

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

March 22, 2024

Mr. Lucas West
State of Colorado
Division of Reclamation, Mining and Safety
Room 215
1001 E 62nd Avenue
Denver, CO 80216

Re: Battle Mountain Resources, Inc.
San Luis Project - San Luis, Colorado
Annual Report and Fee 2023
CMLRB Permit No. M-1988-112

Dear Mr. West:

Please find included the Battle Mountain Resources, Inc. (BMRI) "San Luis Project" (Permit No. M-1988-112) Annual Report and a site map as requested in the February 22, 2024, email from the Colorado Division of Reclamation, Mining, and Safety (CDRMS) to Julio Madrid of BMRI/Newmont. The following summarizes the operation, reclamation, permitted area, dam inspections, and site monitoring activities performed, as well as any technical revisions and permit amendments made for the San Luis Project during 2023.

General Reclamation Activities

Reclamation activities and technical revisions during 2023 included:

- Completed Technical Revision 36 (TR-36) to convert Pond 2's lining from HDPE to concrete in 2022. In late April and early May 2023, backfill was placed and compacted between the concrete Ponds 2 and 3. In mid-May, the concrete slab was placed between concrete Ponds 2 and 3.
- Continued stormwater management on and adjacent to reclaimed and un-reclaimed mine land. Stormwater inspections were performed on June 8, 2023 and October 16, 2023, and any issues noted were corrected.
- Treatment of water from the West Pit and Rito Seco alluvial groundwater systems;
- Tailing facility storage pond, underdrain, and leak detection system management;
- Surface and ground water management.

Reclamation Areas

BMRI did not perform any additional reclamation in 2023. There are 78.7 acres of reclamation remaining, as summarized in Table 1.

Table 1 - Summary of San Luis Project Reclamation

Area	Actual Disturbance (Acres)	Reclamation Completed Through 2022 (Acres)	Reclamation Completed In 2023 (Acres)	Remaining Reclamation (Acres)
East Pit	20	20	0	0
West Pit	100	71.3	0	28.7
Waste Rock A	0	0	0	0
Waste Rock B	18	18	0	0
Waste Rock C	28	28	0	0
Waste Rock D	42	42	0	0
South Waste Rock	35	35	0	0
Mill Area	25.6	25.6	0	0
ESI Leach Pad	10	10	0	0
Borrow Area	5.5	0	0	5.5
Road Around Tailing Facility and Collection Pond	4	0	0	4
Tailing Facility Perimeter Road	12.9	0	0	12.9
Waste Rock C Access Road	3.7	3.7	0	0
Pink Gneiss Pit Haul Road	3.8	3.8	0	0
Tailing Facility	192	169.4	0	22.6
Tailing Collection Pond	5	0	0	5
Admin. Office Complex – Deeded lands to Costilla County Soil Conservation District (CCSCD)	3	3	0	0
Total Area	508.5	429.8	0	78.7

Permitted Areas

The current unreleased Permit Areas consist of both reclaimed and un-reclaimed land and disturbed and undisturbed land. BMRI did not receive a land release in 2023, therefore the 2023 Permit Area remaining is 428.22 acres. Table 2 summarizes the disturbed areas in the permit.

Table 2 - Summary of Permitted Areas

Area	Permitted Disturbance (Acres)	Actual Disturbance Areas (Acres)	Disturbance Areas Released from Permit Area (Acres)	Disturbance Areas Remaining in Permit Area (Acres)
East Pit	20	20	20	0
West Pit	110	100	8.9	91.1
Waste Rock A	0	0	0	0
Waste Rock B	18	18	18	0
Waste Rock C	30	28	25.8	2.2
Waste Rock D	42	42	42	0
South Waste Rock	50	35	33.6	1.4
Mill Area	25.6	25.6	15.6	10.0
ESI Leach Pad	10	10	10	0
Borrow Area	11	5.5	0	5.5
Roads	30	24.4	13.2	11.2
Tailing Facility	192	192	17.6	174.4
Tailing Collection Pond	5	5	0	5
Admin. Office Complex – Deeded lands to Costilla County Soil Conservation District (CCSCD)	3	3	3	0
Total Area	546.6	508.5	207.7	300.8

Dam Inspections

During 2023, quarterly dam inspections were performed as required in Technical Revision 33 (TR-33). The first, third, and fourth quarter dam inspections were performed by BMRI and the second quarter inspection was done by Engineering Analytics, Inc.'s (EA) Mark Abshire as well as the 2023 Annual Dam Inspection. The dam inspections were submitted previously to CDRMS and are also included in Appendix A of this report.

Site Monitoring

Water level data, laboratory analytical results, and flows were submitted to CDRMS as part of the Monthly Reports throughout 2023 and are also included in Appendix B of this report. During 2023, groundwater sampling and water level measurements were performed as required in Technical Revision 32 (TR-32). Sampling and laboratory analyses for groundwater monitoring well M-14 continued during 2023 under the CDRMS approved Response Plan. M-14 will continue to be sampled and results reported, as required in TR-32, in 2024.

The Lined Tailing Facility (LTF) collection pond leak detection system (underdrain) was monitored monthly and evacuated and pumped to the LTF. The monthly leak-detection flows for

2023 ranged from a low of 25.9 gallons per day (gpd) to a high of 31.4gpd. The average monthly leak-detection flow for 2023 was 28.8 gpd. The collection pond underdrain water was sampled and analyzed quarterly and the results and flows were submitted to CDRMS in the Monthly and Quarterly Sampling Reports and are also included in Appendix B of this report.

The LTF underdrain flows were monitored monthly at the base of the embankment and the flows for 2023 ranged from a low of 25.0 gallons per minute (gpm) to a high of 31.5 gpm. In 2023, the monthly average underdrain flow was 28.3 gpm. The monthly underdrain flows were submitted previously to CDRMS as part of the Monthly Reports and are also included in Appendix B of this report.

The LTF system lysimeters were monitored monthly. The lysimeters were dry or contained less than twelve inches of water and no groundwater was present for sampling or analysis in 2023.

There was no sludge transferred from the water treatment plant drying pads to the LTF in 2023. The monthly sludge management information was submitted previously to the CDRMS in the Monthly Reports, which are also included in Appendix B of this report.

During 2023, BMRI managed the Rito Seco and West Pit alluvial hydrologic systems, in compliance with Technical Revision 26 (TR-26). BMRI measured the West Pit backfill monitoring wells weekly and the monthly average groundwater elevations were maintained below the TR-26 required level of 8,582 feet above mean sea level (amsl). The groundwater table elevations and potentiometric surface maps, developed by EA, confirm the groundwater flow gradient was from the Rito Seco alluvium to the West Pit backfill during 2023. The groundwater elevations and potentiometric surface maps were previously submitted to CDPHE with the DMR's, BMP, and WET Testing Reports under permit number CO0045675 and are also included in Appendix C of this report. BMRI also performed monthly visual inspections for seepage in the historic seepage area along the Rito Seco Creek and no seeps were observed during 2023.

Additionally, the two groundwater capture wells, M-32 and M-33, were operated in conjunction with other groundwater table elevation control in the West Pit during 2023. Monthly average groundwater elevations were maintained equal to or lower than 8,540 feet amsl in wells M-32 and M-33, as required under TR-26. These elevations were also previously submitted to CDPHE with the DMR's, BMP, and WET Testing Reports under permit number CO0045675 and are also included in Appendix C of this report. Groundwater pumped from these wells was either treated at the West Pit Water Treatment Plant and discharged to the Rito Seco under the BMRI discharge permit, or pumped to the LTF for water management. In 2023, the West Pit water treatment plant treated and discharged a total of 88,749,900 gallons of water to the Rito Seco Creek. Additionally, a total of 5,116,700 gallons of water was transferred from the West Pit to the LTF.

Should additional information be required or if any clarifications are necessary, please contact me at (719) 379-0538.



Julio Madrid

Sr. Supervisor Legacy Sites Closure and Reclamation

Cc: Devon Horntvedt (electronic)
Lawrence Fiske, BMRI (electronic)
Melissa Chalona, Engineering Analytics
BMRI File

Enclosures:

Appendix A – Dam Inspection Reports
Appendix B – Monthly Reports and Monthly and Quarterly Sampling Results
Appendix C – DMR's, BMP, and WET Testing Reports
Appendix D – Report Request
Appendix E – 2023 Site Map

APPENDIX A

DAM INSPECTION REPORTS



BATTLE MOUNTAIN RESOURCES, INC.

April 13, 2023

Mr. Lucas West

Colorado Division of Reclamation, Mining and Safety

1313 Sherman Street, Room 215

Denver, CO 80203

RECEIVED
APR 18 2023
DIVISION OF RECLAMATION,
MINING & SAFETY-MINERALS

Re: San Luis Project Tailing Dam Q1 2023 Inspection Report, Technical Revision No. 33, Permit No. M-1988-112

Dear Mr. West:

Battle Mountain Resources Inc. (BMRI) is pleased to provide the Q1 2023 San Luis Tailing Dam Inspection Report in accordance with Technical Revision No. 33 to BMRI's Reclamation Permit.

The Inspection was conducted by BMRI Site Manager Mr. David Carino and Site Supervisor Mr. Julio Madrid.

Enclosed with the inspection report are photos of the Tailing Impoundment facilities to include the drop structure and the under-drain discharge area. Also included are the Q1 2023 Piezometer Inspection results.

