STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY
Department of Natural Resources

1313 Sherman St., Room 215
Denver, Colorado 80203
Phone: (303) 866-3567
FAX: (303) 832-8106

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

January 27, 2014

John C. McClure, Esq.
McClure &Eggleston, LLC
1401 17th Street, Suite 660
Denver, CO 80202-1244

Edwin J. Lobato, Esq.
P.O. Box 1302
224 San Juan Avenue
Alamosa, CO 81101

RE: Response to Continuation of Complaint,
Battle Mountain Resources, Inc., San Luis Project, Permit No. M-1988-112

Dear Mr. McClure and Mr. Lobato:

On November 29, 2013, the Division received your inquiry, dated November 20, 2013, responding to the Division's inspection report of the San Luis Project, signed September 11, 2013. The Division interprets your correspondence as a continuation of a complaint submitted in February 2013, regarding the San Luis Project.

In response to the February 2013 complaint, the Division conducted an inspection of the San Luis Project on March 18, 2013. The Division's inspection was conducted by Tony Waldron, Minerals Program Supervisor; Russ Means, Senior Environmental Protection Specialist; and Wally Erickson, Environmental Protection Specialist. A copy of the inspection report, generated from the March 18, 2013 inspection, was forwarded to you on March 25, 2013, and is attached as Exhibit 1. On May 13, 2013, the Division conducted a second site inspection with staff from the Dam Safety Program of the Division of Water Resources, Office of the State Engineer. This second inspection was conducted by Russ Means and Wally Erickson from the Division, and Mark Perry, P.E., with the Dam Safety Program of the Division of Water Resources. A copy of the inspection reports generated by the Division of Reclamation, Mining and Safety and the Division of Water Resources was forwarded to you on September 11, 2013, and is attached as Exhibit 2.

In addition to the two site inspections, on May 15, 2013, the Division approved Technical Revision No. 33 to the permit for the San Luis Project, providing a comprehensive dam safety inspection and reporting program. The Dam Safety Program of the Division of Water Resources participated in the review of TR-33. Under TR-33, Battle Mountain Resources, Inc. (Operator) is now obligated to conduct quarterly and annual dam safety inspections and report the findings of such inspections to the Division. The annual dam safety inspections will be conducted by a qualified registered professional engineer who is experienced in the construction and maintenance of tailings impoundments. The quarterly dam safety inspections will be conducted by appropriately trained individuals with experience at the San Luis Project. A copy of TR-33 is attached as Exhibit 3.

On December 18, 2013, the Division received correspondence from the Operator, responding to the issues raised in your inquiry dated November 20, 2013. A copy of the Operator's response is enclosed for your review as Exhibit 4. In the response the Operator states it has retained an engineering consulting firm to conduct, among other things, an initial dam safety evaluation and site inspection in accordance with TR-33. The results of the consultant's inspection, data review and supplemental engineering analysis will be documented in the Initial Detailed Inspection Report which the Operator anticipates filing with the Division in February 2014. The Division will ensure a copy is provided to you.

A tremendous amount of information has been gathered regarding this site since the February 2013 complaint. Additional information will be made available once the Operator finalizes and submits its Initial Detailed Inspection Report. Therefore, the Division and the Operator have responded to and addressed all issues raised by the complaints submitted in February 2013, and on November 29, 2013. Accordingly, the Division believes the complaint process, commencing with the February 2013 complaint, to be fully satisfied.

Sincerely,

Wallace H. Erickson
Environmental Protection Specialist

Attachments:

Exhibit 1	DRMS inspection report generated from the site-inspection occurring on March 18, 2013;
Exhibit 2	Inspection reports from DRMS and DWR, generated from the joint site-inspection occurring on May 13, 2013;
Exhibit 3	TR-33 to the permit for the San Luis Project, Permit M-1988-112, as approved by DRMS on May 15, 2013; and
Exhibit 4	Correspondence from Battle Mountain Resources, Inc., received December 18, 2013, 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

ec w/attachments:
John Stulp, Special Policy Advisor to the Governor
John McClure, Esq., McClure & Eggleston, LLC
Ed Lobato, Esq.
Larry Fiske, BMRI
Julio Madrid, BMRI
Jeff Fugate, AGO for DRMS
Loretta Pineda, DRMS Director
Tony Waldron, DRMS Minerals Program Supervisor
Russ Means, DRMS Senior EPS

DRMS Exhibit 1

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY
Department of Natural Resources

1313 Sherman St., Room 215
Denver, Colorado 80203
Phone: (303) 866-3567
FAX: (303) 832-8106

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

March 25, 2013

John C. McClure, Esq.
McClure &Eggleston, LLC
1401 17th Street, Suite 660
Denver, CO 80202-1244

Edwin J. Lobato, Esq.
P.O. Box 1302
224 San Juan Avenue
Alamosa, CO 81101

RE: Partial Response to Complaint,
Battle Mountain Resources, Inc., San Luis Project, Permit No. M-1988-112

Dear Mr. McClure and Mr. Lobato:

Thank you for informing the Division of Reclamation, Mining and Safety (Division) of your concerns regarding the above referenced permitted operation. In response to your complaint the Division has commenced an investigation. The investigation will include a thorough review of the history of the permit and several site inspections. Copies of the inspection reports conducted in response to your complaint will be forwarded by US Mail and by electronic transmission as soon as the reports are generated. The inspection reports are intended to respond to portions of the numerous allegations raised in your complaint. The Division's comprehensive response, addressing all allegations raised in your complaint, will not occur until the Division has completed its investigation.

Please find enclosed copy of the Division's inspection report generated from the site inspection occurring on March 18, 2013. As noted on the first page of the inspection report, the inspection was conducted by Tony Waldron, Minerals Program Supervisor; Russ Means, Senior Environmental Protection Specialist; and Wally Erickson, Environmental Protection Specialist.

In Exhibit F of your complaint Mr. Lobato expressed frustration in accessing the public record for the permitted operation, available through the Division's web site. The Division's web site has been recently revised. Therefore, please consider the following directions, which have been updated from the directions I previously provided on November 27, 2012.

1. Access the Division's web site home page at http://mining.state.co.us.
2. Scroll to the bottom of the home page. At center screen under "News & Notices", select the menu option "Mining Permit Data".
3. The new page is titled "Imaged Document Data". There is some helpful information on this page regarding access to the public records. Select the highlighted box, "click here for imaged document data".
4. The new page is titled "Laserfiche WebLink", with menu options listed vertically on screen left. Insert the permit number or file number in the first window, which, for the San Luis Project is "m1988112". Please avoid inserting dash symbols or capital letters

with the permit number. The window immediately below the window for the permit number is titled "IBM Index Class Name" and has a drop down menu. On that drop down menu select one of the nine menu options according to the category of document you seek. "Permit File" is the correct menu option for accessing documents associated with the original application. "Revision" is the correct menu option for accessing documents associated with any amendments or revisions to the original application. Once you have selected one of the menu options scroll to the bottom of screen left and select "Search".

5. Had you selected "Revision" all documents associated with any revision to the permit will be listed. There are 1,793 entries under Revision for this permit and the computer may require more than a moment to list all the entries; please be patient. There will be 20 entries listed per page. Thus, there are 90 pages of entries under Revision. The entries are organized in a table format with 13 columns shown across the top of the window. The first column, shown on the far left, is titled "Name". The entries are initially listed alphabetically according to the Name. If you click on the column heading "Doc Date", all entries will be ordered in chronologic order according to the date of document. If you select "Doc Date" again, the documents will be reordered in reverse chronological order. As indicated in the column heading "Media Type" some of the entries are maps (M), some are documents (D), and some are photos (P).
6. To open an entry click on the Name of the entry, listed in the far left column.
7. After the entry is opened you can convert it to a PDF by selecting that menu option located at the top of the window. After the PDF conversion is complete you can save it to a storage device or print a hard copy.
8. Due to budget considerations there are a limited number of licenses procured for the Laserfiche WebLink. Therefore, if you are denied access please try again at a later time. There is a timeout feature whereby web access will be terminated if activity ceases. If you are timed out you may re-initiate the process.

If you continue to experience frustration please call me and I will walk you through the process.

Please contact me at the Division's office in Durango at 691 County Road 233, Suite A-2, Durango, Colorado 81301, phone (970) 247-5469, if you have any questions.

Sincerely,

Wallace H. Erickson
Environmental Protection Specialist

Enclosure: DRMS inspection report generated from the 3/28/13 inspection of the San Luis Project, M-1988-112, signed 3/25/13

ec w/enclosure: John Stulp, Special Policy Advisor to the Governor
John McClure, Esq., McClure & Eggleston, LLC
Ed Lobato, Esq.

COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
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: San Luis Project	**MINE/PROSPECTING ID#:** M-1988-112	**MINERAL:** Gold and silver	**COUNTY:** Costilla
INSPECTION TYPE: Multi Person Inspection	**INSPECTOR(S):** TonyWaldron, RussMeans, WallyErickson	**INSP. DATE:** March 18, 2013	**INSP. TIME:** 10:00
OPERATOR: Battle Mountain Resources, Inc.	**OPERATOR REPRESENTATIVE:** Lawrence Fiske, Julio Madrid, Steve Carino, and Jim Witwer	**TYPE OF OPERATION:** 112d-3 - Designated Mining Operation	

REASON FOR INSPECTION: Citizen Complaint	**BOND CALCULATION TYPE:** Partial Bond	**BOND AMOUNT:** $7,400,000.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:** Wallace A. Erickson	**SIGNATURE DATE:** March 25, 2013

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------- Y	(RD) ROADS---------- Y
(HB) HYDROLOGIC BALANCE---------- Y	(BG) BACKFILL & GRADING---------- Y	(EX) EXPLOSIVES--------- N
(PW) PROCESSING WASTE/TAILING---- Y	(SF) PROCESSING FACILITIES------- Y	(TS) TOPSOIL---------- N
(MP) GENL MINE PLAN COMPLIANCE- Y	(FW) FISH & WILDLIFE---------- Y	(RV) REVEGETATION---- Y
(SM) SIGNS AND MARKERS---------- N	(SP) STORM WATER MGT PLAN---- N	(SB) COMPLETE INSP---- N
(ES) OVERBURDEN/DEV. WASTE--------- Y	(SC) EROSION/SEDIMENTATION--- Y	(RS) RECL PLAN/COMP-- Y
(AT) ACID OR TOXIC MATERIALS------- Y	(OD) OFF-SITE DAMAGE----------Y	(ST) STIPULATIONS------ N

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

PURPOSE OF INSPECTION

This inspection occurred in response to a complaint submitted by McClure & Eggleston, LLC, on behalf of the Costilla County Commissioners and the Costilla County Conservancy District. The complaint was received electronically on February 26, 2013, and February 28, 2013. The complaint included the following documents:

- 2-page cover letter, dated February 26, 2013, signed by John C. McClure, Esq., and Edwin J. Lobato, Esq.; with an 8-page memo from Mr. McClure and Mr. Lobato; and supporting documents identified as Exhibits A, B, C, D-1, D-2, E, F and G, totaling 353 pages; and

- 1-page cover letter, dated February 28, 2013, signed by John C. McClure, Esq., and Edwin J. Lobato, Esq.; with supporting documents, totaling 75 pages (428 pages total for complaint).

The supporting documents included the following:

- Exhibit A – an incomplete copy of an Expert Report and Summary of Opinions, dated August 20, 2012, which was prepared by Scott G. Mefford, CPG, for District Court Case No. 07CW42 (9 pages);

- Exhibit B - a complete copy of the Deposition of William S. Lyle, taken November 2, 2012, for District Court Case No. 2007CW42 (148 pages);

- Exhibit C – a complete copy of the Deposition of Julio Madrid, taken November 5, 2012, for District Court Case No. 2007CW42 (105 pages);

- Exhibit D-1 – a correspondence from Julio Madrid, Battle Mountain Resources, dated November 15, 2011, addressed to the Division of Water Resources, regarding an annual report (8 pages);

- Exhibit D-2 – data table (1 page);

- Exhibit E – an incomplete copy of the transcript from the January 25, 1990, Mined Land Reclamation Board hearing, during which the Board considered the application for Amendment No. 1 to the San Luis Project, M-1988-112, with objections, and conditionally approved the application (43 pages);

- Exhibit F – an incomplete copy of the transcript from the December 13, 2012, District Court Case No. 2007CW42 (28 pages);

- Exhibit G – map, Battle Mountain Site Plan, prepared by Lytle Water Solutions, LLC (1 page); and

- An incomplete transcript from the December 12, 2012, District Court Case No. 2007CW42 (74 pages).

INVESTIGATION AND RESPONSE PROCEDURE

The above described complaint is atypical of the type of complaints generally received by the Division. Therefore, the Division's investigation and response procedure will be somewhat modified in addressing the issues raised by the Complainant. In response to the allegations raised by the Complainant the Division has

commenced a thorough review of the history of the permit. The history commences November 10, 1988, and includes numerous public hearings before the Mined Land Reclamation Board, civil action 89CV6224, three violations issued by the Mined Land Reclamation Board, one violation issued by the Water Quality Control Division (WQCD) of the Colorado Department of Public Health and Environment, three amendments (two were withdrawn after a protracted review period), 37 revisions and 100 site inspections by Division staff. The Division's investigation will include several site inspections with this inspection being the first in the investigation. The Division will forward copies of all inspection reports generated during the investigation to the Complainant by electronic transmittal and by US Mail. The Division's comprehensive response, addressing all of the allegations raised by the Complainant, will not occur until after the Division has completed its review of the permit history and has identified additional modifications to the permit, if necessary, to ensure compliance with the Colorado Mined Land Reclamation Act, 34-32-101 et seq., C.R.S. (the Act), and with the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal and Designated Mining Operations (the Rules). Copy of the current Act and Rules are available on the Division's web site at http://mining.state.co.us. If, during its investigation the Division discovers evidence of a possible violation of the permit conditions, and/or of the Act and Rules, the Division will pursue enforcement action against the Operator, Battle Mountain Resources, Inc.

CURRENT PERMIT STATUS

The San Luis Project is a 112d-3 type permit, with the "d" indicating its status as a Designated Mining Operation. As such the operation is subject to the most stringent environmental protection requirements available in the Act and Rules. The permit area for the San Luis Project encompasses 1,801 acres, within which boundaries the Operator is approved to affect 641 acres. The approved environmental protection plan, reclamation plan and financial warranty address the 641 acres affected lands. The majority of the affected lands will be reclaimed to support rangeland and wildlife habitat post-mining land use, with approximately 45 acres approved to be reclaimed to industrial/commercial land use. Mining and milling activities ceased on or about November 9, 1996, and the Operator commenced final reclamation. The Division holds $7.4 million financial warranty.

