) There is a seep associated with the outlet of the drainage blanket for the tailing pond. Routine maintenance and other actions are required to ensure its continued function.

(Report p.4) Do we know if the recommended maintenance including sediment cleanout and stabilization of the slope has been accomplished?

Response to Paragraph 7:

As part of the tailing impoundment underdrain system, three pipes run beneath the tailing impoundment and into a lined channel where the captured water is conveyed to the collection pond. The "seep" area identified in the DRMS Report refers to the location where those pipes emerge from the toe of the impoundment and discharge to the lined channel. In April 2013, BMRI completed routine maintenance at this location, which included sediment removal and filling of small erosion channels on the embankment slope immediately above the pipeline outlets. BMRI regularly inspects this outlet area to ensure there are no impediments to flow. The Initial Detailed Inspection Report will further describe appropriate maintenance measures for the outlet system.

8) Do we know if a properly designed debris screen was installed to protect the inlet for the drop structure? (Report p.4)

Response to Paragraph 8:

The Initial Detailed Inspection Report will further evaluate whether a debris screen should be installed on the inlet to the drop structure. As part of its stormwater system inspections at the San Luis Project, BMRI regularly inspects this inlet area to ensure that there are no obstructions to flow.

9) In reference to the June 2103 report of Mark Perry, there are several areas of interest. Mr. Perry's attached June 3, 2013 letter to you notes "we have not assigned an overall safe storage level, as the dam is an Exempt Structure per SEO Rules and Regulations". Further, he states in his report that "the SEO does not have expertise or experience specific to tailings dams. Our recommendations and observations are provided based upon Dam Safety experience with dams and associated facilities designed to impound water" (Report p.4) A key consideration is that in 2011 and 2012 the LTF was not only used as a water storage facility, but annually over 150 ac.ft of untreated waters were transferred to it. (Complaint, p.2) referring to Operator's records). Accordingly, Mr. Perry's review of the LTF as a water storage facility would be relevant. Further, his report states: Upstream Slope -"during normal operations the facility's water surface is several hundred (horz.) feet away from the crest; the only potential for slope erosion would be from a large flood event" (Report p.1) Further, in the Spillway section, he states "It is not clear to us how the ditch and adjacent tailings embankment would perform in

larger floods ... " (Report p.2) Based upon the major flood events in Boulder, Weld and other counties in 2013, catastrophic flood events obviously can and do occur;

Response to Paragraph 9:

BMRI concurs with the statement in Mr. Perry's Engineer's Inspection Report (page 1) that the tailing impoundment is not subject to State Engineer regulation.

The dam safety evaluation that is currently in progress will include evaluation of the capacity and performance of the runon diversion ditch system and the dam embankment during major flood events. These analyses will be based on recent topographic data, recent surveys of the runon diversion structures and modeled runoff during a PMF event. The potential need for upstream slope protection on the dam face during large events is also being evaluated. The results of these analyses will be presented in the Initial Detailed Inspection Report.

10) Mr. Perry's report mentions that under the Crest section "the owner recently had a stage capacity and dam crest survey performed". (Report p.1) We would like to review that document. Further, Mr. Perry's recommendation was that the dam crest elevation is maintained for the original design criteria (Report p.1). Once again, the Operator's testimony is that the intended use of the L TF at the time it was built is different than its current use as a permanent water storage facility.

Response to Paragraph 10:

The updated survey information (including an updated topographic map) will be included in the Initial Detailed Inspection Report. That report will also evaluate the current dam crest elevation in the context of the original design criteria.

11) From Mr. Perry's report, it is not clear if the Operator's intention is to use the LTF as a permanent storage facility or its desire is to move water away from the free water pool. For example, Mr. Perry mentions under the Outlet section that "During the normal operations, the facility holds only a small amount of surface water" (Report p.2). It is not clear if he is referring to the LTF.

Response to Paragraph 11:

As noted in the DRMS Report (page 2), the May 13, 2013 inspection focused on the main embankment of the tailing impoundment. Consequently, it appears that the facility referenced on page 2 of Mr. Perry's report is the lined tailing facility (LTF). BMRI concurs with Mr. Perry's observation that only a small amount of water (estimated to be < 30 acre-feet compared to the

over 1000 acre-feet water-holding capacity of the impoundment) is ponded in a topographic depression within the impoundment. The relatively small volume of water that is routinely present, and the location of the ponded area 600 feet upstream from the dam present a very low to negligible dam safety risk.

We would be happy to provide you with any additional information to assist DRMS in completing its response.

Sincerely,
BATTLE MOUNTAIN RESOURCES INC.

Julio Madrid
Sr. Supervisor Legacy Sites Reclamation and Closure

cc: Larry Fiske
Scott Hardt