Respectfully,

Julio F. Madrid

Sr. Supervisor Colorado Legacy Sites

(719) 379-0538

cc: Devon Horntvedt

David Carino

DAM: SAN LUIS PROJECT TAILING DAM		INSPECTION PERIOD: Jan 14, 2023 thru March 2023		page	1/1	
INSPECTOR: D. Carver & J. McDavid						
AREA INSPECTED	ITEM NO.	CONDITION	YES	NO	OBSERVATIONS	CHECK ACTION NEEDED
CREST	1	ANY SURFACE CRACKING?		✓		MONITOR
	2	ANY UNUSUAL LOW AREAS?		✓		INVESTIGATE
	3	ANY RUTS OR PUDDLES?		✓		REPAIR
	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?		✓		
DOWNSTREAM SLOPE	11			✓		
	12	ANY WET AREAS?		✓		
	13	ANY SLIDES, SLOUGHS, SCARPS?		✓		
	14	CHANGES AT DAM-ABUTMENT CONTACT?		✓		
	15	ANY EROSION?		✓		
SEEPAGE COLLECTION AND PUMPBACK SYSTEM	16	ANY UNUSUAL BULGING OR SLOPE MOVEMENT?		✓		
	17	NEED VEGETATION CONTROL?		✓		
	18			✓		
DIVERSION CHANNEL AND DROP STRUCTURE	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			✓		
	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):						

QUARTERLY INSPECTION SUMMARY

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

INSPECTION ITEMS	PHOTOS
Piezometer Levels	No
Drain Collection and Plumbback System Observations	Yes
Sed page/Erosion Observations	Yes
Vegetation/Rodent/Other Maintenance Observations	No
Diversion System Observations	Yes

The readings are included in this report.

System working properly

Minor erosion on North groin area, also north side of spillway structure.

None

Channel clear, no issues.

RECOMMENDATIONS/COMMENTS

NAME	REPRESENTING	TITLE/ROLE
Julio F. Madrid	DRMS/Operations	Sr. Site Supervisor
David Carino	DRMS/Operations	Site Manager

INSPECTION AND REPORTING PERSONNEL

Q1 2023 Piezometer Readings

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	01/31/2023	72.46	DRY	N/A
P7	01/31/2023	92.50	DRY	N/A
P8	01/31/2023	97.51	96.66	0.85
P9	01/31/2023	72.30	71.95	0.35
P10	01/31/2023	58.30	57.48	0.82
P11	01/31/2023	41.80	41.41	0.39
P12	01/31/2023	41.71	41.63	0.08
P13	01/31/2023	41.34	41.03	0.31
P14	01/31/2023	41.24	DRY	N/A
P15	01/31/2023	41.10	40.84	0.26

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	02/28/2023	72.46	DRY	N/A
P7	02/28/2023	92.50	DRY	N/A
P8	02/28/2023	97.51	96.67	0.84
P9	02/28/2023	72.30	71.95	0.35
P10	02/28/2023	58.30	57.47	0.83
P11	02/28/2023	41.80	41.40	0.40
P12	02/28/2023	41.71	41.64	0.07
P13	02/28/2023	41.34	41.00	0.34
P14	02/28/2023	41.24	DRY	N/A
P15	02/28/2023	41.10	40.80	0.30

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	03/30/2023	72.46	DRY	N/A
P7	03/30/2023	92.50	DRY	N/A
P8	03/30/2023	97.51	96.67	0.84
P9	03/30/2023	72.30	71.95	0.35
P10	03/30/2023	58.30	57.47	0.83
P11	03/30/2023	41.80	41.40	0.40
P12	03/30/2023	41.71	41.63	0.08
P13	03/30/2023	41.34	41.02	0.32
P14	03/30/2023	41.24	DRY	N/A
P15	03/30/2023	41.10	40.85	0.25