PERPETUAL WATER TREATMENT AND/OR PERPETUAL WATER MANAGEMENT

During the active mining phase of the operation ore was extracted from the East and West Pit areas. The excavation at the West Pit encountered several aquifers. These aquifers were related to the Santa Fe Formation, the Precambrian bedrock and the alluvial aquifer for Rito Seco. Rito Seco is a perennial stream in close proximity to the south side of the West Pit area. Rito Seco is tributary to Culebra Creek, which is tributary to the Rio Grande River. These aquifers carried a substantial flow of ground water, estimated at 210 gallons per minute (gpm), which drained into the pit and created a dewatering necessity. Permit documents indicate approximately 60 gpm were retained at the West Pit area and utilized for dust control with the balance, approximately 150 gpm, apparently being transferred to the mill facility to be utilized as metallurgical processing fluids, or to the tailings repository to be disposed by evaporation.

With the commencement of final reclamation the West Pit was partially backfilled and the dewatering activity ceased. Ground water in the backfilled West Pit rose to an elevation sufficient to seep into the adjacent Rito Seco aquifer. The seep was discovered on or about October 28, 1998, and at that time was characterized as a seep flowing at 10 gpm. The Operator responded immediately and by December 15, 1998, had managed to reduce the surface seep from 10 gpm to 1 gpm. By June of 1999 the Operator had installed three production

wells in the backfilled West Pit and four ground water capture wells in the Rito Seco alluvium. The plan was to draw down the ground water elevation within the backfilled West Pit sufficient to stop the seep, reverse the hydrologic gradient of ground water moving from the West Pit into the Rito Seco aquifer, and to re-capture any West Pit ground water previously escaped to the Rito Seco aquifer. The plan proved successful.

Regardless, the seep did not meet receiving stream standards and ultimately resulted in a violation from WQCD, issued August 20, 1999. A water treatment plant was constructed and operated to reduce concentrations of manganese, fluoride and sulfate from the ground water pumped from the backfilled West Pit and the capture wells located in the Rito Seco alluvium, prior to discharge to Rito Seco. Discharge from the water treatment plant is permitted through Colorado Discharge Permit System (CDPS) CO-0045675.

OBSERVATIONS SPECIFIC TO THE TAILINGS REPOSITORY

Engineering designs for the tailings repository were reviewed and approved through Amendment No. 01 (AM-01) to the permit. AM-01 was approved January 24, 1990. Documents from the public record describe the tailings repository to include, but not limited to, a lined tailing impoundment with drainage blanket to direct fluids to a double lined collection pond; embankments, as necessary to impound tailings; a pump back system designed to return fluids from the collection pond to the free water pool of the tailing impoundment; pipelines and pump stations to transfer tailing slurry to the tailing impoundment and recycle fluids back to the mill circuits; and upland diversion structures to direct upland drainage around the tailings repository. The features of the tailings repository are discussed in greater detail below.

- A lined tailing impoundment designed to permanently contain approximately 12.2 million tons of tailings, with a final surface area of approximately 192 acres. The liner was a continuous composite liner system consisting of a foundation of compacted, low permeability soil overlaid by a geosynthetic membrane, generally 40-mil VLDPE (very low density polyethylene). 60-mil HDPE (high density polyethylene) membrane was installed in exposed areas (resistant to ultraviolet radiation) and/or in areas of anticipated high hydraulic head. VLDPE is specified to withstand 900% elongation and is preferred where differential settling of the foundation is anticipated. The majority of the impoundment was established in cut. Only several localized arroyos were filled to establish the final grade within the impoundment. The impoundment was constructed in a manner which minimized the potential for differential settling of the foundation. Approximately 5.3 million square feet of liner was installed during Phase 1 construction, with a total of approximately 7.3 million square feet of liner installed by the end of Phase 2 construction. The liner system was considered state of the art at the time of construction and had been installed with a high level of quality assurance and quality control. The Division accepted the design and final construction as adequate to protect ground water resources. Laboratory results of ground water samples taken down gradient of the impoundment on a quarterly basis indicate the liner system has proven to be protective of ground water resources.

- A drainage blanket, composed of a 2-foot thick layer of specified earthen material with an embedded network of perforated drainage pipes, was installed immediately above the geosynthetic membrane. The drainage blanket was intended to minimize hydraulic head on the liner system and thereby minimize leakage, and to provide a method of dewatering the tailings placed within the impoundment. The liner system and drainage blanket extend under the main embankment and ultimately drains to a double lined collection pond. The permeability of the tailings will vary over time with permeability decreasing as the tailings consolidate. Tailings were pumped to the impoundment in slurry with

approximately 50% of the slurry being fluids. The designs for the facility anticipated the quantity of fluids associated with the slurry at 780 gpm, based on a production rate of 4,680 tons of ore milled per day. During the time of tailings deposition (1992), flow rates from the drainage blanket to the collection pond approximated 300 gpm. Deposition of tailings slurry to the impoundment ceased on or about November 9, 1996. Since that time flow rates from the tailing impoundment to the collection pond have reduced. During the time of this inspection the Operator reported the flow rate to the collection pond to be 36 gpm.

- The main embankment for the tailing impoundment was constructed in two phases utilizing the upstream method of construction. The main embankment was designed and constructed to be permeable; the embankment was intended to impound tailings and not fluids. According to the approved designs, at the completion of Phase 1 construction the earthen embankment would be approximately 100 feet high with a crest length of 1,450 feet. The downstream face of the embankment would be no steeper than 3H:1V (3 units of distance in the horizontal plane to each unit of distance in the vertical plane) and the upstream face of the embankment not steeper than 2.5H:1V. The Phase 2 construction would include two additional lifts, both maintained at 3H:1V for the downstream face and 2.5H:1V for the upstream face, ultimately raising the embankment to 155 feet in height with a crest length of 1,900 feet. Stability analyses were performed for the tailings embankments, collection pond embankments, and other impoundment dikes for static and pseudostatic (seismic) conditions. The analysis rendered appropriate factors of safety to demonstrate the stability of the embankments during normal and earthquake conditions. The approved designs included water balance calculations which demonstrated the capacity of the tailings repository to be appropriate to ensure containment of not only normal operating fluids but also the probable maximum precipitation (PMP) storm event. There is a second tailing embankment, the "splitter" embankment, constructed during Phase 1 and running parallel to the main embankment. The purpose of the splitter was to aid in the management of tailings and fluids during the initial deposition of tailings. The splitter embankment is 90 feet high and is now buried in tailings and not evident by surface observations. During the time of this inspection the Division encountered a geotechnical engineer, Allen Jewell, who was conducting a stability and safety evaluation of the main embankment. Mr. Jewell indicated he had been retained by the Operator.

- A double lined collection pond is located at the downstream toe of the main embankment of the tailing impoundment. As noted above, the tailing impoundment is designed to separate the liquid component of the tailings slurry, impound the solids and pass the liquids under the main embankment to the collection pond. The collection pond was designed and constructed to impound fluids. Due to the high hydraulic head anticipated in the collection pond, the pond was double lined with the lower liner being a 40-mil VLDPE and the upper liner a 60-mil HDPE. A layer of geonet was placed between the two membranes to enhance stability and to collect any leakage from the upper liner. Leakage from the upper liner is conveyed to a secondary recovery sump located on the down gradient side of the collection pond. The design capacity of the collection pond was 10.5 million gallons with 2-feet of freeboard. A pump back system was installed, and has been maintained, whereby fluids from the collection pond are returned to the free water pool located on top of the tailings within the tailing impoundment.

- Upland drainage from the south and east sides of the tailings repository are routed around the facility by a series of drainage ditches and diversion berms, designed to safely convey drainage generated by

the 100 year, 24 hour storm event. Permit documents define the 100 year, 24 hour storm event at 2.9 inches precipitation and calculate storm runoff from the south drainage area at 292 cubic feet per second (cfs) and 80 cfs for the east drainage area. Storm runoff from the north side of the facility is not diverted but included within the water balance calculations for the tailing impoundment. In the case of a storm event greater than the 100 year, 24 hour, the tailings repository was designed to safely contain all drainage up to and including the PMP. Permit documents define the PMP at 14 inches precipitation over an 8-hour period. Given the catchment area of 1.29 square miles, flood flows generated by the PMP were estimated at 9,220 cfs. As noted previously, the tailings repository was designed to safely contain such event.

- The tailings delivery and distribution pipeline(s) with associated pump stations are no longer necessary and have been removed as part of reclamation activities.

Response to this inspection report should be directed to Wally Erickson at the Division's office in Durango located at 691 County Road 233, Suite A-2, Durango, Colorado 81301, phone (970) 247-5469, fax (970) 247-5104, or email at wally.erickson@state.co.us.

Certificate of Service

I, Wallace H. Erickson, hereby certify that on this 25th day of March, 2013, placed a true copy of the foregoing inspection report generated from the inspection of the San Luis Project, Permit No. M-1988-112, occurring on March 18, 2013, signed March 25, 2013, in the US Mail, postage affixed, addressed to the following three individuals:

Lawrence Fiske
Battle Mountain Resources, Inc.
P.O. Box 310
San Luis, CO 81152

John C. McClure, Esq.
McClure & Eggleston, LLC
1401 17th Street, Suite 660
Denver, CO 80202-1244

Edwin J. Lobato, Esq.
P.O. Box 1302
224 San Juan Avenue
Alamosa, CO 81101

And an electronic copy of the same inspection report sent by email to the following individuals:

John Stulp, Special Policy Advisor to the Governor, john.stulp@state.co.us
John McClure, Esq., McClure &Eggleston, LLC, jmcclure@melawllc.com
Ed Lobato, Esq., ejlobo2003@yahoo.com
Lawrence Fiske, Battle Mountain Resources, Inc., larry.fiske@newmont.com
Tony Waldron, DRMS Minerals Program Supervisor, tony.waldron@state.co.us
Russ Means, DRMS Senior Environmental Protection Specialist, russ.means@state.co.us
Jeff Fugate, Esq., AGO for DRMS, jeff.fugate@state.co.us

Wallace H. Erickson, 3/25/13
Signature and Date

DRMS Exhibit 2

COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
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: San Luis Project	**MINE/PROSPECTING ID#:** M-1988-112	**MINERAL:** Gold and silver	**COUNTY:** Costilla
INSPECTION TYPE: Multi Person Inspection	**INSPECTOR(S):** Wallace H. Erickson, G. Russell Means	**INSP. DATE:** May 13, 2013	**INSP. TIME:** 10:00
OPERATOR: Battle Mountain Resources, Inc.	**OPERATOR REPRESENTATIVE:** Julio Madrid, Steve Carino, Jim Witweir	**TYPE OF OPERATION:** 112d-3 - Designated Mining Operation	
REASON FOR INSPECTION: Citizen Complaint	**BOND CALCULATION TYPE:** Partial Bond	**BOND AMOUNT:** $7,400,000.00	
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** Complainant, OSE Dam Safety	**JOINT INSP. AGENCY:** OSE, DWR, Dam Safety, Mark Perry, PE	
WEATHER: Cloudy	**INSPECTOR'S SIGNATURE:** Wallace H. Erickson	**SIGNATURE DATE:** September 11, 2013	

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----------	Y	(RD) ROADS----------	Y
(HB) HYDROLOGIC BALANCE----------	Y	(BG) BACKFILL & GRADING----------	Y	(EX) EXPLOSIVES----------	N
(PW) PROCESSING WASTE/TAILING----------	Y	(SF) PROCESSING FACILITIES----------	N	(TS) TOPSOIL----------	N
(MP) GENL MINE PLAN COMPLIANCE---------	Y	(FW) FISH & WILDLIFE----------	Y	(RV) REVEGETATION---------	Y
(SM) SIGNS AND MARKERS----------	N	(SP) STORM WATER MGT PLAN----------	N	(SB) COMPLETE INSP---------	N
(ES) OVERBURDEN/DEV. WASTE----------	Y	(SC) EROSION/SEDIMENTATION---------	Y	(RS) RECL PLAN/COMP------	Y
(AT) ACID OR TOXIC MATERIALS----------	Y	(OD) OFF-SITE DAMAGE----------	Y	(ST) STIPULATIONS----------	N

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

OBSERVATIONS

This inspection was the second occurring in response to a complaint submitted by McClure & Eggleston, LLC, on behalf of the Costilla County Commissioners and the Costilla County Conservancy District. The complaint was received electronically on February 26, 2013, and February 28, 2013, and included approximately 428 pages. The first response inspection occurred on March 18, 2013, and employed a broad focus on the various components of the tailings repository. The focus of this second response inspection was narrowed to the main embankment of the tailings pond. Mark Perry, P.E., with the Dam Safety Branch of the Office of the State Engineer, Division of Water Resources, participated in the inspection. This inspection report is accompanied by six photographs taken by DRMS during the inspection and a copy of the Engineer's Inspection Report generated by Mr. Perry, signed June 3, 2013.

The San Luis Project is a 112d-3 operation permitted for the extraction and milling of precious metals ore. The permit area encompasses approximately 1,801 acres, within which boundaries the Operator (Battle Mountain Resources, Inc., or BMRI) is approved to affect 641 acres. Of the 641 acres the operation has affected approximately 509 acres. Affected lands will be reclaimed to support a variety of post-mining land uses including rangeland, wildlife habitat and industrial/commercial. The Division holds $7.4 million financial warranty.

Mining and milling activities ceased on or about November 9, 1996, and the Operator commenced final reclamation. Since that time the Operator has conducted maintenance and/or reclamation activities for all affected lands and has completed reclamation for significant portions of the affected lands. According to information submitted by the Operator with the annual reports, the Operator has completed reclamation for approximately 422 acres. Portions of these reclaimed areas may be sufficiently stable to be released from reclamation liability. Requests for release of reclaimed lands should be submitted in accordance with the requirements of Rules 4.17, 7.2.10 and 7.2.11.

Perpetual Water Treatment and/or Perpetual Water Management

The operation includes a water treatment plant designed and operated to reduce concentrations of manganese, fluoride and sulfate from the ground water pumped from the backfilled West Pit and the capture wells located in the Rito Seco alluvium, prior to discharge to Rito Seco. Discharge from the water treatment plant is permitted through Colorado Discharge Permit System (CDPS) CO-0045675.

Management of the West Pit ground water is addressed through a series of Technical Revisions, commencing with TR-26 and terminating with TR-32. As approved by the Division, sludge and brine from the water treatment plant are disposed at the tailings pond. Additionally, untreated ground water pumped from the West Pit and the Rito Seco alluvial wells may also be disposed at the tailings pond. Division records indicate the quality of the West Pit ground water has chemically equilibrated at or better than pre-mining ground water quality. Regardless, given the current receiving stream standards the management of the West Pit ground water, including the pumping and treatment prior to discharge to Rito Seco, as well as the disposal of sludge, brine and untreated water at the tailings pond, appears to be a perpetual activity which may persist beyond the life of the mine (Rule 1.1(26)).