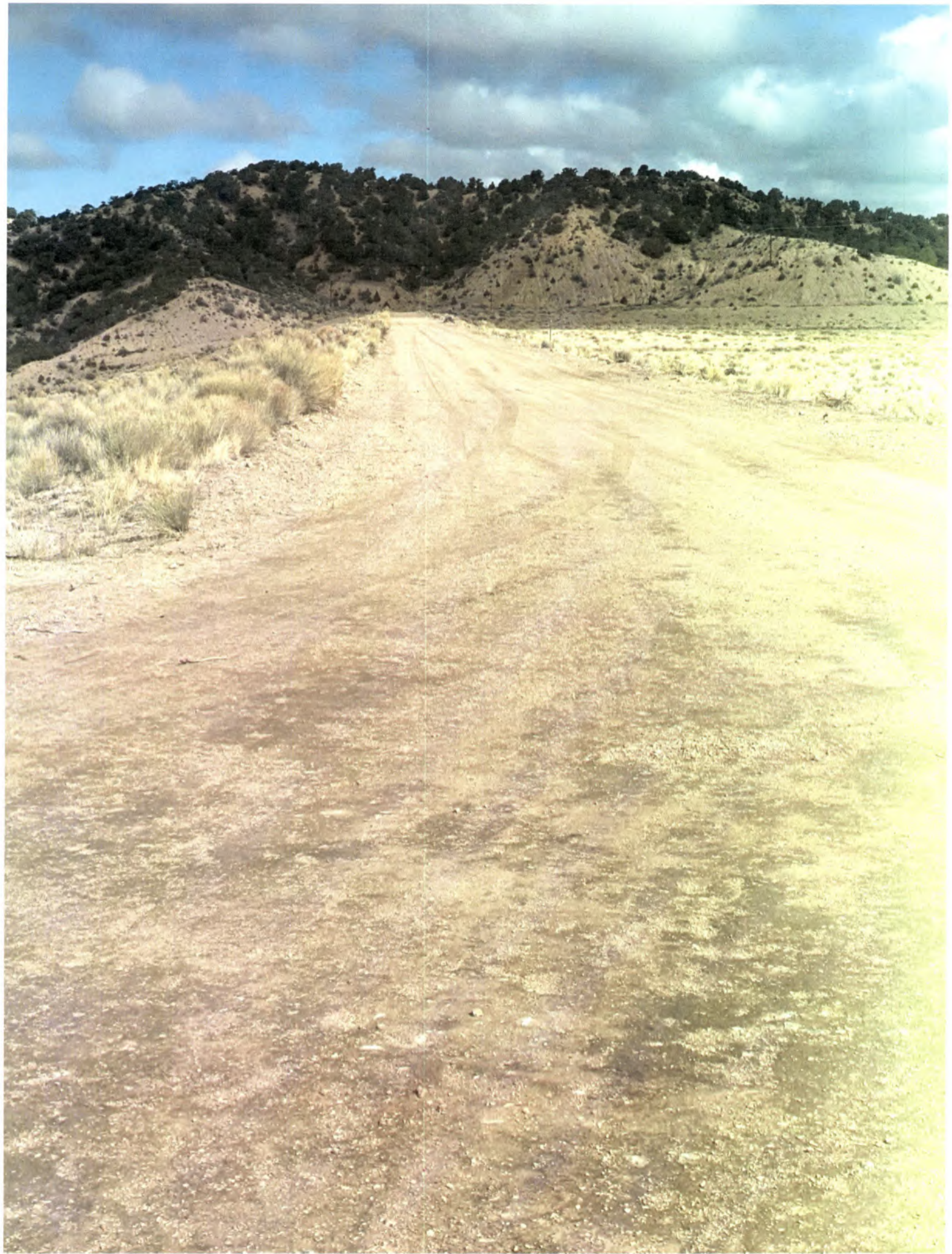














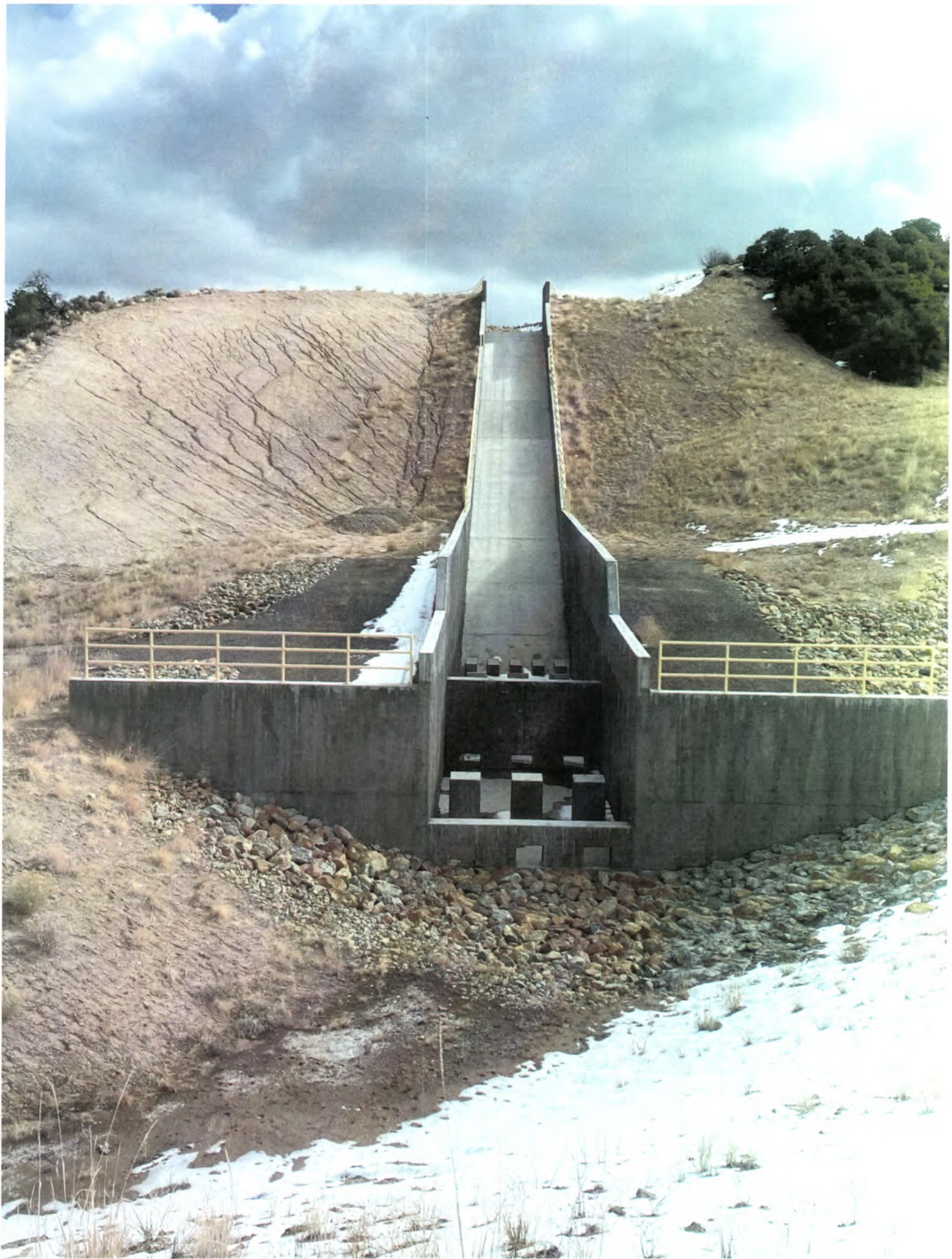














RECEIVED

JUL 28 2023

July 26, 2023

Mr. Lucas West
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Colorado Division of Reclamation,
Mining and Safety

RE: San Luis Project Tailings Dam
2023 Annual Inspection Report
Technical Revision No. 33
Permit No. M-1988-112

Dear Mr. West:

Battle Mountain Resources Inc. (BMRI) is pleased to provide the 2023 Annual San Luis Tailings Dam Inspection Report in accordance with Technical Revision No. 33 to BMRI's Reclamation Permit. The inspection was conducted by Mark S. Abshire, PE of Engineering Analytics, Inc., and BMRI Site Manager David Carino. Enclosed with the inspection report are photos of the tailings impoundment facilities, including the drop structure and the underdrain discharge area.

Please let me know if you have any questions.

Respectfully,

Julio F. Madrid
Senior Supervisor Colorado Legacy Sites

Cc: David Carino
Devon Horntvedt
Karen De Agüero
Jonathan Gillen

Enclosures: 2023 Annual Dam Safety Inspection Report: San Luis Tailings Dam,
CDRMS Permit No. M-1988-112
File Name: *San Luis TSF_2023 Annual Dam Safety Inspection Report.pdf*



July 14, 2023

Project No. 2101.05.15

Mr. David Carino
Battle Mountain Resources, Inc.
P.O. Box 310
San Luis, CO 81152-0310

RE: 2023 Annual Dam Safety Inspection Report
San Luis Tailings Dam
CDRMS Permit No. M-1988-112

Dear Mr. Carino,

At your request, Engineering Analytics, Inc. (EA) conducted the 2023 annual dam safety inspection for the San Luis Tailings Dam. The inspection was conducted on June 14 by Mark S. Abshire, P.E., in conformance with the Tailing Dam Safety Inspection and Reporting Program prepared by Miller Geotechnical Consultants, Inc. (MGC), dated March 12, 2013. Also present were Jonathan Gillen, PE (Newmont), yourself and Julio Madrid (BMRI).

EA's inspection included review of the 2022 TSF inspection report (August 5, 2022). An overall site plan of the San Luis TSF is presented on Figure 1. Specific inspection results are detailed on the Tailing Dam Inspection Form (Attachment 1), and findings are presented on Figure 2. Figures 3 and 4 present piezometer levels and underdrain flow measurements, respectively. Photographs taken during the inspection are included as Attachment 2.

PREVIOUS FINDINGS

The primary issues identified in the 2022 annual inspection included the potential for surface erosion in disturbed areas around the South Diversion Ditch Drop Structure (construction completed in 2019), and a blocked culvert at the lower end of the HDPE-lined runoff channel at the downstream toe.

INSTRUMENTATION

Piezometers: Piezometer readings from April 2022 through May 2023 are shown in Table 1, and readings from January 2021 through May 2023 are presented graphically on Figure 3. The piezometers all indicate dry conditions or minor amounts of water present at the bottom of the casings due to moisture condensation. This behavior is consistent with historic observations and indicates that the sub-drains are functioning, and low phreatic conditions are maintained within the dam embankment. No abnormalities are indicated in the measurements.

Table 1 San Luis TSF Piezometer Levels: April 2022 - May 2023

PIEZOMETER ID TOTAL DEPTH (ft)*	P6 72.46	P7 92.50	P8 97.51	P9 72.30	P10 58.30	P11 41.80	P12 41.71	P13 41.34	P14 41.24	P15 41.10
4/27/2022	72.46	92.29	96.58	71.93	57.47	41.40	41.66	41.02	41.24	40.87
5/31/2022	72.46	92.28	96.64	71.94	57.49	41.39	41.65	41.01	41.24	40.87
6/30/2022	72.46	92.30	96.62	71.93	57.48	41.41	41.65	41.01	41.24	40.87
7/28/2022	72.46	92.30	96.65	71.94	57.49	41.41	41.65	41.01	41.24	40.87
8/31/2022	72.46	92.50	96.65	71.93	57.49	41.40	41.65	41.00	41.24	40.86
9/29/2022	72.46	92.50	96.65	71.93	57.48	41.40	41.64	41.00	41.24	40.85
10/31/2022	72.46	92.50	96.64	71.92	57.48	41.39	41.65	41.00	41.24	40.86
11/30/2022	72.46	92.50	96.68	71.94	57.47	41.40	41.64	40.99	41.24	40.85
12/30/2022	72.46	92.50	96.67	71.94	57.48	41.40	41.65	41.00	41.24	40.85
1/31/2023	72.46	92.50	96.66	71.95	57.48	41.41	41.63	41.03	41.24	40.84
2/28/2023	72.46	92.50	96.67	71.95	57.47	41.40	41.64	41.00	41.24	40.80
3/30/2023	72.46	92.50	96.67	71.95	57.47	41.40	41.63	41.02	41.24	40.85
4/27/2023	72.46	92.50	96.65	71.95	57.48	41.39	41.63	41.03	41.24	40.86

* Piezometer total depths measured from top of casing

Underdrain: Underdrain flow rates discharging to the seepage collection pond from April 2022 through May 2023 are shown in Table 2, and flow rates from 2016 to 2023 are presented graphically on Figure 4. Average underdrain flow measurements from 2020-23 (31.7 gpm) are slightly lower than from 2016-2023 (34.0 gpm).

The underdrain pipes were jet-cleaned in 2014 in conjunction with the first camera inspection of the accessible downstream ends of the pipes. A second video inspection of the pipe ends was done without jet cleaning in 2018. The 2018 videos showed some accumulation of sediment and precipitates in the pipes compared to the 2014 videos, but the pipes were all still flowing (not clogged). Thus, the observed slight reduction in underdrain flow in recent years is likely due to ongoing severe regional drought. The pipes were jet-cleaned again on October 5, 2020, and May 10, 2021, with no video inspections. It is recommended that jetting of the pipes and video inspections be conducted at least every 3 years unless a change in measured drainage flow rates warrants more frequent cleaning and inspection.

Table 2 San Luis TSF Underdrain Flow Measurements: April 2022 - May 2023

Date	Flow (gpm)
4/27/2022	32.0
5/31/2022	32.0
6/30/2022	32.0
7/28/2022	33.0
8/31/2022	32.5
9/29/2022	33.0
10/31/2022	32.5
11/30/2022	32.0
12/30/2022	32.0
1/31/2023	31.5
2/28/2023	31.5
3/30/2023	31.5

2022 INSPECTION FINDINGS

The overall surficial conditions of the tailings dam at the time of the inspection were generally satisfactory, except for minor issues discussed in more detail below.

Right Downstream Groin: Revegetation in this area following repairs has achieved full recovery and is in satisfactory condition. This area and also the cross-berms and rock-lined down-drains should be monitored periodically to make sure erosion does not recur.

South Diversion Ditch Drop Structure: Disturbed areas adjacent to the drop structure that are not protected by riprap were seeded in 2019. However, vegetation establishment is poor to date due to extended drought conditions, and erosional rilling is progressing in these areas. Erosion on the right (north) side of the drop structure has progressed to the point where repairs and mitigation are required. Mitigation will entail repair of eroded areas, cutting in shallow swales along the slopes to reduce runoff flow path lengths, followed by reseeding the slopes and installation of erosion control blankets or the application of mulch.

Seepage Underdrain Collection System: Continue the jetting and video inspection program to ensure the drain pipes do not become clogged.

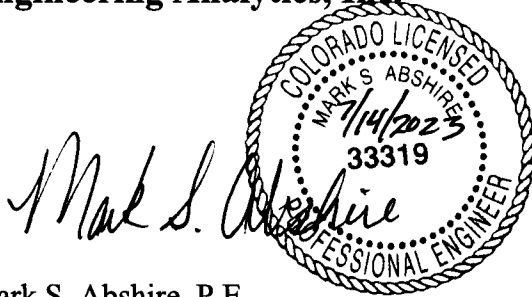
Choked Runoff Diversion Ditch Culvert: Clear toe runoff channel culvert immediately south of underdrain outfall pipe

CONCLUSIONS

Based on the observations described above, the overall surficial condition of the dam is judged to be 'Conditionally Satisfactory' at this time. Please don't hesitate to call should you have questions or concerns regarding this inspection report.

Respectfully Submitted,

Engineering Analytics, Inc.



Mark S. Abshire, P.E.
Senior Geotechnical Engineer

FIGURES

- Figure 1 Overall Site Plan**
- Figure 2 2023 Annual Dam Safety Inspection**
- Figure 3 Piezometer Levels**
- Figure 4 Underdrain Flow**



LEGEND

 P15 APPROXIMATE PIEZOMETER LOCATIONS

NOTE: AERIAL PHOTO TAKEN NOV 25 2017



NO	REVISION DESCR	DATE	BY

THIS DRAWING IS THE PROPERTY OF ENGINEERING ANALYTICS, INC. (EAI). IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF EAI.

BATTLE MOUNTAIN RESOURCES, INC.
SAN LUIS TAILINGS STORAGE FACILITY
OVERALL SITE PLAN



Engineering Analytics, Inc.
1600 Specht Point Road, Suite 209
Fort Collins, CO 80525
(970) 488-3111

ISSUED BY:

Project Number: 101.05.15
Drawn By:
Designed By:
Approved By: MSA
Date: 6/28/2023
Scale: 1" = 400'

FIGURE 1



LEGEND



AREA WITH RILLING TO BE REPAIRED



ISSUED BY:

Project Number: 101.05.15
Drawn By:

Designed By:

Approved By:	MSA
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Date:	6/28/2023
Costs:	1" = 100'

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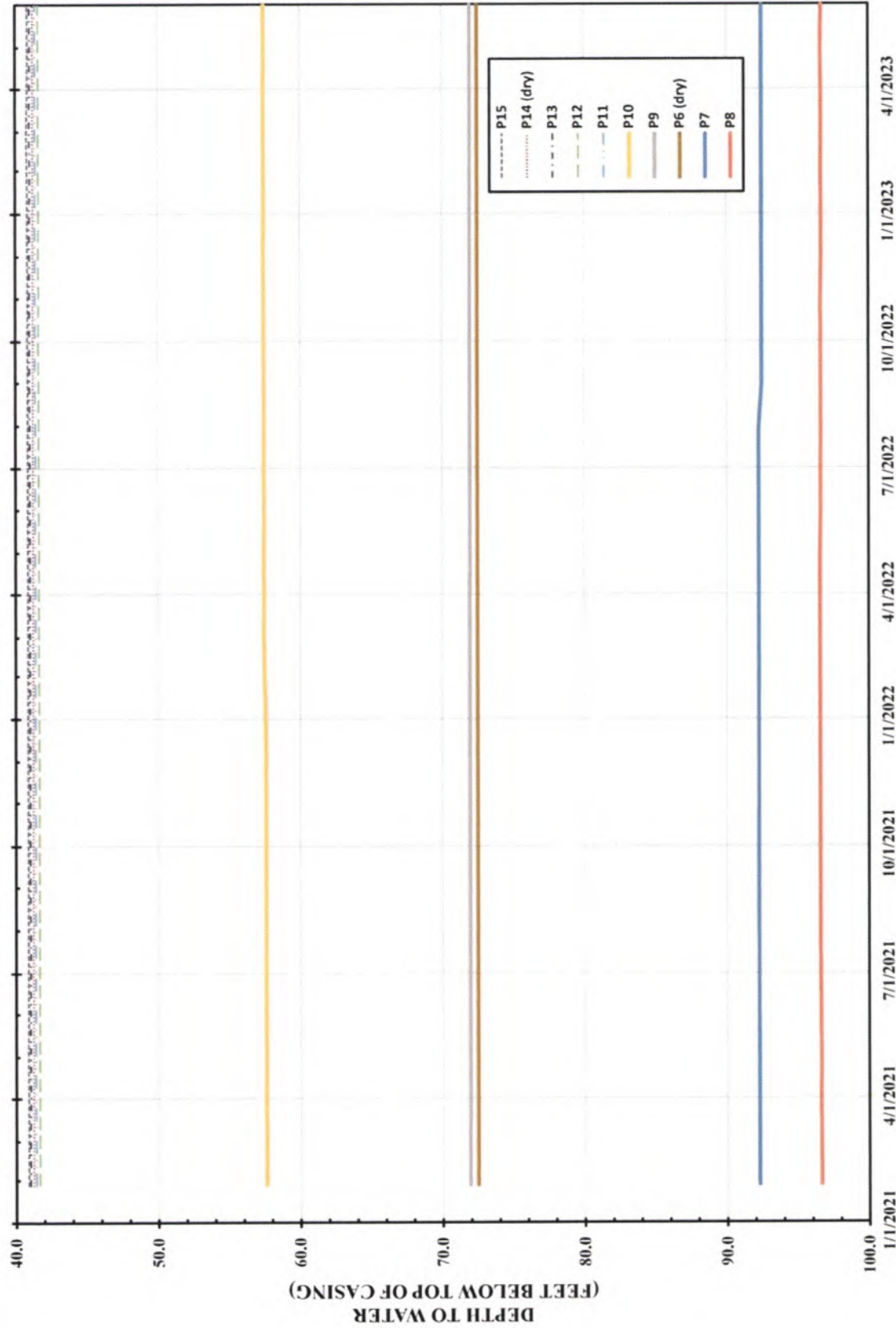
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Engineering Analytics, Inc.
1600 Specht Point Road, Suite 209
Fort Collins, CO 80525
(970) 488-3111

BATTLE MOUNTAIN RESOURCES, INC.

SAN LUIS TAILINGS STORAGE FACILITY
2023 ANNUAL DAM SAFETY INSPECTION

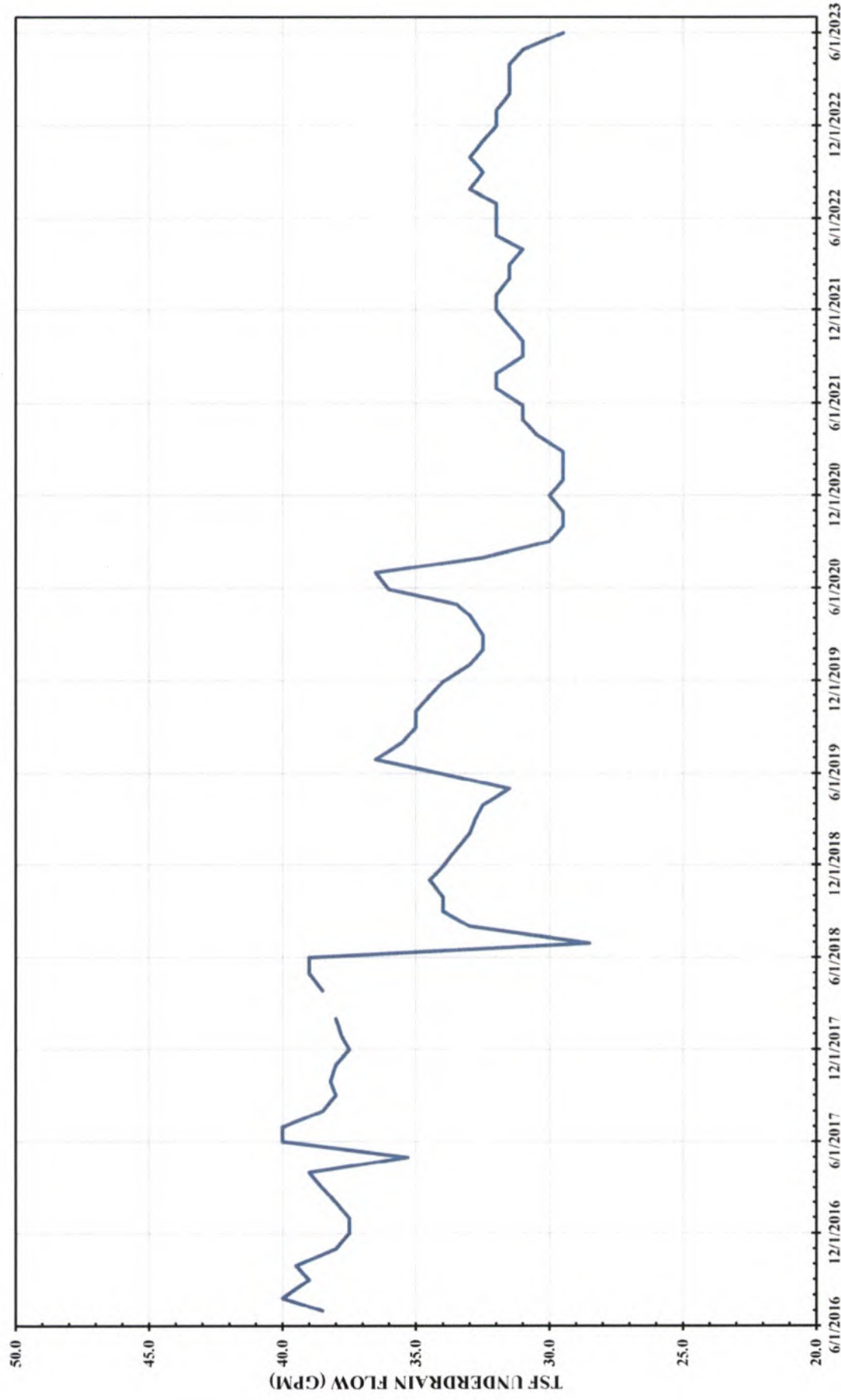
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Project No. 210105.15