Observations Specific to the Main Embankment of the Tailing Pond

During the time of this inspection the Division encountered Allen Jewell, a geotechnical engineer with Miller Geotechnical Consultants, Inc., who was conducting a stability and safety evaluation of the tailings repository. Mr. Jewell indicated he had been retained by the Operator. Pursuant to the conditions of TR-33, approved May 15, 2013, the Operator is required to conduct a comprehensive tailing dam safety inspection and reporting program, which includes the following:

- an initial detailed inspection and report of the tailings repository, to be performed by a registered professional engineer who is experienced in the construction and maintenance of embankments and tailings dams;
- annual inspection and report of the tailings repository, to be performed each year by a qualified dam safety professional engineer; and
- quarterly inspection and report of the tailings repository, to be performed every three months by qualified BMRI personnel.

As shown in DRMS Photo 1, the upstream slope of the main embankment of the tailing pond was well vegetated and appeared stable; evidence of slumping, settling or excessive erosion was not observed. The surface area of the tailings is approximately 192 acres, which includes an approximate 20-acre area for the free water pool. The Operator identified markers at approximately 200 feet upstream from the embankment, which delineate the setback distance for the free water pool from the embankment. During the time of this inspection the free water pool was visually estimated at greater than 500 feet distance from the main embankment. The Operator indicated the current depth of the free water pool to be approximately 2 feet. The free water pool contains drainage from precipitation, fluids pumped from the collection pond, and brine and untreated West Pit water pumped from the water treatment plant.

As noted in the enclosed Engineer's Inspection Report from Mr. Perry, a small excavation was observed in the upstream slope of the embankment at the location of the pump-back pipeline from the collection pond. As recommended by Mr. Perry, the excavation must be appropriately backfilled, compacted, and the vegetative cover re-established in accordance with the approved designs. Alternate designs for the pump-back pipeline may be recommended through the engineering inspection and reporting program of TR-33. However, any alteration to previously approved designs must be submitted for review and approval through the Technical Revision or Amendment process defined under Rules 1.9 and 1.10.

As noted by Mr. Perry, there is no spillway currently installed for the embankment. Spillway plans were approved in the reclamation plan but the reclamation plan did not anticipate a perpetual water management program. Please ensure the engineering report, to be submitted through TR-33, provides discussion and/or recommendations for a spillway, or other method whereby the stability of the embankment may be safeguarded during the protracted water management program. Additionally, as recommended by Mr. Perry, the initial engineering report for TR-33 shall verify whether the current storage capacity of the tailings repository is in accordance with the approved designs.

As shown in DRMS Photo 2, the Operator has recently completed routine maintenance and repair of minor erosion features on the downstream slope of the main embankment of the tailing pond. The area shown in photo 2 is located at the north end of the embankment, at the transition of the earthen embankment with the geosynthetic liner covering the native slope. The repairs included surface grading and reseeding, installation of new liner material to replace eroded liner, and excavation of a diversion ditch to intercept upland drainage

and thereby minimize potential for future erosion to the embankment. The recently disturbed area was visually estimated at 200 feet long by 50 feet wide, or approximately 0.23 acres. The downstream slope of the embankment was not steeper than 3H:1V, as indicated in the approved plans and as-built certifications for the embankment. The downstream slope of the embankment appeared well vegetated and stable; evidence of slumping, settling or excessive erosion was not observed.

As shown in DRMS Photos 3 and 4, there is a seep associated with the outlet of the drainage blanket for the tailing pond. Flow rate from the outlet was estimated at 30 gpm and consistent with monthly flow reports recorded by the Operator. Although the outlet appeared to have sufficient capacity to function in accordance with the approved designs, routine maintenance to the outlet, to include sediment clean-out and stabilization of the slope immediately above the outlet, is required to ensure its continued function.

The drainage blanket for the tailing pond and its associated outlet through the embankment are essential components of the tailings repository. As recommended in the enclosed Engineer's Inspection Report from Mr. Perry, the configuration of the existing drain-pipe upstream of the outlet, and the origin of the seep shown in photo 3, must be verified. Such investigations shall occur through the inspection and reporting program approved through TR-33. Any alteration to previously approved designs must be submitted for review and approval through the Technical Revision or Amendment process defined under Rules 1.9 and 1.10.

As shown in DRMS Photos 5 and 6, all portions of the south diversion ditch proximal to the embankment of the tailing pond appeared stable; evidence of erosion/sedimentation was not observed. However, as shown in photo 5, the inlet for the drop structure was not protected by a debris screen. As recommended by Mr. Perry, a properly designed debris screen appears essential to ensure the continued function of the drop structure. Please ensure the initial engineer inspection and report, required through TR-33, addresses the issue. If the engineer inspection and report recommends a debris screen, such plans must be submitted for review and approval through either the Technical Revision or Amendment process, described under Rules 1.9 and 1.10, prior to construction.

Please ensure the initial detailed engineering report for TR-33 discuss and/or address all recommendations of the Office of the State Engineer, Division of Water Resources, Dam Safety Branch as provided in the Engineer's Inspection Report from Mr. Perry, signed June 3, 2013.

Response to this inspection report should be addressed to Wally Erickson at the Division's office in Durango at 691 County Road 233, Suite A-2, Durango, Colorado 81301, phone (970) 247-5469, fax (970) 247-5104, or email at wally.erickson@state.co.us.

Inspection Contact Address
Lawrence Fiske
Battle Mountain Resources, Inc.
P.O. Box 310
San Luis, CO 81152

Attachment: Certificate of Service

Enclosures: 6 DRMS photographs and Engineer's Inspection Report from OSE, DWR, signed June 3, 2013

Certificate of Service

I, Wallace H. Erickson, hereby certify that on this 11th day of September, 2013, placed a true copy of the foregoing inspection report generated from the inspection of the San Luis Project, Permit No. M-1988-112, occurring on May 13, 2013, and signed September 11, 2013, with enclosures, in the US Mail, postage affixed, addressed to the following three individuals:

Lawrence Fiske
Battle Mountain Resources, Inc.
P.O. Box 310
San Luis, CO 81152

John C. McClure, Esq.
McClure & Eggleston, LLC
1401 17th Street, Suite 660
Denver, CO 80202-1244

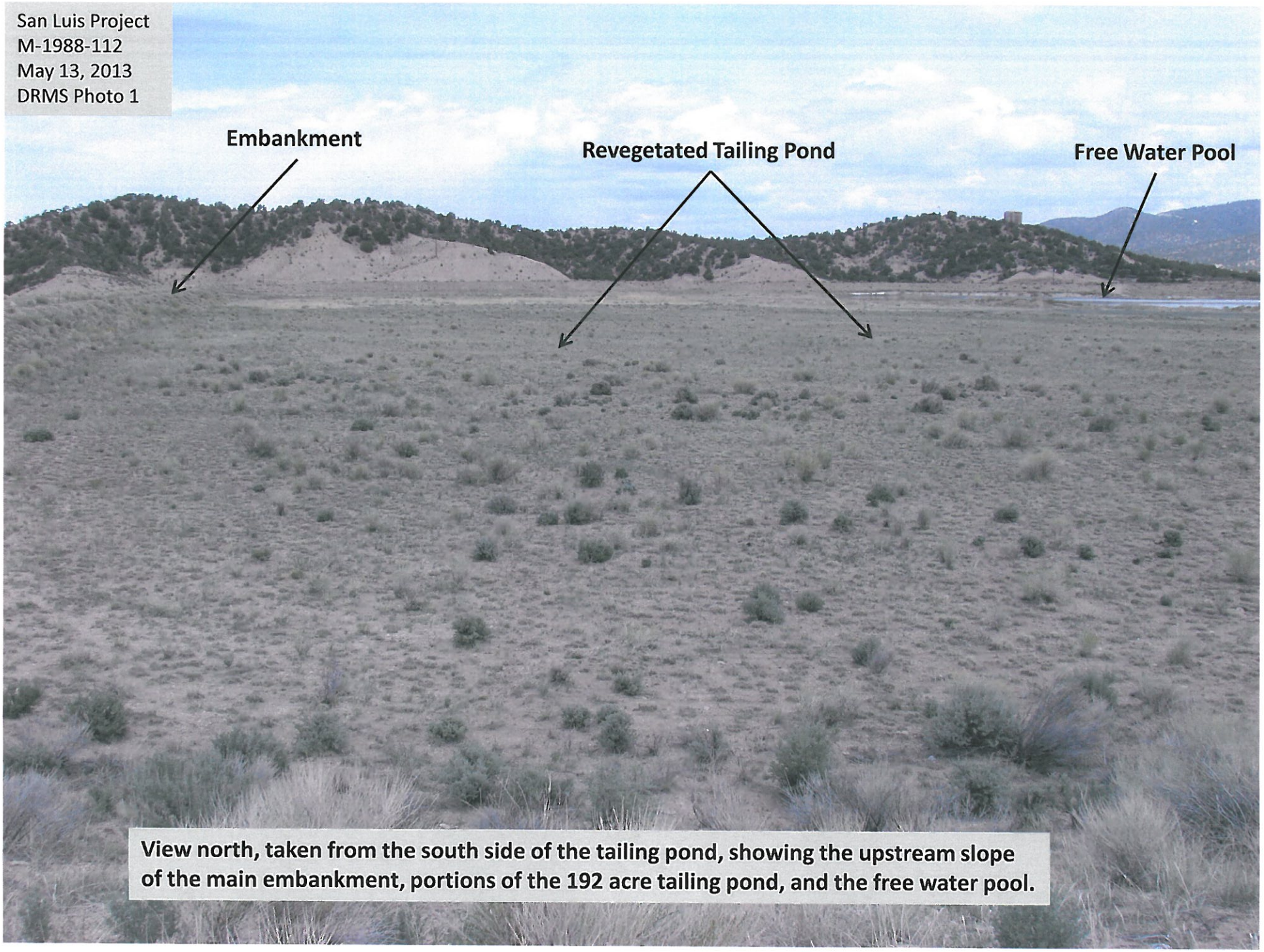
Edwin J. Lobato, Esq.
P.O. Box 1302
224 San Juan Avenue
Alamosa, CO 81101

And an electronic copy of the same inspection report with enclosures sent by email to the following:

John Stulp, Special Policy Advisor to the Governor, john.stulp@state.co.us
John McClure, Esq., McClure & Eggleston, LLC, jmcclure@melawllc.com
Ed Lobato, Esq., ejlobo2003@yahoo.com
Lawrence Fiske, Battle Mountain Resources, Inc., larry.fiske@newmont.com
Julio Madrid, Battle Mountain Resources, Inc., Julio.madrid@newmont.com
Mark Perry, OSE, DWR, Dam Safety Branch, mark.perry@state.co.us
Tony Waldron, DRMS Minerals Program Supervisor, tony.waldron@state.co.us
Russ Means, DRMS Senior Environmental Protection Specialist, russ.means@state.co.us
Jeff Fugate, Esq., AGO for DRMS, jeff.fugate@state.co.us

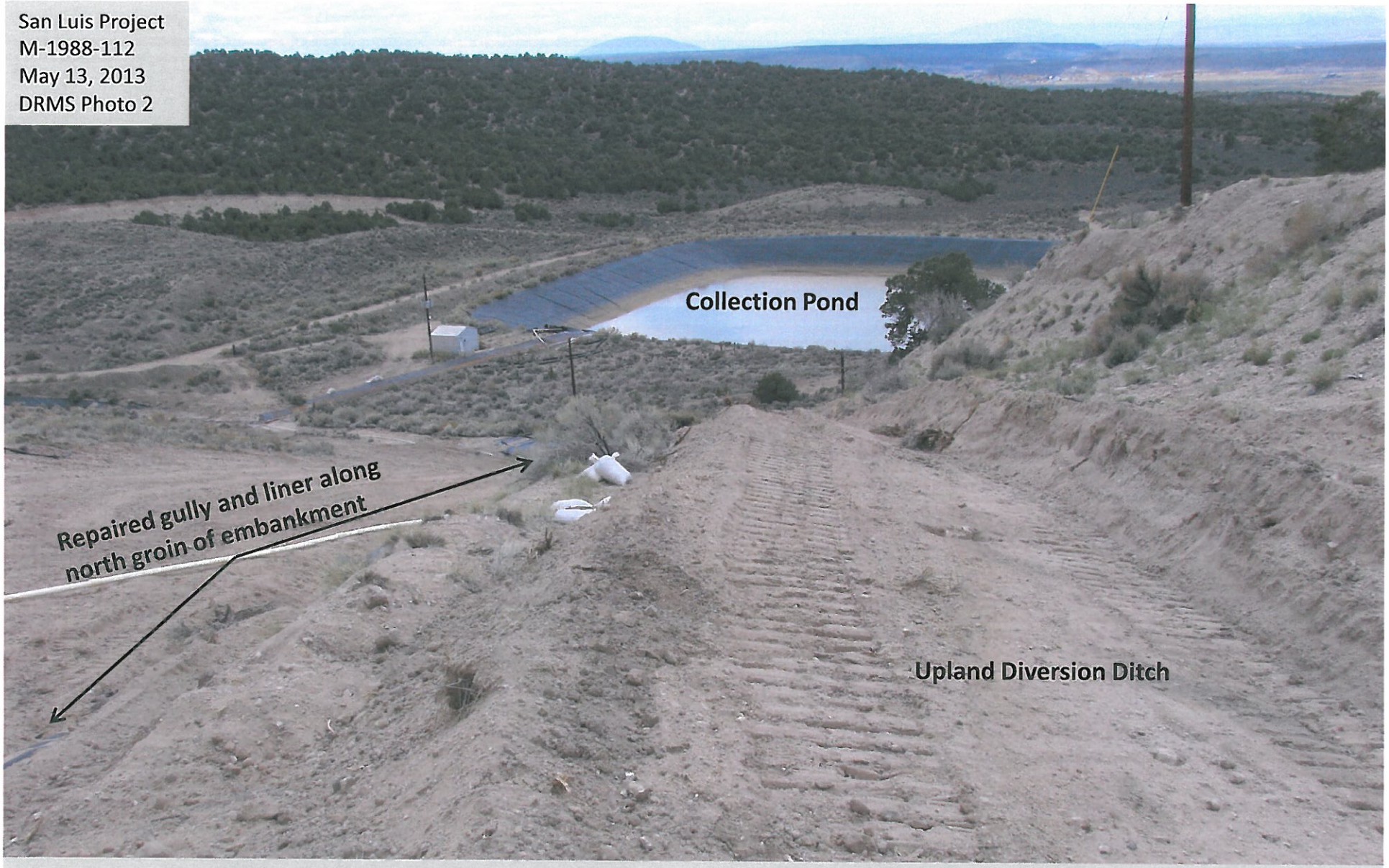
Wallace H. Erickson 9/11/13
Signature and Date

San Luis Project
M-1988-112
May 13, 2013
DRMS Photo 1



View north, taken from the south side of the tailing pond, showing the upstream slope of the main embankment, portions of the 192 acre tailing pond, and the free water pool.