June 2023

FIGURE 3
PIEZOMETER LEVELS
2023 ANNUAL DAM SAFETY INSPECTION
SAN LUIS TAILINGS STORAGE FACILITY



Project No. 210105.15

June 2023

FIGURE 4
UNDERDRAIN FLOW
2023 ANNUAL DAM SAFETY INSPECTION
SAN LUIS TAILINGS STORAGE FACILITY

ATTACHMENT 1
SAN LUIS TAILINGS DAM
2023 ANNUAL DAM SAFETY INSPECTION FORM
MAY 23, 2023 INSPECTION

DATE OF REPORT: July 5, 2023

Name of Professional Conducting Inspection: Mark S. Abshire, PE		Colorado P.E. License No.: 33319		
Company Name and Address: Engineering Analytics, Inc. 1600 Specht Point Road, Suite 209 Fort Collins, Colorado 80525		Phone Nos.: 970-488-3111 (Office) 970-692-4265 (Cell) email: mabshire@enganalytics.com		
INSPECTION PREPARATION: I have reviewed all pertinent technical documentation related to this dam and site in the Owner's files: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Comment:				
YR COMPL 1993 Ph II, Raise 1 1995 Ph II, Raise 2	T R Not Applicable- Sangre de Cristo Land Grant	Sec COUNTY Costilla	DATE OF INSPECTION: May 23, 2023	
DAM HEIGHT (FT) ~ 155	DAM LENGTH (FT) ~ 1,900	CREST WIDTH (FT) ~25	PREVIOUS INSPECTION: June 14, 2022	
FREEBOARD (FT) ~ 12	DRAINAGE AREA (AC) 741 total 537 diverted	CREST ELEV (FT) ~ 8620	NORMAL STORAGE (AF) 1,105 at dam crest	POOL SURFACE AREA (AC) 136.7 at dam crest
BEACH LENGTH ABOVE POOL (FT): ~600		DIVERSION CHANNEL CAPACITY (CFS): ~1,500		
OWNER: Battle Mountain Resources, Inc.		OWNER REPRESENTATIVE/CONTACT: David Carino		
OWNER ADDRESS: P.O. Box 310 San Luis, Colorado 81152		OWNER CONTACT PHONE NOS.: 719-379-0827 (water treatment plant)		
FIELD CONDITIONS OBSERVED	WATER LEVEL BELOW DAM CREST: 12+ FT			
	GROUND MOISTURE CONDITION: <input checked="" type="checkbox"/> DRY <input type="checkbox"/> WET <input type="checkbox"/> SNOW COVER <input type="checkbox"/> OTHER			
Directions: Mark and X for conditions found and underline words that apply				
UPSTREAM SLOPE AND IMPOUNDMENT AREA				
PROBLEMS NOTED: <input checked="" type="checkbox"/> (0) NONE <input type="checkbox"/> (1) EROSION PROTECTION - Missing/ Sparse <input type="checkbox"/> (2) BEACH AREA WAVE EROSION <input type="checkbox"/> (3) CRACKS WITH DISPLACEMENT <input type="checkbox"/> (4) SINKHOLE <input type="checkbox"/> (5) APPEARS TOO STEEP <input type="checkbox"/> (6) DEPRESSIONS OR BULGES <input type="checkbox"/> (7) SLIDES <input type="checkbox"/> (8) ANIMAL BURROWS <input type="checkbox"/> (9) OTHER				
CONDITIONS OBSERVED: <input checked="" type="checkbox"/> GOOD <input type="checkbox"/> ACCEPTABLE <input type="checkbox"/> POOR				
CREST				
PROBLEMS NOTED: <input checked="" type="checkbox"/> (10) NONE <input type="checkbox"/> (11) RUTS OR PUDDLES <input type="checkbox"/> (12) EROSION <input type="checkbox"/> (13) CRACKS WITH DISPLACEMENT <input type="checkbox"/> (14) SINKHOLES <input type="checkbox"/> (15) NOT WIDE ENOUGH <input type="checkbox"/> (16) LOW AREA <input type="checkbox"/> (17) MISALIGNMENT <input type="checkbox"/> (18) IMPROPER SURFACE DRAINAGE <input type="checkbox"/> (19) OTHER				
CONDITIONS OBSERVED: <input checked="" type="checkbox"/> GOOD <input type="checkbox"/> ACCEPTABLE <input type="checkbox"/> POOR				
DOWNSTREAM SLOPE				
PROBLEMS NOTED: <input checked="" type="checkbox"/> (20) NONE <input type="checkbox"/> (21) LIVESTOCK DAMAGE <input type="checkbox"/> (22) EROSION OR GULLIES (R DS Groin) <input type="checkbox"/> (23) CRACKS WITH <input type="checkbox"/> (24) SINKHOLE <input type="checkbox"/> (25) APPEARS TOO STEEP <input type="checkbox"/> (26) DEPRESSIONS OR BULGES <input type="checkbox"/> (27) SLIDES <input type="checkbox"/> (28) SOFT AREAS <input type="checkbox"/> (29) OTHER				
CONDITIONS OBSERVED: <input checked="" type="checkbox"/> GOOD <input type="checkbox"/> ACCEPTABLE <input type="checkbox"/> POOR				

TAILINGS DAM INSPECTION FORM

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

SEEPAGE AND TSF UNDERDRAIN OUTFALL**PROBLEMS NOTED:**

- ☐ (30) NONE
 ☐ (31) SATURATED EMBANKMENT AREA
 ☐ (32) SEEPAGE EXISTS ON DAM
 ☒ (33) SEEPAGE EXISTS AT POINT SOURCE
 ☒ (34) MINOR PONDING OF PIPE SEEPAGE 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

See Figure 1

AND INDICATE AMOUNT AND QUALITY OF SEEPAGE

Minor clear seepage from underdrain outlet creates puddle, attracting animals, but no pipe damage.

CONDITIONS OBSERVED:

- ☐ GOOD
 ☒ ACCEPTABLE
 ☐ POOR

STORMWATER 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 Rilling along both sides of drop structure is advancing- continue monitoring and begin planning mitigation strategy.

South diversion channel and downstream toe runoff collection swales are in good condition except for choking of culvert south of toe drain (Photo 12). Mitigation of erosional rilling at drop structure is required.

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 Underdrain flow

MONITORING OF INSTRUMENTATION:

- ☐ (56) NO WEIRS/FLUMES
 ☒ (57) YES

PERIODIC INSPECTIONS BY:

- ☒ (58) OWNER
 ☒ (59) ENGINEER

Piezometers remain dry. Average underdrain flow measurements from 2020-23 (31.7 gpm) are lower than from 2016-2023 (34.0 gpm). Reduction is likely due to ongoing severe regional drought, but continue jetting and video inspection program.

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 ACTIVITY ON: UPSTREAM SLOPE/BEACH, CREST, DOWNSTREAM SLOPE, TOE
 ☒ (65) OTHER

#48: Clear toe runoff channel culvert immediately south of toe drain outfall pipe.

#49: Disturbed areas adjacent to the South Diversion Ditch Drop Structure that are not protected by riprap were seeded in 2019, but due to drought conditions vegetation establishment is poor to date and erosional rilling has progressed along both sides of the structure to the point that mitigation is required.

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

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: Per Item 49, begin preparing plans to repair and mitigate erosional rilling. Mitigation should include cutting in shallow swales along the slope to reduce runoff flow path lengths, followed by reseeding and installation of erosion control blankets between the swales.
- ☐ (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) MONITOR: Continue underdrain jetting cleanout and camera inspection of accessible lengths of underdrain pipes.
- ☒ (8) OTHER: Per Item 48, clear toe runoff channel culvert immediately south of toe drain outfall pipe. Protect toe drain area from disturbance by cattle and wildlife.
- ☒ (9) OTHER: Per 2020 inspection, consider installing a concrete structure for collection of drain discharges to keep the area dry, to protect the pipes, and to facilitate access for cleanout and monitoring of the drains.

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: _____

Figure 1 Overall Site Plan and Photo Log
 Figure 2 2023 Annual Dam Safety Inspection
 Figure 3 Piezometer Levels
 Figure 4 Underdrain Flow
 Attachment 2 2023 Inspection Photos

☒ Photographs (Photos 1-18)☒ Attachments (Piezometer and underdrain data)

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:

Reviewed by:

Owner/Owner's Representative

Date: 7/5/2023Date: 7/17/2023

GUIDELINES FOR DETERMINING CONDITIONS		
CONDITIONS OBSERVED - APPLIES TO UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE		
<u>GOOD</u> 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.	<u>ACCEPTABLE</u> 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.	<u>POOR</u> Conditions observed in this area appear to threaten the safety of the dam.
CONDITIONS OBSERVED - APPLIES TO SEEPAGE		
<u>GOOD</u> 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.	<u>ACCEPTABLE</u> 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.	<u>POOR</u> 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 Jars samples. 3) Widespread seepage, concentrated seepage, or ponding appears to threaten the safety of the dam.
CONDITIONS OBSERVED - APPLIES TO MONITORING		
<u>GOOD</u> 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.	<u>ACCEPTABLE</u> 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.	<u>POOR</u> 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		
<u>GOOD</u> Dam appears to receive effective on-going maintenance and repair, and only a few minor items may need to be addressed.	<u>ACCEPTABLE</u> Dam appears to receive maintenance, but some maintenance items need to be addressed. No major repairs are required.	<u>POOR</u> 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		
<u>SATISFACTORY</u> 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.	<u>CONDITIONALLY SATISFACTORY</u> 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.	<u>UNSATISFACTORY</u> 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.

ATTACHMENT 2
SAN LUIS TAILINGS STORAGE FACILITY
2023 ANNUAL DAM SAFETY INSPECTION
MAY 23, 2023 INSPECTION PHOTOS



Photo 1 Looking north along the crest from the middle of the dam, showing good conditions of the impoundment.



Photo 2 Looking south along the crest from the middle of the dam, showing good conditions of the impoundment.



Photo 3 Looking east from the access road at the pool, showing good conditions.



Photo 4 Looking south from the access road at the pool, showing good conditions.



Photo 5 Looking north along the dam crest, showing good conditions and straight alignment.



Photo 6 Looking south from the downstream face, showing good conditions.



Photo 7 Looking northeast from the center at the toe, showing good conditions of the downstream face. Note the underdrain outlet and the white pumpback line at the left center.



Photo 8 Looking southeast up the downstream face from near the underdrain outlet, showing good conditions.



Photo 9 Looking south over the right downstream groin, showing significantly improved revegetation conditions following 2013/2014 erosion repairs. Note the seepage collection pond at the upper right.



Photo 10 Looking northeast over the right downstream groin and rock drop channel, showing good conditions. Note the white pumpback line at the left.



Photo 11 Closeup of the underdrain outlet pipes, showing clear seepage, low flow, and generally good conditions.



Photo 12 Looking north at the lower end of the HDPE left downstream toe runoff channel, showing near complete blockage of the culvert (upper middle of photo) with sediment.

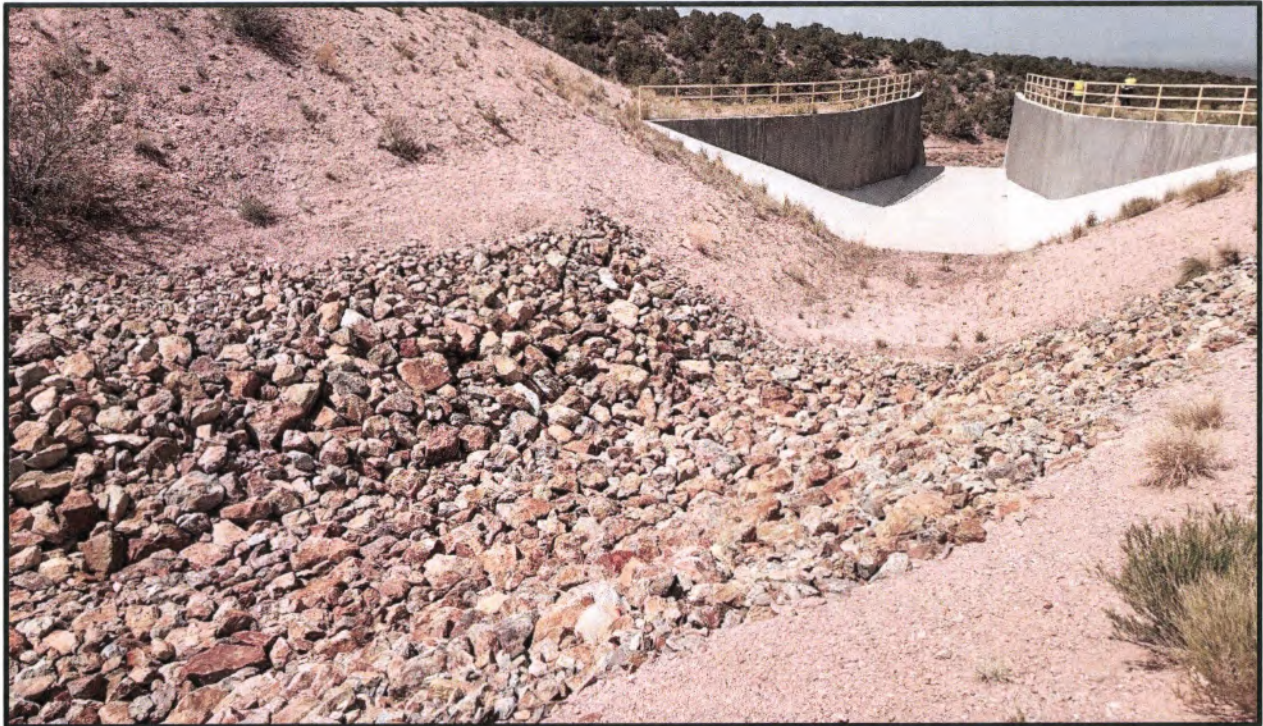


Photo 13 Looking southwest (downstream) into the drop structure from near the top, showing good conditions.



Photo 14 Looking northeast (upstream) into the drop structure inlet, showing good conditions.



Photo 15 Looking northeast at the drop structure from the bottom, showing good conditions except for the erosional rilling along the sides.



Photo 16 Looking north from the toe of the drop structure, showing generally good conditions.



Photo 17 Looking east along the lower left (south) side of the drop structure, showing good conditions.



Photo 18 Looking east along the right (north) side of the drop structure, showing progression of erosional rilling and gullying on the slope face.



BATTLE MOUNTAIN RESOURCES, INC.

October 14, 2023

RECEIVED

OCT 24 2023

Mr. Lucas West

Colorado Division of Reclamation, Mining and Safety

DIVISION OF RECLAMATION,
MINING & SAFETY-MINERALS

1313 Sherman Street, Room 215

Denver, CO 80203

Re: San Luis Project Tailing Dam Q3 2023 Inspection Report, Technical Revision No. 33, Permit No. M-1988-112

Dear Mr. West:

Battle Mountain Resources Inc. (BMRI) is pleased to provide the Q3 2023 San Luis Tailing Dam Inspection Report in accordance with Technical Revision No. 33 to BMRI's Reclamation Permit.

The Inspection was conducted by BMRI Site Manager Mr. David Carino and Site Supervisor Mr. Julio Madrid.

Enclosed with the inspection report are photos of the Tailing Impoundment facilities to include the drop structure and the under-drain discharge area. Also included are the Q3 2023 Piezometer Inspection results.

Respectfully,

Julio F. Madrid

Sr. Supervisor Colorado Legacy Sites

(719) 379-0538

cc: Devon Horntvedt

David Carino

		INSPECTION PERIOD: <u>July 2023</u> thru <u>Sept 2023</u>		page 1/1				
		INSPECTOR: <u>David Carino</u>						
DAM: <u>SAN LUIS PROJECT TAILING DAM</u>				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?		✓				
DOWNSTREAM SLOPE	11							
	12	ANY WET AREAS?		✓				
	13	ANY SLIDES, SLOUGHS, SCARPS?		✓				
	14	CHANGES AT DAM-ABUTMENT CONTACT?		✓				
	15	ANY EROSION?	✓		minor erosion northside groin area.	✓		
SEEPAGE COLLECTION AND PUMPBACK SYSTEM	16	ANY UNUSUAL BULGING OR SLOPE MOVEMENT?		✓				
	17	NEED VEGETATION CONTROL?		✓				
	18							
	19	IS DRAIN OUTLET CLOGGED OR OBSTRUCTED?		✓				
	20	ARE DRAIN FLOWS MUDDY OR TURBID?		✓				
DIVERSION CHANNEL AND DROP STRUCTURE	21	IS EMBANKMENT WET AROUND DRAIN OUTLET?	✓		minor leakage around piping	✓		
	22	ANY PROBLEMS WITH COLLECTION POND?		✓				
	23	IS PUMPBACK SYSTEM WORKING PROPERLY?	✓					
	24							
	25	ANY EROSION?		✓				
DIVERSION CHANNEL AND DROP STRUCTURE	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):

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	Included in report	No
Drain Collection and Pumpback System Observations	system working properly	Yes
Seepage/Erosion Observations	minor erosion on North groin area (down stream).	Yes
Vegetation/Rodent/Other Maintenance Observations	None	No
Diversion System Observations	channel in good condition, No issues	Yes

RECOMMENDATIONS/COMMENTS

pulled trees around pond in tailings and sprayed weeds as recommended by Lucas West.