San Luis Project
M-1988-112
May 13, 2013
DRMS Photo 2



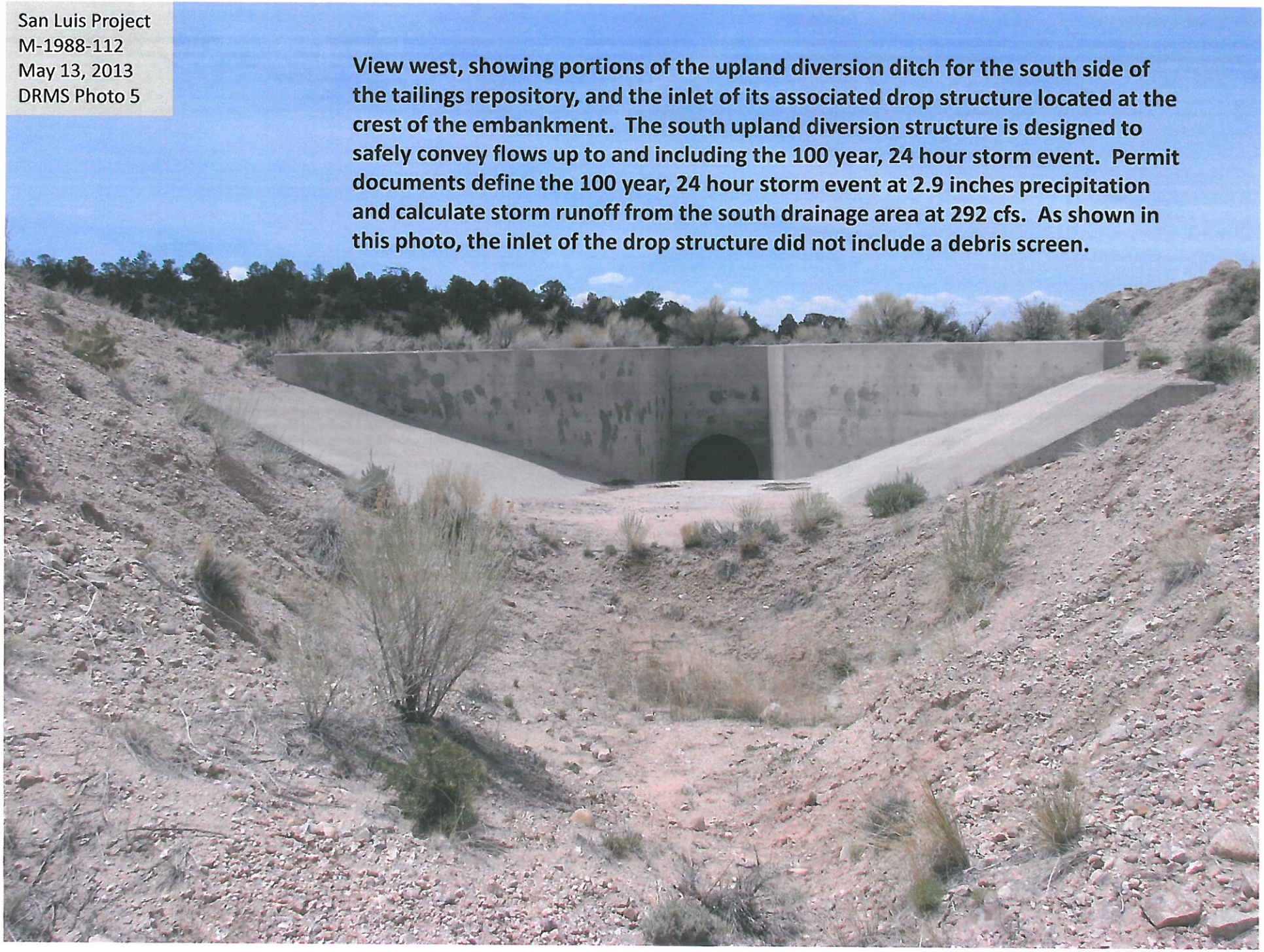
View west, taken nearby the crest and north end of the main embankment of the tailing pond, showing portions of the downstream slope of the embankment and the collection pond of the tailings repository. The Operator had recently conducted routine maintenance to control erosion. Erosion control methods employed by the Operator included surface grading along the transition of the earthen embankment with the liner, replacement of eroded sections of the liner, and installed a diversion ditch to intercept upland drainage and minimize potential for future erosion to the embankment.

View east, taken at the downstream toe of the main embankment for the tailing pond, showing the outlet of the drainage blanket and a seep associated with the outlet. The origin of the seep, current condition of the drain pipe through the base of the embankment, and any necessary repairs to the outlet must be addressed in the initial engineering report required through TR-33.

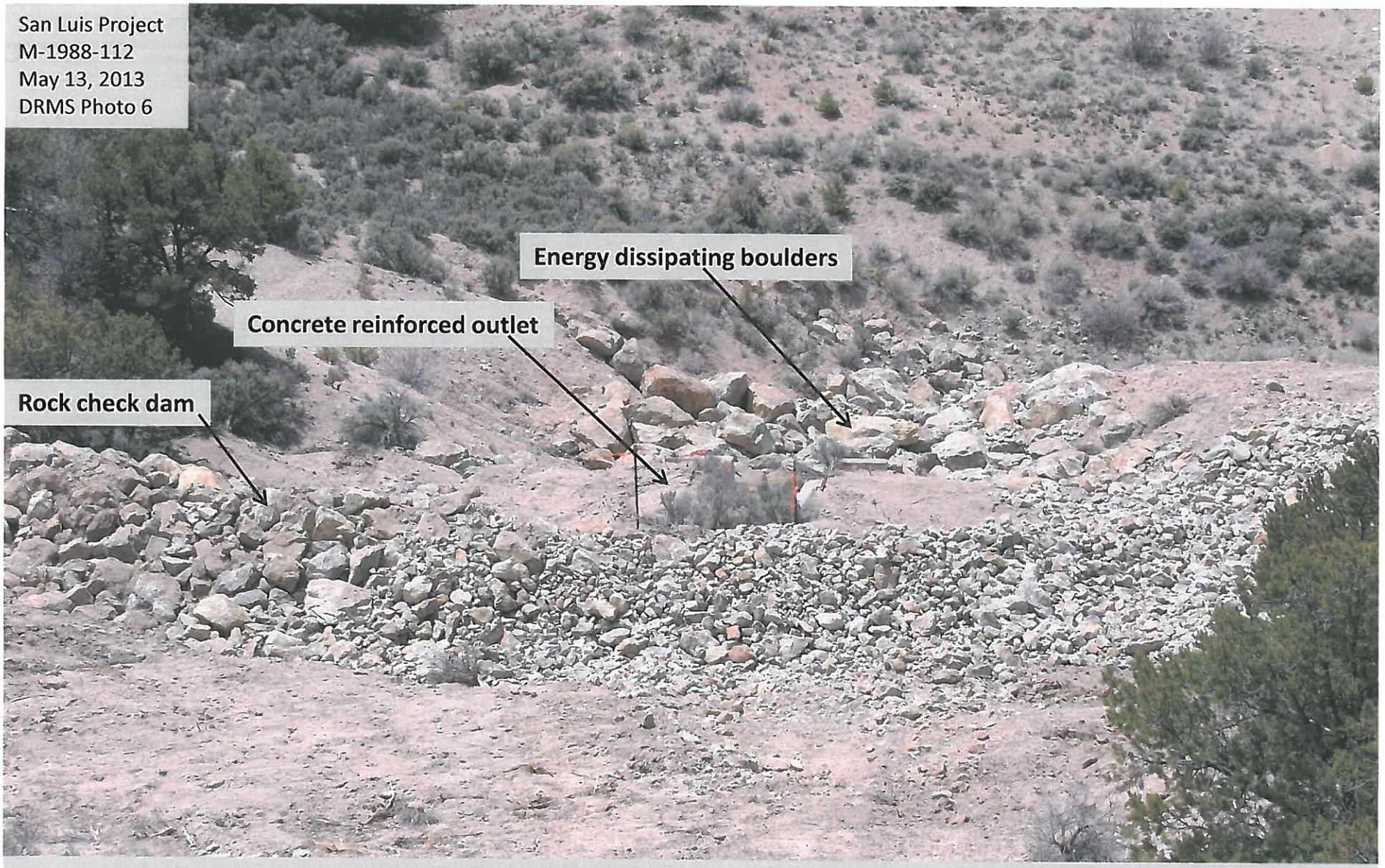
San Luis Project
M-1988-112
May 13, 2013
DRMS Photo 4

Detail photo of the drainage blanket outlet, shown in photo 3. Discharge from the outlet is contained at the collection pond and recycled to the free water pool for disposal by evaporation. Flow rate was estimated at 30 gpm. Routine maintenance to the outlet, to include sediment removal from the culverts and stabilization of the slope immediately above the culverts, appears necessary to ensure the outlet continues to function in accordance with approved designs.

San Luis Project
M-1988-112
May 13, 2013
DRMS Photo 5



View west, showing portions of the upland diversion ditch for the south side of the tailings repository, and the inlet of its associated drop structure located at the crest of the embankment. The south upland diversion structure is designed to safely convey flows up to and including the 100 year, 24 hour storm event. Permit documents define the 100 year, 24 hour storm event at 2.9 inches precipitation and calculate storm runoff from the south drainage area at 292 cfs. As shown in this photo, the inlet of the drop structure did not include a debris screen.



View west, taken nearby the crest and south end of the main embankment of the tailing pond, showing the drop structure outlet for the south diversion ditch. The Operator had recently conducted routine maintenance to control erosion. Erosion control methods employed by the Operator included surface grading, placement of riprap armoring, installation of rock check dam, and placement of energy dissipating boulders at the drop structure outlet. The outlet of the south diversion ditch appeared well maintained and stable; evidence of excessive erosion was not observed.

ENGINEER'S INSPECTION REPORT

INSPECTOR: MP3

OFFICE OF THE STATE ENGINEER - DIVISION OF WATER RESOURCES - DAM SAFETY BRANCH 1313 SHERMAN STREET, ROOM 818, DENVER, CO 80203, (303) 866-3581

DAM NAME:	BATTLE MOUNTAIN SAN LUIS TAILINGS	T: 0	R: 0	S:	COUNTY:	COSTILLA		DATE OF INSPECTION:	5/13/2013
DAM ID:	240109	YRCompl:	1991	DAM HEIGHT(FT):	140.0	SPILLWAY WIDTH(FT):	4.0	PREVIOUS INSPECTION:	
CLASS:	N hazard			DAM LENGTH(FT):	1640.0	SPILLWAY CAPACITY(CFS):	170.0	NORMAL STORAGE (AF):	750.0
DIV:	3	WD:	24	CRESTWIDTH(FT):	30.0	FREEBOARD (FT):	10.0	SURFACE AREA(AC):	150.0
EAP:	Not Required			CRESTELEV(FT):	8620.0	DRAINAGE AREA (AC.):	896.0	OUTLET INSPECTED:	

CURRENT RESTRICTION: -- NONE --

OWNER:	BATTLE MOUNTAIN RESOURCES INC.	OWNER REP.:	JULIO MARDRID
ADDRESS:	P.O. BOX 310	CONTACT NAME:	JULIO MARDRID
	SAN LUIS CO 81152-	CONTACT PHONE:	(719) 379-0059X

INSPECTION PARTY: Wally Erickson, Russ Means | Julio Madrid | Mark Perry

REPRESENTING: DNR, Division of Reclamation, Mining & S | Battle Mountain Resources Inc. | State Engineers Office, Dam Safety Branc

FIELD CONDITIONS OBSERVED

WATER LEVEL: BELOW DAM CREST ~10-12 FT. Above Spillway FT. GAGE ROD READING None

GROUND MOISTURE CONDITION: [✓] DRY [ ] WET [ ] SNOWCOVER OTHER

DIRECTIONS: MARK AN X FOR CONDITIONS FOUND AND UNDERLINE WORDS THAT APPLY

UPSTREAM SLOPE

PROBLEMS NOTED: [ ] (0)NONE [✓] (1)RIPRAP - MISSING, SPARSE, DISPLACED, WEATHERED [ ] (2) WAVE EROSION - WITH SCARPS

[ ] (3) CRACKS WITH DISPLACEMENT [ ] (4) SINKHOLE [ ] (5) APPEARS TOO STEEP [ ] (6) DEPRESSIONS OR BULGES [ ] (7) SLIDES

[ ] (8) CONCRETE FACING - HOLES, CRACKS, DISPLACED, UNDERMINED [✓] (9) OTHER excavation into slope (see below)

•There is not riprap protection on the upstream slope, but no erosion damage was observed. During normal operations the facility's water surface is several hundred feet (horz.) away from the crest; the only potential for slope erosion would be from a large flood event
•The upstream slope was excavated at the location of the old seepage recovery pipeline. The excavation should be backfilled with compacted fill to match the adjacent upstream slope.
•No signs of instability were observed.

NOTE: This dam is Exempt from State Engineers Office Dam Safety Rules and Regulations, and is regulated by the DNR Division of Reclamation, Mining & Safety. Where Good, Acceptable, or Poor conditions are assigned herein (see below), these ratings are solely intended to provide technical support to DRMS subject to the limitations discussed in the "Overall Conditions" Section of this report.

CONDITIONS OBSERVED: [ ] Good [X] Acceptable [ ] Poor

CREST

PROBLEMS NOTED: [ ] (10) NONE [ ] (11 RUTS OR PUDDLES [ ] (12) EROSION [ ] (13) CRACKS - WITH DISPLACEMENT [ ] (14) SINKHOLES

[ ] (15) NOT WIDE ENOUGH [ ] (16) LOW AREA [ ] (17) MISALIGNMENT [✓] (18) IMPROPER SURFACE DRAINAGE [✓] (19) OTHER See below

•No signs of distress were observed
•The owner recently had a stage capacity and dam crest survey performed. As part of the TR-33 inspection report, we recommend that the dam owner's engineer should verify that the dam crest elevation is maintained for the original design criteria (ex. for PMF storage) around the facility. We specifically discussed that the dam crest profile of the embankment along the 100-YR diversion ditch should be checked.
•Maintenance grading has resulted in a windrow of soil along the upstream shoulder, which could inhibit proper surface drainage. We recommend that the crest be graded to drain freely toward the upstream slope to prevent water from ponding on the embankment.
•There is a high area on the crest near the right dam abutment where the old seepage recovery pipeline crosses the dam crest. Soil was reportedly added here to provide pipe cover.

CONDITIONS OBSERVED: [ ] Good [X] Acceptable [ ] Poor

DOWNSTREAM SLOPE

PROBLEMS NOTED: [ ] (20) NONE [ ] (21) LIVESTOCK DAMAGE [ ] (22) EROSION OR GULLIES [ ] (23) CRACKS - WITH DISPLACEMENT [ ] (24) SINKHOLE

[ ] (25) APPEARS TOO STEEP [ ] (26) DEPRESSIONS OR BULGES [ ] (27) SLIDE [ ] (28) SOFT AREAS [✓] (29) OTHER See below.

•The Phase I as-built plans show a 3H:1V downstream slope. The existing slope appears to be that or flatter. There are also 2 benches (~10-ft wide each) on top half of the slope.
•Vegetation cover is typically sage brush, which is typical for the San Luis Valley climate. No significant surface erosion was observed on the slope. Spot repairs of erosion damage have been made at the right and left groins (see below).
•Recent repairs to erosion damage and the liner were made at the right groin on the downstream slope (surface area of repair ~200' x 50'). A small diversion ditch was added on the right abutment to attempt to keep surface water off of the groin and liner. A similar repair was made at the left groin.

CONDITIONS OBSERVED: [ ] Good [X] Acceptable [ ] Poor

ENGINEER'S INSPECTION REPORT
DAM NAME: BATTLE MOUNTAIN SAN LUIS TAILIN

DATE. 5/13/2013
DAM I.D.: 240109

SEEPAGE

PROBLEMS NOTED: ☐ (30) NONE ☐ (31) SATURATED EMBANKMENT AREA ☑ (32) SEEPAGE EXITS ON EMBANKMENT

☑ (33) SEEPAGE EXITS AT POINT SOURCE ☐ (34) SEEPAGE AREA AT TOE ☐ (35) FLOW ADJACENT TO OUTLET ☐ (36) SEEPAGE INCREASED / MUDDY

DRAIN OUTFALLS SEEN ☐ No ☑ Yes Show location of drains on sketch and indicate amount and quality of discharge. ☐ (37) FLOW INCREASED / MUDDY ☐ (38) DRAIN DRY / OBSTRUCTED

☑ (39) OTHER See below. We recommend additional investigations

•There is reportedly a drainage pipe system under the embankment, above the geosynthetic liner. The Phase I as-built plans show a 3-ft thick "Drainage Blanket" under the Type 1 material, above the liner, in the upstream shell of the embankment; however, we do not find details for an underdrain pipe system.
•Three 12" diameter HDPE pipes outfall at the downstream toe of the main embankment into an open channel to the seepage collection pond. The owner reports that the three pipes may be short extensions of what they believe is a larger (36"-48" dia.) HPDE seepage collection pipe under the main embankment. Again, no details of the collection pipe system were found by us on the Phase I as-built plans.
•Uncontrolled seepage was observed exiting ~6-ft above the 12" HDPE drain outfalls on the downstream slope of the main embankment.
•Based on the above observations, we recommend:
(1) research to determine the design of the seepage collection pipe system under the embankment, and (2) after determining the design of the pipe collection system, determine if it is feasible to video inspect the pipes. The SEO recommends that internal outlet conduit video inspections be performed at least every 10 years for SEO-regulated High and Significant Hazard dams.

•According to the Phase I as-built plans, the Seepage Collection Pond, located at the downstream toe of the main tailings dam, has an embankment with a structural height of ~15-ft. We recommend that the Seepage Collection Pond dam should be inspected annually as part of the TR-33 dam safety inspections.

CONDITIONS OBSERVED: ☐ Good ☒ Acceptable ☐ Poor

OUTLET

PROBLEMS NOTED: ☐ (40) NONE ☐ (41) NO OUTLET FOUND ☐ (42) POOR OPERATING ACCESS ☐ (43) INOPERABLE

☐ (44) UPSTREAM OR DOWNSTREAM STRUCTURE DETERIORATED (45) OUTLET OPERATED DURING INSPECTION ☐ YES ☐ NO

INTERIOR INSPECTED ☐ (120) NO ☐ (121) YES ☐ (46) CONDUIT DETERIORATED OR COLLAPSED ☐ (47) JOINTS DISPLACED ☐ (48) VALVE LEAKAGE

☑ (49) OTHER see below

•There is no controllable outlet works. During the normal operations the facility holds only a small amount of surface water. NOTE: There is reportedly a seepage collection pipe system through the embankment; see Seepage section of the report for more information. NOT RATED.

CONDITIONS OBSERVED: ☐ Good ☐ Acceptable ☐ Poor

SPILLWAY

PROBLEMS NOTED: ☐ (50) NONE ☐ (51) NO EMERGENCY SPILLWAY FOUND ☐ (52) EROSION WITH BACKCUTTING ☐ (53) CRACK - WITH DISPLACEMENT

☐ (54) APPEARS TO BE STRUCTURALLY INADEQUATE ☐ (55) APPEARS TOO SMALL ☐ (56) INADEQUATE FREEBOARD ☐ (57) FLOW OBSTRUCTED

☐ (58) CONCRETE DETERIORATED / UNDERMINED ☑ (59) OTHER See below

•The facility is reportedly designed to contain the full Probable Maximum Flood (PMF), along with a diversion ditch to bypass surface runoff from the south drainage area around the tailings facility and through a 48-inch diameter CMP culvert drop structure. The Phase I construction plans indicate that the diversion ditch is designed to carry 100-YR frequency flows, which agrees with the owner and DRMS comments during the inspection. It is not clear to us how the ditch and adjacent tailings embankment would perform in larger floods, up to the PMF. In other words, could the drop structure overtop, fail and lead to head-cutting erosion on the south side of the facility? We believe this question should be addressed during the Potential Failure Modes portion of the TR-33 process.
•We observed that there is no trash rack on the drop structure intake. The SEO typically recommends a self-cleaning type trash rack for the intake of a closed conduit spillway in order to prevent clogging.
•We recommend performing an internal inspection (possibly remote video due to steep grade) of the drop structure's 48" diameter CMP.
•We discussed how the maximum normal reservoir level is controlled. It was reported that there is an operational restriction. We discussed that the State Engineer's Office typically requires a passive level control spillway at the design maximum normal water level to ensure that the reservoir is not accidently overfilled or overtopped. We recommend that this aspect of the project be reviewed as part of the TR-33 process. We note that the same comment appears to apply to the Seepage Collection Pond below the main tailings dam.

CONDITIONS OBSERVED: ☐ Good ☒ Acceptable ☐ Poor

MONITORING

EXISTING INSTRUMENTATION FOUND ☐ (110) NONE ☐ (111) GAGE ROD ☑ (112) PIEZOMETERS ☑ (113) SEEPAGE WEIRS / FLUMES

☐ (114) SURVEY MONUMENTS ☐ (115) OTHER

MONITORING OF INSTRUMENTATION ☐ (116) NO ☑ (117) YES PERIODIC INSPECTIONS BY: ☑ (118) OWNER ☑ (119) ENGINEER

•The owner has full time staff on-site. They perform regular monitoring. Specifically, the owner monitors piezometers and seepage flows and submits data to DRMS. Traditionally the monitoring has been directed towards water quality more than dam safety, but the TR-33 process may be able to utilize some of the same data to help evaluate the safety of the dam.

CONDITIONS OBSERVED: ☐ Good ☒ Acceptable ☐ Poor

MAINTENANCE AND REPAIRS

PROBLEMS NOTED: ☐ (60 NONE ☐ (61) ACCESS ROAD NEEDS MAINTENANCE ☐ (62) LIVESTOCK DAMAGE
☐ (63) BRUSH ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE ☐ (64) TREES ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE
☐ (65) RODENT ACTIVITY ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE ☐ (66) DETERIORATED CONCRETE - FACING, OUTLET, SPILLWAY
☐ (67) GATE AND OPERATING MECHANISM NEED MAINTENANCE ☑ (68) OTHER See below

•The dam owner performs routine maintenance. We observed where they completed recent repairs of erosion damage along the right and left groins of the downstream slope and at the south diversion drop structure outfall.

•We recommend the following additional maintenance:
- the excavation into the upstream slope at the old seepage recovery pipeline should be rebuilt with compacted fill.
- The crest should be graded to promote positive drainage off of the embankment and toward the upstream slope. Remove the windrow along the upstream shoulder.
- Control large brush on the embankment in order to allow good routine visual inspection of the slopes

CONDITIONS OBSERVED: ☐ Good ☒ Acceptable ☐ Poor

Go to next page for Overall Conditions and Items Requiring Actions

OVERALL CONDITIONS

The Battle Mountain San Luis Project Tailings Dam is regulated by the DNR Division of Reclamation, Mining & Safety (DRMS) and is a State Engineer's Office (SEO) Exempt structure in accordance with Rule 17.2 of the State of Colorado's Rules and Regulations for Dam Safety and Dam Construction. Rule 17.2 exempts Mine Tailings impoundments permitted under the State Mined Land Reclamation Act. In addition, the Seepage Collection Pond dam at the toe of the main tailings dam is considered to be an SEO Exempt structure in accordance with the same Rule, which also exempts solution process impoundments that are permitted under the State Mined Land Reclamation Act.

The SEO performed the current dam safety inspection solely to provide technical assistance to DRMS as part of their Technical Revision (TR) 33 regarding a dam safety inspection program for the facility.

The SEO does not have expertise or experience specific to tailings dams. Our recommendations and observations are provided based on Dam Safety experience with dams and associated facilities designed to impound water. Subject to this limitation, we did not observe signs of distress or patent problems with the design that would lead us to believe the facility is unsafe. We do have several recommendations for improving the safety of the structure: The following Maintenance and Engineering Actions should be regarded as technical recommendations from the SEO to DRMS, the project regulator, and NOT as requirements from the SEO to the dam owner.

Because the facility is an Exempt Structure, the State Engineer has not assigned an Overall Condition rating.

Based on this Safety Inspection and recent file review, the overall condition is determined to be:

☐ (71) SATISFACTORY ☐ (72) CONDITIONALLY SATISFACTORY ☐ (73) UNSATISFACTORY

ITEMS REQUIRING ACTION BY OWNER TO IMPROVE THE SAFETY OF THE DAM

The State Engineer, by providing this dam safety inspection report, does not assume responsibility for any unsafe condition of the subject dam. The sole responsibility for the safety of this dam rests with the reservoir owner or operator, who should take every step necessary to prevent damages caused by leakage or overflow of waters from the reservoir or floods resulting from a failure of the dam.

MAINTENANCE - MINOR REPAIR - MONITORING

- ☐ (80) PROVIDE ADDITIONAL RIPRAP:
- ☐ (81) LUBRICATE AND OPERATE OUTLET GATES THROUGH FULL CYCLE
- ☑ (82) CLEAR TREES AND/OR BRUSH FROM: **Control height of brush to allow good routine visual inspection of the embankment slopes**
- ☐ (83) INITIATE RODENT CONTROL PROGRAM AND PROPERLY BACKFILL EXISTING HOLES:
- ☑ (84) GRADE CREST TO A UNIFORM ELEVATION WITH DRAINAGE TO THE UPSTREAM SLOPE: **AND remove windrow of soil on upstream shoulder**
- ☐ (85) PROVIDE SURFACE DRAINAGE FOR:
- ☐ (86) MONITOR:
- ☑ (87) DEVELOP AND SUBMIT AN EMERGENCY ACTION PLAN: **We provided an example SEO Emegency Action Plan to DRMS. DRMS will determine EAP requirements, if any, for the dam owner.**
- ☑ (88) OTHER **Repair upstream slope with compacted fill at the excavation along the old seepage recovery pipeline**
- ☑ (89) OTHER **We recommend inspecting the Seepage Collection Pond embankment as part of the TR-33 process.**

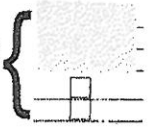
ENGINEERING - EMPLOY AN ENGINEER EXPERIENCED IN DESIGN AND CONSTRUCTION OF DAMS TO: (Plans and Specifications must be approved by State Engineer prior to construction.

- ☐ (90) PREPARE PLANS AND SPECIFICATIONS FOR REHABILITATION OF THE DAM:
- ☐ (91) PREPARE AS -BUILT DRAWINGS OF:
- ☐ (92) PERFORM A GEOTECHNICAL INVESTIGATION TO EVALUATE THE STABILITY OF THE DAM:
- ☐ (93) PERFORM A HYDROLOGIC STUDY TO DETERMINE REQUIRED SPILLWAY SIZE:
- ☐ (94) PREPARE PLANS AND SPECIFICATIONS FOR AN ADEQUATE SPILLWAY:
- ☐ (95) SET UP A MONITORING SYSTEM INCLUDING WORK SHEETS, REDUCED DATA AND GRAPHED RESULTS:
- ☑ (96) PERFORM AN INTERNAL INSPECTION OF THE OUTLET: **Determine the design of the seepage collection pipe system under the embankment. If possible video inspect the pipes. Determine source of uncontrolled seepage exiting on downstream slope above collection drain outfalls**
- ☑ (97) OTHER: **Consider installing a trash rack at the south diversion drop structure inlet.**
- ☑ (98) OTHER: **Perform an internal inspection of the south diversion drop structure conduit. ALSO we recommend evaluating how the Maximum Normal water level is controlled in both the main tailings dam and the seepage collection pond (See spillway sect. of this report).**
- ☑ (99) OTHER: **As part of TR-33 reporting, evaluate dam crest elevations around perimeter of the facility (see recent survey) against design criteria. ALSO evaluate whether performance of the south diversion during large flood events is a failure mode.**

SAFE STORAGE LEVEL: RECOMMENDED AS A RESULT OF THIS INSPECTION

- ☐ (101) FULL STORAGE
- ☐ (102) CONDITIONAL FULL STORAGE
- ☐ (103) RECOMMENDED RESTRICTION
- ☐ (104) CONTINUE EXISTING RESTRICTION

RESTRICTED LEVEL OFFICIAL ORDER TO FOLLOW →



_____ FT. BELOW DAM CREST
_____ FT. BELOW SPILLWAY CREST
_____ FT. GAGE HEIGHT
NO STORAGE-MAINTAIN OUTLET FULLY OPEN

REASON FOR RESTRICTION

Safe storage level is NOT assigned by the SEO because the structure is Exempt per Rule 17.2 of the State of Colorado Rules and Regulations for Dam Safety and Dam Construction.

ACTIONS REQUIRED FOR CONDITIONAL FULL STORAGE OR CONTINUED STORAGE AT THE RESTRICTED LEVEL:

ENGINEER'S INSPECTION REPORT

DAM NAME: BATTLE MOUNTAIN SAN LUIS TAILIN

DATE. 5/13/2013

DAM I.D.: 240109

Engineer's Signature _____ INSPECTED BY

Mark A. Perry, P.E.

6/3/13

Owner's Signature _____ OWNER/OWNER'S REPRESENTATIVE

DATE: _____

GUIDELINES FOR DETERMINING CONDITIONS

CONDITIONS OBSERVED - APPLIES TO UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, OUTLET, SPILLWAY

GOOD
In general, this part of the structure has a near new appearance, and conditions observed in this area do not appear to threaten the safety of the dam.