INSPECTION AND REPORTING PERSONNEL

NAME	REPRESENTING	TITLE/ROLE
David S Carino	BMRI / Newmont	Site Manager
Julio Madrid	BMRI / Newmont	Site Supervisor

Battle Mountain, San Luis

Piezometer Level Readings Q3, 2023

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	07/31/2023	72.46	DRY	N/A
P7	07/31/2023	92.50	DRY	N/A
P8	07/31/2023	97.51	96.65	0.86
P9	07/31/2023	72.30	71.95	0.35
P10	07/31/2023	58.30	57.47	0.83
P11	07/31/2023	41.80	41.39	0.41
P12	07/31/2023	41.71	41.63	0.08
P13	07/31/2023	41.34	41.02	0.32
P14	07/31/2023	41.24	DRY	N/A
P15	07/31/2023	41.10	40.85	0.25

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	08/29/2023	72.46	DRY	N/A
P7	08/29/2023	92.50	DRY	N/A
P8	08/29/2023	97.51	96.63	0.88
P9	08/29/2023	72.30	71.95	0.35
P10	08/29/2023	58.30	57.48	0.82
P11	08/29/2023	41.80	41.40	0.40
P12	08/29/2023	41.71	41.64	0.07
P13	08/29/2023	41.34	41.01	0.33
P14	08/29/2023	41.24	DRY	N/A
P15	08/29/2023	41.10	40.86	0.24

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	9/28/2023	72.46	DRY	N/A
P7	9/28/2023	92.50	DRY	N/A
P8	9/28/2023	97.51	96.64	0.87
P9	9/28/2023	72.30	71.94	0.36
P10	9/28/2023	58.30	57.48	0.82
P11	9/28/2023	41.80	41.39	0.41
P12	9/28/2023	41.71	41.63	0.08
P13	9/28/2023	41.34	41.02	0.32
P14	9/28/2023	41.24	DRY	N/A
P15	9/28/2023	41.10	40.85	0.25



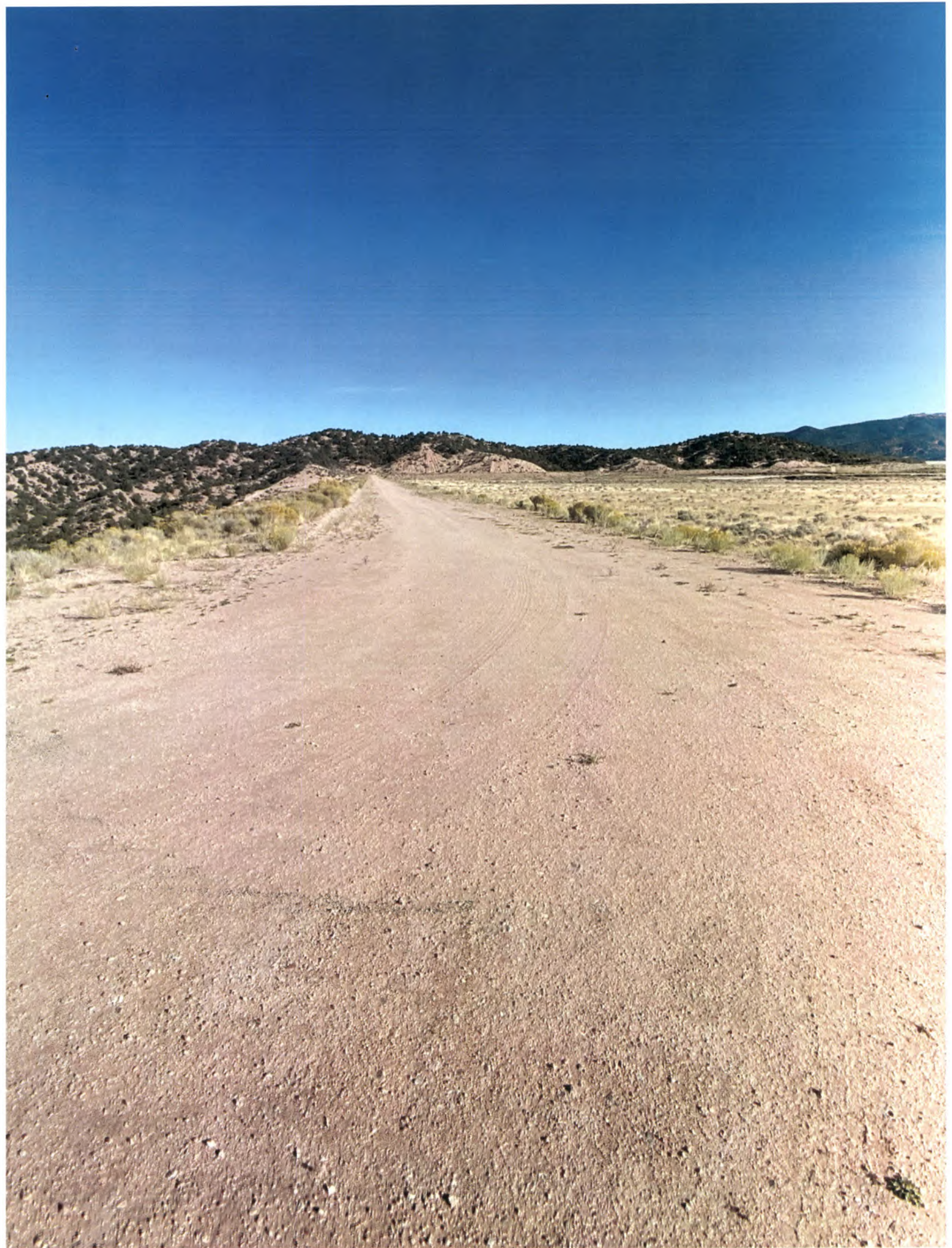
















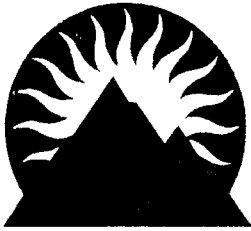












BATTLE MOUNTAIN RESOURCES, INC.

January 13, 2024

Mr. Lucas West

Colorado Division of Reclamation, Mining and Safety

1313 Sherman Street, Room 215

Denver, CO 80203

RECEIVED
JAN 17 2024
DIVISION OF RECLAMATION
MINING AND SAFETY

RECEIVED
JAN 17 2024
DIVISION OF RECLAMATION
MINING AND SAFETY

Re: San Luis Project Tailing Dam Q4 2023 Inspection Report, Technical Revision No. 33, Permit No. M-1988-112

Dear Mr. West:

Battle Mountain Resources Inc. (BMRI) is pleased to provide the Q4 2023 San Luis Tailing Dam Inspection Report in accordance with Technical Revision No. 33 to BMRI's Reclamation Permit.

The Inspection was conducted by BMRI Site Manager Mr. David Carino and Site Supervisor Mr. Julio Madrid.

Enclosed with the inspection report are photos of the Tailing Impoundment facilities to include the drop structure and the under-drain discharge area. Also included are the Q4 2023 Piezometer Inspection results.

Respectfully,

Julio F. Madrid

Sr. Supervisor Colorado Legacy Sites

(719) 379-0538

cc: Devon Horntvedt

David Carino

QUARTERLY INSPECTION SUMMARY

NAME OF DAM		San Luis Project Tailings Dam		CO DRMS Permit # M-1988-112	
REPORTING PERIOD		thru		REPORT #.	
INSPECTION ITEMS					
Piezometer Levels					PHOTOS
Included in report.					No
Chain Collection and Pumpback System Observations					Yes
Sediment/Erosion Observations					Yes
minor erosion on north grain area (down stream).					
Vegetation/Rodent/Other Maintenance Observations					No
None					
Diversion System Observations					Yes
Channel in good condition, No issues					
RECOMMENDATIONS/COMMENTS					
INSPECTION AND REPORTING PERSONNEL					
NAME		REPRESENTING		TITLE/ROLE	
David's Carino		BMR / Alameda		Site Manager	
Julio Madrid		BMR / Alameda		Site Supervisor	

October 2023 Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	10/31/2023	72.46	DRY	N/A
P7	10/31/2023	92.50	DRY	N/A
P8	10/31/2023	97.51	96.62	0.89
P9	10/31/2023	72.30	71.95	0.35
P10	10/31/2023	58.30	57.49	0.81
P11	10/31/2023	41.80	41.40	0.4
P12	10/31/2023	41.71	41.62	0.09
P13	10/31/2023	41.34	41.01	0.33
P14	10/31/2023	41.24	DRY	N/A
P15	10/31/2023	41.10	40.85	0.25

November 2023 Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	11/30/2023	72.46	DRY	N/A
P7	11/30/2023	92.50	DRY	N/A
P8	11/30/2023	97.51	96.63	0.88
P9	11/30/2023	72.30	71.96	0.34
P10	11/30/2023	58.30	57.48	0.82
P11	11/30/2023	41.80	41.41	0.39
P12	11/30/2023	41.71	41.63	0.08
P13	11/30/2023	41.34	41.00	0.34
P14	11/30/2023	41.24	DRY	N/A
P15	11/30/2023	41.10	40.86	0.24