ACCEPTABLE
Although general cross-section is maintained, surfaces may be irregular, eroded, rutted, spalled, or otherwise not in new condition. Conditions in this area do not currently appear to threaten the safety of the dam.

POOR
Conditions observed in this area appear to threaten the safety of the dam.

CONDITIONS OBSERVED - APPLIES TO SEEPAGE

GOOD
No evidence of uncontrolled seepage. No unexplained increase in flows from designed drains. All seepage is clear. Seepage conditions do not appear to threaten the safety of the dam.

ACCEPTABLE
Some seepage exists at areas other than the drain outfalls, or other designed drains. No unexplained increase in seepage. All seepage is clear. Seepage conditions observed do not currently appear to threaten the safety of the dam.

POOR
Seepage conditions observed appear to threaten the safety of the dam. Examples:
1) Designed drain or seepage flows have increased without increase in reservoir level.
2) Drain or seepage flows contain sediment, i.e., muddy water or particles in jar samples.
3) Widespread seepage, concentrated seepage, or ponding appears to threaten the safety of the dam.

CONDITIONS OBSERVED - APPLIES TO MONITORING

GOOD
Monitoring includes movement surveys and leakage measurements for all dams, and piezometer readings for High hazard dams. Instrumentation is in reliable, working condition. A plan for monitoring the instrumentation and analyzing results by the owner's engineer is in effect. Periodic inspections by owner's engineer.

ACCEPTABLE
Monitoring includes movement surveys and leakage measurements for High and Significant hazard dams; leakage measurements for Low hazard dams. Instrumentation is in serviceable condition. A plan for monitoring instrumentation is in effect by owner. Periodic inspections by owner or representative. OR, NO MONITORING REQUIRED.

POOR
All instrumentation and monitoring described under "ACCEPTABLE" here for each class of dam, are not provided, or required periodic readings are not being made, or unexplained changes in readings are not reacted to by the owner.

CONDITIONS OBSERVED - APPLIES TO MAINTENANCE AND REPAIR

GOOD
Dam appears to receive effective on-going maintenance and repair, and only a few minor items may need to be addressed.

ACCEPTABLE
Dam appears to receive maintenance, but some maintenance items need to be addressed. No major repairs are requirecl

POOR
Dam does not appear to receive adequate maintenance. One or more items needing maintenance or repair has begun to threaten the safety of the dam.

OVERALL CONDITIONS

SATISFACTORY
The safety inspection indicates no conditions that appear to threaten the safety of the dam, and the dam is expected to perform satisfactorily under all design loading conditions. Most of the required monitoring is being performed.

CONDITIONALLY SATISFACTORY
The safety inspection indicates symptoms of structural distress (seepage, evidence of minor displacements, etc.), which, if conditions worsen, could lead to the failure of the dam. Essential monitoring, inspection, and maintenance must be performed as a requirement for continued full storage in the reservoir.

UNSATISFACTORY
The safety inspection indicates definite signs of structural distress (excessive seepage, cracks, slides, sinkholes, severe deterioration, etc.), which could lead to the failure of the dam if the reservoir is used to full capacity. The dam is judged unsafe for full storage of water.

SAFE STORAGE LEVEL

FULL STORAGE
Dam may be used to full capacity with no conditions attached.

CONDITIONAL FULL STORAGE
Dam may be used to full storage if certain monitoring, maintenance, or operational conditions are met.

RESTRICTION
Dam may not be used to full capacity, but must be operated at some reduced level in the interest of public safety.

HAZARD CLASSIFICATION OF DAMS

High hazard
Loss of human life is expected in the event of failure of the dam, while the reservoir is at the high water line.

Significant hazard
Significant damage to improved property is expected in the event of failure of the dam while the reservoir is at the high water line, but no loss of human life is expected.

Low hazard
Loss of human life is not expected, and damage to improved property is expected to be small, in the event of failure of the dam while the reservoir is at high water line.

NPH hazard - No loss of life or damage to improved property, or loss of downstream resource is expected in the event of failure of the dam while the reservoir is at the high water line.

STATE OF
COLORADO

Battle Mountain San Luis Project Tailings Dam: 5/13/13 Dam Safety Inspection Report

Perry - DNR, Mark <mark.perry@state.co.us> Mon, Jun 3, 2013 at 2:10 PM
To: Wally Erickson - DNR <wally.erickson@state.co.us>
Cc: Russ Means - DNR <russ.means@state.co.us>, Bill McCormick - DNR <bill.mccormick@state.co.us>, Craig Cotten - DNR <craig.cotten@state.co.us>

Hi Wally,

Please see the attached SEO Engineer's Inspection Report (EIR) for the subject dam safety inspection. As we discussed previously, our office is providing the EIR solely for technical support of the Division of Reclamation, Mining & Safety. We have not assigned an overall rating or a safe storage level, as the dam is an Exempt Structure per SEO Rules & Regulations. The Required Actions at the end of the report should be taken as recommendations to DRMS for consideration as part of your TR-33 dam safety effort.

It was a pleasure to meet you and join you for the inspection. I hope our participation provided value to DRMS. Please do not hesitate to contact me with questions about the attached EIR or with any other dam safety questions for the Battle Mountain San Luis project.

Best Regards,
Mark

Mark A. Perry, P.E.
Dam Safety Engineer, Divisions 2/3
Colorado Division of Water Resources
310 E. Abriendo Ave., Suite B
Pueblo, CO 81004
719-542-3368 x2109 (office)
719-250-5606 (mobile)

Battle Mountain San Luis Tailings Dam (DAMID 240109)_2013_05_13 DamSafetyInspectionReport.pdf
1455K

Photo 1- Looking upstream at the tailings containment area from the left abutment of the main dam. During normal operations there is only a small pool of water.

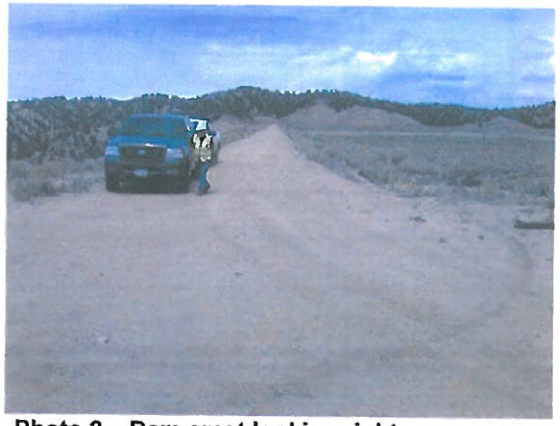


Photo 2 – Dam crest looking right from the left abutment.

Photo 3 – Downstream slope looking right from the left abutment.

Photo 4 – Looking across one of two benches on the downstream slope.

Photo 5 – Foreground shows right groin where liner and erosion damage was recently repaired. Background: seepage collection pond at the downstream toe of the main dam.

Photo 6 – South diversion ditch and drop structure inlet located on the left side (south) of the main dam.

Photo 7 – Recent erosion repairs performed around the south diversion drop structure outfall.

Photo 8 – Seepage at toe of the main dam. Majority of seepage comes through collection drain, but some seepage appears to be uncontrolled (see Photo 9).

Photo 9 – Seepage drain outfall at the downstream toe (3x12" HDPE pipes). There is reportedly a large seepage collection pipe under the dam. NOTE: Uncontrolled seepage exiting higher on the slope above the drain outfalls (red arrow).

whe, grm

TR33
DRMS Exhibit 3

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

March 13, 2013

Mr. Wallace H. Erickson
Environmental Protection Specialist
Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203

Re: Technical Revision for Dam Safety Inspection Program for the Lined Tailings Facility, San Luis Project, Permit No. M-1988-112

Dear Mr. Erickson:

In response to your letter dated January 14, 2013, Battle Mountain Resources, Inc. ("BMRI") hereby submits a Technical Revision to its reclamation permit to implement the enclosed *Tailings Dam Safety Inspection and Reporting Program* at the lined tailings facility at BMRI's San Luis site. BMRI believes this will constitute Technical Revision No. 33 to its reclamation permit. Copies of the Engineer's reports, and periodic inspection reports required under the *Tailings Dam Safety Inspection and Reporting Program* will be maintained on file at the Battle Mountain site office.

BMRI believes the enclosed *Tailings Dam Safety Inspection and Reporting Program* includes all of those elements outlined in your January 14, 2013, letter. BMRI notes that it will implement the *Tailings Dam Safety Inspection and Reporting Program* in conjunction with all of its existing monitoring in and around the lined tailings facility, including the various monitoring requirements outlined in TR-32 such as monitoring and monthly reporting at lysimeters, monitoring wells, the leak detection system, and the lined tailings facility underdrain. In combination with those existing requirements, BMRI considers its inspection and monitoring program concerning the lined tailings facility to be quite comprehensive.

Should you have any questions or comments, please do not hesitate to contact me at your earliest convenience.

Regards,

Battle Mountain Resource, Inc.

Lawrence E. Fiske
Sr. Manager Legacy Sites Closure and Reclamation
303-837-5676

c/c: David Carino, BMRI
Julio Madrid, Newmont Mining Corporation
Jim Witwer, TRMW&F
Scott Hardt, TW&H
Deborah Miller, Miller Geotech

Tailing Dam Safety Inspection and Reporting Program

San Luis Project

Costilla County, CO

Colorado Division of Reclamation, Mining and Safety

Permit No. M-1988-112

Prepared for:

Battle Mountain Resources, Inc.

P.O. Box 310

San Luis, CO 81152

Prepared by:

Miller Geotechnical Consultants, Inc.

201 Linden Street, Suite 301

Fort Collins, CO 80524

Date: March 12, 2013

Table of Contents

1.0 PURPOSE 1
2.0 SCOPE 1
3.0 DAM SAFETY INSPECTION PROGRAM DESCRIPTION 1
3.1. Initial Formal Technical Inspection 1
3.1.1 Compilation, Review and Assessment of Available Project Data 2
3.1.2 Initial Site Inspection 2
3.1.3 Initial Detailed Inspection Report 3
3.2. Annual Engineer Inspections and Reporting 6
3.3. Quarterly and Special Inspections by BMRI 6
3.3.1 Quarterly Inspections 6
3.3.2 Special Inspections 7
4.0 IDENTIFICATION OF DAM-SAFETY RELATED ISSUES AND RESOLUTION. 7
4.1. Responsibility 7
4.2. Unusual Occurrence Procedures 8
4.2.1 Unusual Occurrences 8
4.2.2 Unusual Occurrence Procedures 8
4.3. Emergency Procedures 8
4.3.1 Definition of Emergencies 8
4.3.2 Emergency Notification Procedures 8
4.3.3 Possible Preventative Actions for Emergency Situations 9
5.0 RECORDS 10
6.0 REFERENCES 10

Appendices

Appendix A: Annual Dam Safety Inspection Forms
Appendix B: Quarterly Inspection Forms

1.0 PURPOSE

The purpose of this Tailing Dam Safety Inspection and Reporting Program (Program) is to establish dam safety inspection and monitoring protocols for the existing San Luis Project tailing dam and impoundment (Tailing Facility). The Program outlined in this document is intended to establish consistent and appropriate procedures for routine and special dam safety inspections. The Program also is intended to ensure that the findings from such inspections are properly evaluated, documented and communicated both internally within the Battle Mountain Resources, Inc. (BMRI) organization and to the Colorado Division of Reclamation, Mining and Safety (CDRMS).

The following sections describe the Program which consists of the following elements:

- Initial Formal Technical Inspection;
- Annual Engineer Inspections and Reporting;
- Quarterly and Special Inspections by Operator;
- Identification of dam safety related issues and resolution of dam safety related concerns;
- Communication protocols for dam safety related matters, including emergency notification procedures; and
- Record keeping procedures.

2.0 SCOPE

The requirements of the Program outlined in this document apply to BMRI's San Luis Project Tailing Facility, which is located in Costilla County, approximately 4 miles northeast of the town of San Luis, Colorado.

3.0 DAM SAFETY INSPECTION PROGRAM DESCRIPTION

The inspection Program presented in this section describes routine and special inspections to be performed by a qualified professional engineer and on-site operations personnel. The inspection Program outlines the frequency and type of inspections to be performed, and inspection documentation procedures.

3.1. Initial Formal Technical Inspection

An initial formal technical inspection of the San Luis Tailing Facility will be performed by a qualified registered professional engineer who is experienced in the construction and maintenance of embankment and tailing dams. The initial formal technical inspection involves the following components:

1) Compilation, Review and Assessment of Available Project Data
2) Initial Site Inspection
3) Initial Detailed Inspection Report

The scope of the initial formal technical inspection is summarized as follows:

3.1.1 Compilation, Review and Assessment of Available Project Data

Relevant San Luis Project information and records on the Tailing Facility pertaining to dam safety will be compiled and reviewed. The types of supporting technical information that will be reviewed may include, but are not limited to the following:

- design and construction records (original and any modifications), including design reports, as-built construction records, and construction photographs, if available;
- geotechnical and geological data (subsurface investigation reports, boring logs, laboratory data, geologic maps, site seismicity studies, etc.);
- survey information, if available (e.g., dam crest surveys, impoundment-area surveys, drain outlet and storm-water outlet structure elevations, etc.);
- instrumentation and monitoring data (piezometric data, drain outflow measurements, etc.);
- previous engineering analyses and studies (slope stability and seismic deformation analysis, hydrologic studies and flood routings, etc.); and,
- monitoring reports and related correspondence pertaining to tailing facility operations that could pertain to dam safety.

The dam safety engineer will evaluate existing instrumentation and monitoring data and the project design and construction records to assess the adequacy of available information for making an initial dam safety assessment. Any missing data, analysis, or other information that is necessary for dam safety evaluation will be identified.

If adequate piezometric data are available from the existing dam instrumentation, those data will be summarized and graphed. Historic data will be examined to determine whether or not there are any evident trends with time in pore pressures within the dam, its seepage collection under-drain system, or groundwater levels in the dam foundation below the liner. The typical magnitude, range of fluctuation, and any evident trending changes in flow rates from the under-drain collection system will be documented.

A Project Data Report will be prepared that will concisely document relevant available project information. This report will include a description of the existing dam and associated facilities, the existing instrumentation and monitoring program, and the basis of engineering design of the embankment, impoundment, under-drain seepage collection, and flood diversion systems. This document is intended to become a permanent part of BMRI's project files, and should provide a useful reference tool that will facilitate subsequent dam safety inspections. The Project Data Report should be updated as additional data or updated engineering analyses become available over the life of the facility, or if modifications or dam safety improvements are made to the Tailing Facility.

3.1.2 Initial Site Inspection

The dam safety engineer will conduct an initial site inspection of the dam and appurtenant structures including the dam embankment, impoundment and pool area, downstream drain outlet and collection facilities, and flood diversion facilities. Observed conditions will be documented by photographs and using an appropriate tailing facility inspection form (attached as Appendix A to this document).

3.1.3 Initial Detailed Inspection Report

An initial Detailed Inspection Report will be prepared. A preliminary outline for the Detailed Inspection Report is provided as Figure 1. Section 1 of the report will summarize the basic project information, citing the Project Data Report as appropriate for more detailed information on project design and construction. The Project Data Report may be attached as an appendix to the Detailed Inspection Report.

Section 2 of the Detailed Inspection Report will document the findings of the initial dam safety inspection, including visual observations and any noted deficiencies from the field inspection. The results of the visual inspection will be described for each major feature of the facility as listed on the outline (Figure 1). The tailing facility inspection form and inspection photos will be provided as appendices to facilitate the visual inspection discussion. The inspection will document the following types of observations:

- Visual observations of deficient conditions such as surface erosion, slumps, cracks, settlement, major woody vegetation growth, rodent burrowing or other detrimental conditions on the dam embankment;
- Visual observations of the condition of the seepage collection systems at the downstream toe of the dam;
- Approximate length of the beach slope in front of the dam to the existing pond;
- Estimated size (area) of the existing pond;
- Visual observations of the condition of the main storm-water diversion channel and drop structure on the south side of the facility;
- General condition of the impoundment area and contributing watershed;

Section 3 of the report will summarize, to the degree possible based on the available data and visual observations, the dam safety inspector's evaluation of structural stability of the tailing dam. The structural evaluation will consider normal operating (static) and earthquake loading conditions. This evaluation will consider the previous design criteria, assumptions, and slope stability and seepage analysis results from design reports; as-built construction records (noting especially any differences from design assumptions); available piezometric and drain outflow monitoring data; and observed current physical condition of the dam based on the site inspection.

Section 4 will summarize to the degree possible based on available data and visual observations, the hydraulic capacity of the flood diversion systems. This evaluation will consider both design flood events and extreme events (e.g., Probable Maximum Flood). Evaluation of hydraulic capacity will require review of the original design criteria for the diversion channel system and consideration of the current condition of the diversion channel(s) and drop structure located in the left dam abutment. An understanding of the available flood storage capacity (above normal operating pool volume) within the impoundment area also will be needed to evaluate the capability of the facility to store flood flows in excess of the diversion channel design event. Any additional or supplemental engineering analyses that are performed as part of the inspection process to facilitate these structural geotechnical and hydraulic evaluations will be documented and discussed in Sections 3 and 4 of the report.

Section 5 of the report will provide brief explanations and illustrations of potential dam failure modes, and discuss how these failure modes may develop and their likely triggers. It is important that the dam operators understand potential failure modes in order to focus their attention on key areas for visual monitoring and to ensure vigilance in evaluating critical instrumentation data. Potential failure modes will consider likelihood and consequences of failures associated with natural events such as major storms and earthquakes, and operational factors such as pond water-level management and structural maintenance.

Section 6 of the Detailed Inspection Report will summarize the overall evaluation of the tailing dam structural condition and operational adequacy. Recommendations will be made for maintenance, repairs and alterations of the facility to address deficiencies or improve dam safety. If there are missing or inadequate data or analyses needed to fully assess dam safety, these will be listed, along with specific recommended actions for filling in data gaps or conducting additional engineering analyses. For example, supplemental investigations may be recommended to obtain data such as surveys, drilling and sampling, laboratory testing, installation of instrumentation, hydrologic studies, geotechnical and other engineering analysis. If needed, a specific plan for additional data gathering, engineering analysis, and instrumentation and monitoring will be provided, including a proposed schedule for these activities.

Figure 1. Detailed Inspection Report Outline

Project Data Sheet
Executive Summary
1. Project Description
    1.1. Background Information
    1.2. Tailing Facility Design and Construction
    1.3. Tailing Facility Operation
    1.4. Instrumentation and Monitoring Equipment and Available Data
2. Initial Inspection Observations
    2.1. Operational Status During Inspection
    2.2. Visual
        2.2.1. Upstream Slope and Beach
        2.2.2. Crest
        2.2.3. Downstream Slope and Groin Areas
        2.2.4. Seepage Collection System
        2.2.5. Storm Water Diversion System
        2.2.6. Pond and Impoundment Area
3. Structural Stability
    3.1. Summary of Existing Data and Analysis
        3.1.1. Geotechnical Design Data
        3.1.2. Seismic Data
        3.1.3. Piezometric Data
        3.1.4. Seepage and Slope Stability Analysis
    3.2. Visual Assessment of Dam Stability (based on available data)
    3.3. Results of New Evaluations Performed as part of Detailed Inspection Process
4. Hydrology/Hydraulics
    4.1. Summary of Existing Data and Analysis
        4.1.1. Hydrologic/hydraulic Design Data
        4.1.2. Drainage Area and Watershed Conditions
        4.1.3. Previous Design Analysis
    4.2. Visual Assessment of Adequacy Facility for Design Flood Events (based on available data)
    4.3. Results of New Evaluations Performed as part of Detailed Inspection Process
5. Potential Failure Modes
    5.1. Static
    5.2. Hydrologic
    5.3. Earthquake
6. Conclusions and Recommendations
    6.1. Overall Evaluation (structural condition, flood diversion capacity, and operational adequacy)
    6.2. Recommendations for Additional Studies and Investigations (if needed)
    6.3. Recommendations for Instrumentation and Monitoring
    6.4. Recommended Maintenance, Repairs, and Upgrades to Address Deficiencies

Appendices
- Project Data Report
- Engineering Calculations (Geotechnical, Hydrologic/Hydraulic)
- Tailing Facility Inspection Form
- Inspection Photographs

3.2. Annual Engineer Inspections and Reporting

Subsequent annual inspections will be performed by a qualified dam safety professional. The field examination procedures for the annual inspections will be generally the same as used for the initial detailed inspection. If the field inspection is performed by the same engineer that conducted the initial detailed inspection, a detailed review of the hydrologic/hydraulic and geotechnical calculations and data may not be necessary. The Project Data Report, the Initial Detailed Inspection Report, and all quarterly and subsequent annual inspection reports should be available to the inspector for review, as needed.

The annual inspections will be documented on the Tailing Facility Inspection Form (Appendix A), with accompanying photographs as appropriate. Any actions taken under the recommendations of the previous inspection, including additional analysis, data collection, instrument installations and structural maintenance will be reviewed. A letter report will be prepared documenting the actions that were carried out under the previous recommendations, and verifying that the impoundment has been maintained and monitored in accordance with the recommendations of the dam safety engineer. A certified copy of the Annual Inspection Report will be kept on file at the mine site and a copy will be sent to CDRMS within 20 working days after the annual field inspection.

3.3. Quarterly and Special Inspections by BMRI

3.3.1 Quarterly Inspections

Maintenance inspections will be performed quarterly by qualified BMRI personnel. Typically the on-site maintenance personnel most familiar with the project will conduct these inspections. For the initial quarterly inspection, it is recommended that the dam safety professional who performed the initial detailed inspection accompany the maintenance inspector. The inspection observations, evaluations, and recommendations will be documented on the Quarterly Inspection Form, attached as Appendix B to this report. The quarterly inspection reports will be retained on site and a copy of each report will be submitted to the CDRMS on a quarterly basis. Quarterly inspections will include checking at minimum the following:

- All exposed surfaces of the dam including the upstream slope and beach area, dam crest, and downstream slope for evidence of cracks, deformations, erosion, sliding or slumping;
- Dam toe, downstream area and abutments for signs of seeps, springs, boils, or unusual wet spots, recording the location, pattern, quantity and character of discharge and its variation with tailing pond water level;
- Instrument installation conditions for signs of physical damage, malfunctioning or needed maintenance; and
- All exposed surfaces of the water delivery and pump-back pipelines for evidence of physical damage, cracking, joint separation, or needed maintenance.

Any noted conditions should be compared to previous inspection reports for similar or changing conditions. For the quarterly inspections, the inspector shall:

- Keep a complete written record and findings of the inspection on the Quarterly Inspection Form (Appendix B);
- Attempt to find the cause and evaluate the significance of any unusual conditions noted during the inspection;
- Schedule any necessary repairs and maintenance items identified during the inspection and ensure that these are completed;
- Obtain the help of a dam safety specialist if unable to confidently assess the significance of any observations made during inspection; and
- Keep a written log of repairs and maintenance, including the date and time of inspection, inspector name, description of repair or item, summary of action taken, date of action, and names of persons involved.

3.3.2 Special Inspections

In addition to the routine quarterly inspections, special inspections will be done during or immediately after the dam or appurtenant diversion systems have been subjected to an unusual occurrence. Unusual occurrences include, but are not limited to an unusually high pool level, significant rainfall event, or an earthquake. The special inspection should focus on the areas potentially affected by the unusual occurrence. An inspection report may or may not be completed, depending on the specific situation, but at minimum a field log report (inspection brief) should be placed in the project files, along with any photographs of the inspection if damage to the dam or appurtenant structures has occurred. More detailed site investigation may be required (such as drilling or surveys) if the special inspection reveals deteriorating dam conditions.

4.0 IDENTIFICATION OF DAM-SAFETY RELATED ISSUES AND RESOLUTION

4.1. Responsibility

The overall responsibility for operating and maintaining the Tailing Facility shall be assigned to a Responsible Party who is a designated employee of BMRI. In addition, one or more additional members of BMRI staff shall be designated as back-up Responsible Party for times when the Responsible Party is on leave or is unavailable.

The Responsible Party shall have a basic understanding of engineering principles, and operation and maintenance practices for the tailing facility. Suitable administrative controls and reporting procedures will be implemented by BMRI management to monitor and assist the Responsible Party. Any plans that relate to the tailing facility, such as plans for modifying water management procedures, should be discussed with the Responsible Party so that impacts to the tailing facility can be considered. Copies of this Dam Safety Inspection Program document shall be retained in the office of the Responsible Party.

4.2. Unusual Occurrence Procedures

4.2.1 Unusual Occurrences

Unusual occurrences are events or conditions that are not normally encountered during routine operations and may endanger the tailing facility. Examples of unusual occurrences include, but are not limited to:

- Large storms and flooding;
- Earthquakes;
- Significantly increased flows from the under-drain system or changes in character of seepage from the drain;
- Fire or explosions;
- Human interference by terrorism, vandalism, or accident; or
- Substantial rise of pond level above flood storage threshold

4.2.2 Unusual Occurrence Procedures

The following steps will be taken in the event of an unusual occurrence:

1. Immediately report the unusual occurrence(s) to the Responsible Party.
2. Promptly make a special inspection and evaluate the significance of the occurrence.
3. Take protective or corrective actions as appropriate for the nature of the occurrence.
4. Activate emergency procedures (described in the following section), if necessary.
5. If emergency procedures are activated, inform the Colorado DRMS within 24 hours.

4.3. Emergency Procedures

4.3.1 Definition of Emergencies

Three categories of emergency situation are identified and defined in this Program:

- Failure is Imminent when:
  - Freeboard on the dam crest is less than 2 feet
- Failure is in Progress when:
  - Tailing dam crest is overtopping
  - Tailing dam embankment is failing
- Failure is Slowly Developing or an Unusual Situation has Occurred when:
  - Tailing dam behaves unexpectedly
  - Strong earthquake is felt at the site
  - Human interference (vandalism, terrorism, or accident)

4.3.2 Emergency Notification Procedures

The following notification procedures will be followed in emergency situations:

- Failure is in Progress or Failure is Imminent: Notification shall be in accordance with the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board (Rules 8.1 and 8.2), summarized as follows:

- CDRMS will be notified as soon as reasonably practicable, but no later than 24 hours after BMRI has knowledge of failure in progress or imminent failure;
- CDRMS will be notified by telephone during regular business hours (8:00 am to 5:00 pm, on working days);
- If the emergency situation occurs outside regular business hours, or if the CDRMS Office cannot be contacted, notice shall be given by telephone to the Colorado Department of Local Affairs, Office of Emergency Management. Specify to this agency, that the emergency authority is coordinated through the Division of Reclamation, Mining and Safety, and to activate that Division's response network.

- Possible Slowly Developing Failure Condition:
  - Notify CDRMS no later than 24 hours after BMRI has knowledge of possible slowly developing failure condition.
- As soon as practicable after an emergency situation or condition is reported and addressed, but no later than five working days, BMRI shall provide a written report of the event to CDRMS in accordance with Rule 8.2.3.

4.3.3 Possible Preventative Actions for Emergency Situations

The following actions describe some of the steps that could be taken at the tailing facility to prevent or delay failure after an emergency situation is discovered: These actions should only be performed under the direction of the Responsible Party, and CDRMS shall be notified of these actions as soon as reasonably practical:

- Emergency Situation: Reduction in Freeboard (< 2 ft) on Dam Crest:
  - Stop discharging water into the impoundment
  - Place sandbags along the dam crest to increase freeboard
  - Protect the dam slopes by placing erosion resistant materials on overtopping or eroding areas
  - Divert incoming floodwaters around the impoundment area
  - Lower the water level by pumping or siphoning
- Emergency Situation: Slide on Upstream or Downstream Slope of the Dam:
  - Restore Lost Freeboard by placing sandbags or filling in the top of the slide
  - Stabilize slides on the slope by weighting the toe area with soil, gravel, or rock
  - If necessary, lower the pond level by pumping or siphoning
- Erosional Seepage through the Dam Embankment, Foundation or Abutments, Connected through to Pond Area:
  - If the upstream end of the leak can be located, plug it or seal it with soil, bentonite, plastic liner, hay bales, or other available materials
  - Place sand and gravel over the seepage exit area to provide a weighted filter-protected exit
  - Lower the pond water level by pumping or siphoning

5.0 RECORDS

Record Type	Responsible Party	Retention Period	Location
Project Data Report and Updates to Data Report	BMRI-Designated Responsible Party	Life of the facility	Hardcopy kept in the San Luis Project office and digital record retention
Initial Detailed Inspection Report	BMRI-Designated Responsible Party	Life of the facility	Hardcopy kept in the San Luis Project office and digital record retention
Records generated by annual and quarterly inspections	BMRI-Designated Responsible Party	Life of the facility	Hardcopy kept in the San Luis Project office and digital record retention
All correspondence between BRMI and CDRMS pertaining to dam safety inspections	BMRI-Designated Responsible Party	Life of the facility	Hardcopy kept in San Luis Project office and digital record retention

6.0 REFERENCES

Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal and Designated Mining Operations (2010). Prepared by the Colorado Office of Mined Land Reclamation.

APPENDIX A
ANNUAL DAM SAFETY INSPECTION FORMS

DAM NAME: **San Luis Tailing Dam** DATE OF REPORT:_____

TAILING DAM INSPECTION FORM

Name of Professional Conducting Inspection:				Colorado P.E. License No.:	
Company Name and Address:			Phone Nos.:		
			email:		
INSPECTION PREPARATION: I have reviewed all pertinent technical documentation related to this dam and site in the Owner's files: ☐ Yes ☐ No Comment: STATEMENT OF EXPERIENCE: I am experienced in the technical disciplines or I am working with other professionals experienced in the technical disciplines to properly inspect this dam and appurtenant works. Technical disciplines in addition to general civil engineering may include geotechnical, geological, hydrologic, hydraulics, and structural. ☐ Yes ☐ No Comment:					
YR COMPL	T R Sec	COUNTY Costilla	DATE OF INSPECTION:		
DAM HEIGHT (FT)	DAM LENGTH (FT)	CREST WIDTH (FT)	PREVIOUS INSPECTION:		
FREEBOARD (FT)	DRAINAGE AREA (AC)	CREST ELEV (FT)	NORMAL STORAGE (AF)	POOL SURFACE AREA (AC)	
BEACH LENGTH ABOVE POOL (FT):		DIVERSION CHANNEL CAPACITY (CFS):			
OWNER:			OWNER REPRESENTATIVE/CONTACT:		
OWNER ADDRESS:			OWNER CONTACT PHONE NOS.:		
FIELD CONDITIONS OBSERVED	WATER LEVEL BELOW DAM CREST: FT				
	GROUND MOISTURE CONDITION: ☐ DRY	☐ WET	☐ SNOW COVER	☐ OTHER	

Directions: Mark and X for conditions found and underline words that apply

UPSTREAM SLOPE AND BEACH AREA

PROBLEMS NOTED: ☐ (0) NONE ☐ (1) EROSION PROTECTION - Missing, Sparse ☐ (2) BEACH AREA WAVE EROSION
☐ (3) CRACKS WITH DISPLACEMENT ☐ (4) SINKHOLE ☐ (5) APPEARS TOO STEEP
☐ (6) DEPRESSIONS OR BULGES ☐ (7) SLIDES ☐ (8) ANIMAL BURROWS
☐ (9) OTHER

CONDITIONS OBSERVED: ☐ GOOD ☐ ACCEPTABLE ☐ POOR

CREST

PROBLEMS NOTED: ☐ (10) NONE ☐ (11) RUTS OR PUDDLES ☐ (12) EROSION
☐ (13) CRACKS WITH DISPLACEMENT ☐ (14) SINKHOLES ☐ (15) NOT WIDE ENOUGH
☐ (16) LOW AREA ☐ (17) MISALIGNMENT ☐ (18) IMPROPER SURFACE DRAINAGE
☐ (19) OTHER

CONDITIONS OBSERVED: ☐ GOOD ☐ ACCEPTABLE ☐ POOR

DOWNSTREAM SLOPE

PROBLEMS NOTED: ☐ (20) NONE ☐ (21) LIVESTOCK DAMAGE ☐ (22) EROSION OR GULLIES
☐ (23) CRACKS WITH DISPLACEMENT ☐ (24) SINKHOLE ☐ (25) APPEARS TOO STEEP
☐ (26) DEPRESSIONS OR BULGES ☐ (27) SLIDES ☐ (28) SOFT AREAS
☐ (9) OTHER

CONDITIONS OBSERVED: ☐ GOOD ☐ ACCEPTABLE ☐ POOR

DAM NAME: **San Luis Tailing Dam** DATE OF REPORT:_____

TAILING DAM INSPECTION FORM

Directions: Mark and X for conditions found and underline words that apply

SEEPAGE AND DRAIN OUTFALL

PROBLEMS NOTED: ☐ (30) NONE ☐ (31) SATURATED EMBANKMENT AREA ☐ (32) SEEPAGE EXITS ON DAM
☐ (33) SEEPAGE EXITS AT POINT SOURCE ☐ (34) SEEPAGE AREA AT TOE
DRAIN OUTFALL SEEN: ☐ YES ☐ NO ☐ (35) FLOW ADJACENT TO DRAIN PIPE ☐ (36) DRAIN OUTFLOW TURBID
☐ (37) DRAIN DRY/OBSTRUCTED ☐ (38) OTHER
SHOW LOCATION OF DRAIN ON SKETCH AND INDICATE AMOUNT AND QUALITY OF SEEPAGE

CONDITIONS OBSERVED: ☐ GOOD ☐ ACCEPTABLE ☐ POOR

STORM WATER MANAGEMENT SYSTEM

PROBLEMS NOTED: ☐ (40) NONE ☐ (41) NO EMERGENCY SPILLWAY
☐ (42) EROSION AT DROP STRUCTURE ☐ (43) CONCRETE DETERIORATED/UNDERMINED ☐ (45) STRUCTURE MAY BE TOO SMALL
☐ (46) DIVERSION CHANNEL EROSION ☐ (47) INADEQUATE CHANNEL FLOW CAPACITY ☐ (48) CHANNEL FLOW OBSTRUCTED
☐ (49) OTHER

CONDITIONS OBSERVED: ☐ GOOD ☐ ACCEPTABLE ☐ POOR

MONITORING

EXISTING INSTRUMENTATION FOUND: ☐ (50) NONE ☐ (51) GAGE ROD IN POOL AREA ☐ (52) PIEZOMETERS
☐ (53) SEEPAGE WEIRS/FLUMES ☐ (54) SURVEY MONUMENTS ☐ (55) OTHER
MONITORING OF INSTRUMENTATION: ☐ (56) NO ☐ (57) YES
PERIODIC INSPECTIONS BY: ☐ (58) OWNER ☐ (59) ENGINEER

CONDITIONS OBSERVED: ☐ GOOD ☐ ACCEPTABLE ☐ POOR

MAINTENANCE AND REPAIRS

PROBLEMS NOTED: ☐ (60) NONE ☐ (61) ACCESS ROAD NEEDS MAINTENANCE ☐ (62) CATTLE DAMAGE
☐ (63) BRUSH ON: UPSTREAM SLOPE/BEACH, CREST, DOWNSTREAM SLOPE, TOE
☐ (64) RODENT ACTIVITIY ON: UPSTREAM SLOPE/BEACH, CREST, DOWNSTREAM SLOPE, TOE
☐ (65) OTHER

CONDITIONS OBSERVED: ☐ GOOD ☐ ACCEPTABLE ☐ POOR

OVERALL CONDITIONS

Based on this inspection and recent file review, the overall surficial condition is determined to be:

☐ SATISFACTORY ☐ CONDITIONALLY SATISFACTORY ☐ UNSATISFACTORY

DAM NAME: San Luis Tailing Dam DATE OF REPORT: _____

TAILING DAM INSPECTION FORM

ITEMS REQUIRING ACTION BY OWNER TO IMPROVE THE SAFETY OF THE DAM

MAINTENANCE ● MINOR REPAIR ● MONITORING

☐ (1) PROVIDE ADDITIONAL EROSION PROTECTION: _____

☐ (2) CLEAR BRUSH FROM: _____

☐ (3) INITIATE RODENT CONTROL PROGRAM AND PROPERLY BACKFILL EXISTING HOLES: _____

☐ (4) GRADE CREST TO A UNIFORM ELEVATION WITH DRAINAGE TO THE UPSTREAM SLOPE: _____

☐ (5) PROVIDE SURFACE DRAINAGE FOR: _____

☐ (6) MONITOR: _____

☐ (7) OTHER: _____

☐ (8) OTHER: _____

☐ (9) OTHER: _____

ENGINEERING ● EMPLOY AN ENGINEER EXPERIENCED IN DESIGN AND CONSTRUCTION OF DAMS TO:

(Plans and specifications to be improved by CDRMS prior to construction.)

☐ (10) PREPARE PLANS AND SPECIFICATIONS FOR REHABILITATION OF THE DAM _____

☐ (11) PREPARE AS-BUILT DRAWINGS OF: _____

☐ (12) PERFORM A GEOTECHNICAL INVESTIGATION TO EVALUATE THE STABILITY OF THE DAM: _____

☐ (13) PERFORM A HYDROLOGIC STUDY TO DETERMINE REQUIRED SIZE OF FLOOD BYPASS/SPILLWAY: _____

☐ (14) PREPARE PLANS AND SPECIFICATIONS FOR AN ADEQUATE SPILLWAY _____

☐ (15) SET UP OR IMPROVE MONITORING SYSTEM: _____

☐ (16) OTHER: _____

☐ (17) OTHER: _____

Recommended schedule for upgrades/implementation of recommendations (please prioritize and note importance of each):

☐ Photographs ☐ Attachments

ENGINEER'S INSTRUCTION: Instructed owner on the safety concerns with the structure and how to monitor and inspect the dam and appurtenant works in the interim period between the regulatory annual inspections. ☐ Yes ☐ No

Comment:

Professional Engineer's Signature: _____ Date: _____

Reviewed by: _____ Date: _____

Owner/Owner's Representative

DAM NAME: **San Luis Tailing Dam**

DATE OF REPORT: _____

GUIDELINES FOR DETERMINING CONDITIONS

CONDITIONS OBSERVED - APPLIES TO UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE

GOOD	ACCEPTABLE	POOR
In general, this part of the structure has a good appearance, and conditions observed in this area do not appear to threaten the safety of the dam.	Although general cross-section is maintained, surfaces may be irregular, eroded, rutted, spalled, or otherwise not in new condition. Conditions in this area do not currently appear to threaten the safety of the dam.	Conditions observed in this area appear to threaten the safety of the dam.

CONDITIONS OBSERVED - APPLIES TO SEEPAGE

GOOD	ACCEPTABLE	POOR
No evidence of uncontrolled seepage. No unexplained increase in flows from designed drains. All seepage is clear. Seepage conditions did not appear to threaten the safety of the dam.	Some seepage exists at areas other than the drain outfalls, or other designed drains. No unexplained increase in seepage. All seepage is clear. Seepage conditions observed do not currently appear to threaten the safety of the dam.	Seepage conditions observed appear to threaten the safety of the dam. Examples: 1) Designed drain or seepage flows have increased without increases in pool level. 2) Drain or seepage flows contain sediment, i.e., muddy water or particles in jar samples. 3) Widespread seepage, concentrated seepage, or ponding appears to threaten the safety of the dam.

CONDITIONS OBSERVED - APPLIES TO MONITORING

GOOD	ACCEPTABLE	POOR
Monitoring includes movement surveys, leakage measurements, and piezometer readings. Instrumentation is in reliable, working condition. A plan for monitoring the instrumentation and analyzing results by the owner's engineer is in effect. Periodic inspections by Owner's engineer.	Monitoring includes movement surveys and leakage measurements. Instrumentation is in serviceable condition. A plan for monitoring instrumentation is in effect by owner. Periodic inspections by Owner or representative.	Instrumentation and monitoring described under "ACCEPTABLE" here are not provided, or required periodic readings are not being made, or unexplained changes in readings are not reacted to by Owner.

CONDITIONS OBSERVED - APPLIES TO MAINTENANCE AND REPAIR

GOOD	ACCEPTABLE	POOR
Dam appears to receive effective on-going maintenance and repair, and only a few minor items may need to be addressed.	Dam appears to receive maintenance, but some maintenance items need to be addressed. No major repairs are required.	Dam does not appear to receive adequate maintenance. One or more items needing maintenance or repair has begun to threaten the safety of the dam.

OVERALL CONDITIONS

SATISFACTORY	CONDITIONALLY SATISFACTORY	UNSATISFACTORY
The safety inspection indicates no conditions that appear to threaten the safety of the dam, and the dam is expected to perform satisfactorily under all design loading conditions. Most of the required monitoring is being performed.	The safety inspection indicates symptoms of structural distress (seepage, evidence of minor displacements, etc.) which, if conditions worsen, could lead to the failure of the dam. Essential monitoring, inspection, and maintenance must be performed as a requirement for continued full storage in the impoundment area.	The safety inspection indicates definite signs of structural distress (excessive seepage, cracks, slides, sinkholes, severe deterioration, etc.), which could lead to the failure ofthe dam if the reservoir is used to full capacity. The dam is judged unsafe for full storage of water.

APPENDIX B
QUARTERLY INSPECTION FORMS

QUARTERLY INSPECTION SUMMARY							
NAME OF DAM:	San Luis Project Tailing Dam				CO DRMS Permit #:	M-1988-112	
REPORTING PERIOD:		thru			REPORT #:		

INSPECTION ITEMS		PHOTOS
Piezometer Levels		
Drain Collection and Pumpback System Observations		
Seepage/Erosion Observations		
Vegetation/Rodent/ Other Maintenance Observations		
Diversion System Observations		

RECOMMENDATIONS/COMMENTS

INSPECTION AND REPORTING PERSONNEL		
NAME	REPRESENTING	TITLE/ROLE

		INSPECTION PERIOD:		thru	page	1/1
DAM:	SAN LUIS PROJECT TAILING DAM	INSPECTOR:			CHECK ACTION NEEDED	

AREA INSPECTED	ITEM NO.	CONDITION	YES	NO	OBSERVATIONS	MONITOR	INVESTI-GATE	REPAIR
CREST	1	ANY SURFACE CRACKING?						
	2	ANY UNUSUAL LOW AREAS?						
	3	ANY RUTS OR PUDDLES?						
	4	ANY HORIZONTAL OFFSET?						
	5	NEED VEGETATION CONTROL?						
UPSTREAM SLOPE & BEACH AREA	6	ANY SLIDES, SLOUGHS, SCARPS?						
	7	ANY SINKHOLES OR UNUSUAL DEPRESSIONS?						
	8	ANY EROSION ?						
	9	CHANGES AT ABUTMENT CONTACTS?						
	10	NEED VEGETATION CONTROL?						
	11							
DOWNSTREAM SLOPE	12	ANY WET AREAS?						
	13	ANY SLIDES, SLOUGHS, SCARPS?						
	14	CHANGES AT DAM-ABUTMENT CONTACT?						
	15	ANY EROSION?						
	16	ANY UNUSUAL BULGING OR SLOPE MOVEMENT?						
	17	NEED VEGETATION CONTROL?						
	18							
SEEPAGE COLLECTION AND PUMPBACK SYSTEM	19	IS DRAIN OUTLET CLOGGED OR OBSTRUCTED?						
	20	ARE DRAIN FLOWS MUDDY OR TURBID?						
	21	IS EMBANKMENT WET AROUND DRAIN OUTLET?						
	22	ANY PROBLEMS WITH COLLECTION POND?						
	23	IS PUMPBACK SYSTEM WORKING PROPERLY?						
	24							
DIVERSION CHANNEL AND DROP STRUCTURE	25	ANY EROSION?						
	26	NEED VEGETATION CONTROL?						
	27	ANY DEBRIS IN CHANNELS OR DROP STRUCTURE?						
	28	ANY CRACKS OR DETERIORATION OF CONCRETE?						
	29	ANY CORROSION OF PIPE?						
	30							

ADDITIONAL COMMENTS (REFER TO ITEM NO. IF APPLICABLE):

DRMS Exhibit 4

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