December 2023 Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	12/28/2023	72.46	DRY	N/A
P7	12/28/2023	92.50	DRY	N/A
P8	12/28/2023	97.51	96.65	0.86
P9	12/28/2023	72.30	71.96	0.34
P10	12/28/2023	58.30	57.46	0.84
P11	12/28/2023	41.80	41.42	0.38
P12	12/28/2023	41.71	41.64	0.07
P13	12/28/2023	41.34	41.01	0.33
P14	12/28/2023	41.24	DRY	N/A
P15	12/28/2023	41.10	40.87	0.23









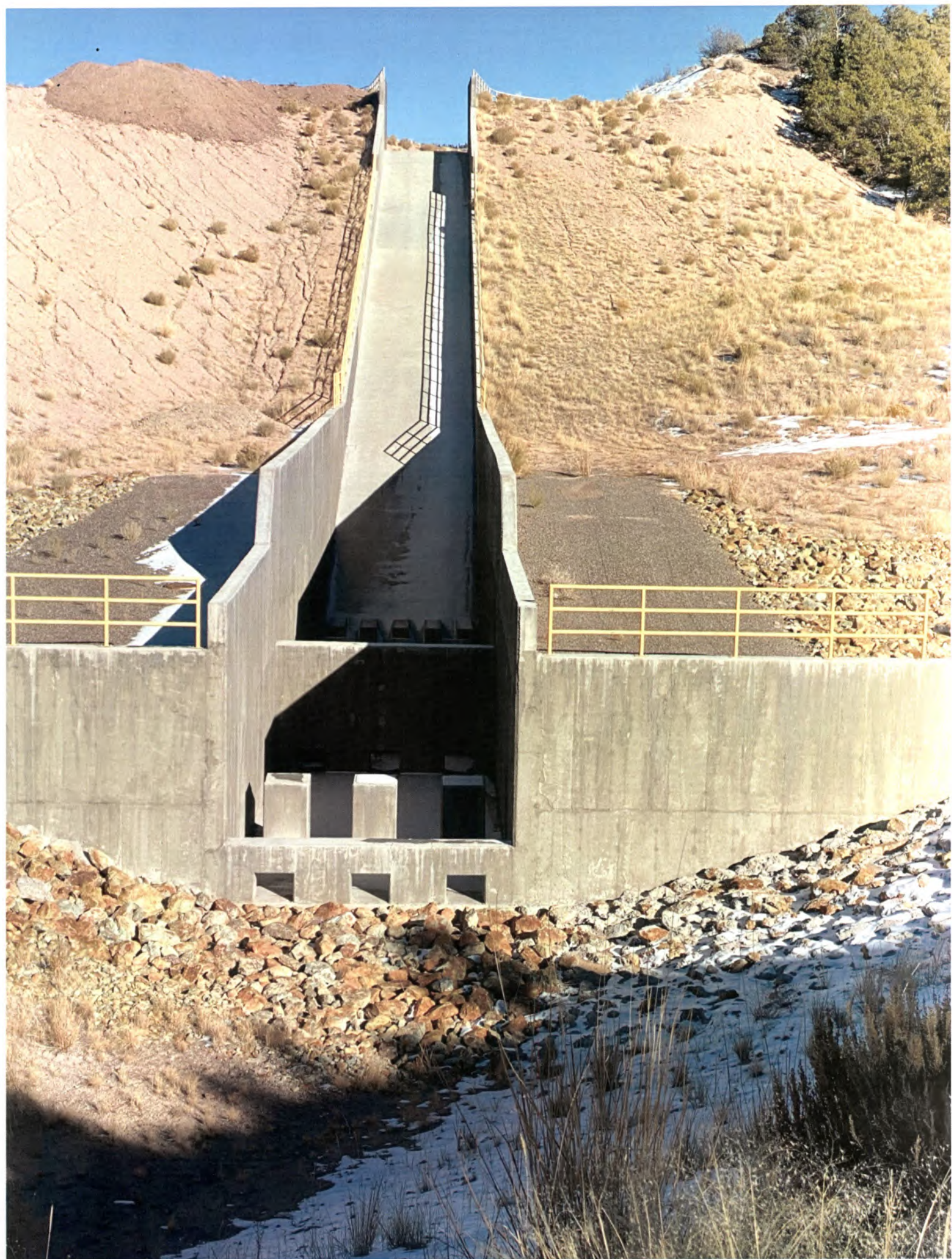


















APPENDIX B
MONTHLY REPORTS & MONTHLY AND QUARTERLY
SAMPLING RESULTS

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

February 8, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
January 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of January 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	01/31/2023	DRY
LS2R2	01/31/2023	DRY
LS3R	01/31/2023	DRY
LD1R2	01/31/2023	DRY
LD2R2	01/31/2023	DRY
LD3R	01/31/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than twelve inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	01/31/2023	72.46	DRY	N/A
P7	01/31/2023	92.50	DRY	N/A
P8	01/31/2023	97.51	96.66	0.85
P9	01/31/2023	72.30	71.95	0.35
P10	01/31/2023	58.30	57.48	0.82
P11	01/31/2023	41.80	41.41	0.39
P12	01/31/2023	41.71	41.63	0.08
P13	01/31/2023	41.34	41.03	0.31
P14	01/31/2023	41.24	DRY	N/A
P15	01/31/2023	41.10	40.84	0.26

The leak detection system at the LTF Collection Pond was inspected January 31, 2023 and 870 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected January 31, 2023 and the flow rate was measured to be approximately 31.5 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of January 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 7,614,700 gallons (23.4 acre-feet) of treated water was discharged to the Rito Seco and 629,500 gallons (1.93 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltrated into the West Pit in January.

BMRI performed the monthly visual seepage expression inspections on January 31, 2023 in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

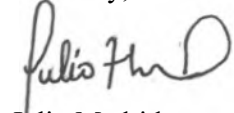
Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	01/31/2023	24.91
BF-5R	01/31/2023	30.84
BF-6	01/31/2023	30.95
M-6	01/31/2023	DRY
M-7	01/31/2023	DRY
M-8	01/31/2023	DRY
M-9	01/31/2023	141.17
M-10	01/31/2023	24.30
M-11R	01/31/2023	39.03
M-12	01/31/2023	174.28
M-13R	01/31/2023	125.50
M-14	01/31/2023	130.38
M-16	01/31/2023	22.99
M-17	01/31/2023	30.06

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	01/31/2023	26.87
M-19	01/31/2023	24.62
M-21	01/31/2023	18.19
M-22	01/31/2023	16.64
M-23	01/31/2023	43.23
M-24	01/31/2023	25.50
M-26	01/31/2023	14.65
M-31	01/31/2023	38.37
M-32	01/31/2023	37.44
M-33	01/31/2023	49.04
M-34	01/31/2023	20.81

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File

Devon Horntvedt, Newmont USA Limited
Lawrence Fiske, Newmont USA Limited
Alan Fosdick, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

March 8, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
February 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of February 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	02/28/2023	DRY
LS2R2	02/28/2023	DRY
LS3R	02/28/2023	DRY
LD1R2	02/28/2023	DRY
LD2R2	02/28/2023	DRY
LD3R	02/28/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than twelve inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	02/28/2023	72.46	DRY	N/A
P7	02/28/2023	92.50	DRY	N/A
P8	02/28/2023	97.51	96.67	0.84
P9	02/28/2023	72.30	71.95	0.35
P10	02/28/2023	58.30	57.47	0.83
P11	02/28/2023	41.80	41.40	0.40
P12	02/28/2023	41.71	41.64	0.07
P13	02/28/2023	41.34	41.00	0.34
P14	02/28/2023	41.24	DRY	N/A
P15	02/28/2023	41.10	40.80	0.30

The leak detection system at the LTF Collection Pond was inspected February 28, 2023 and 880 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected February 28, 2023 and the flow rate was measured to be approximately 31.5 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of February 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 6,404,200 gallons (19.7 acre-feet) of treated water was discharged to the Rito Seco and 249,200 gallons (0.76 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfilted into the West Pit in February.

BMRI performed the monthly visual seepage expression inspections on February 28, 2023 in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

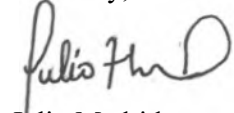
Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	02/28/2023	24.90
BF-5R	02/28/2023	30.85
BF-6	02/28/2023	30.94
M-6	02/28/2023	DRY
M-7	02/28/2023	DRY
M-8	02/28/2023	DRY
M-9	02/28/2023	141.09
M-10	02/28/2023	24.37
M-11R	02/28/2023	39.62
M-12	02/28/2023	174.18
M-13R	02/28/2023	125.40
M-14	02/28/2023	130.28
M-16	02/28/2023	23.20
M-17	02/28/2023	30.17

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	02/28/2023	26.88
M-19	02/28/2023	24.63
M-21	02/28/2023	18.58
M-22	02/28/2023	17.04
M-23	02/28/2023	43.55
M-24	02/28/2023	25.69
M-26	02/28/2023	15.29
M-31	02/28/2023	38.92
M-32	02/28/2023	43.90
M-33	02/28/2023	53.44
M-34	02/28/2023	20.94

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File

Devon Horntvedt, Newmont USA Limited
Lawrence Fiske, Newmont USA Limited
Alan Fosdick, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

April 7, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
March 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of March 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	03/30/2023	DRY
LS2R2	03/30/2023	DRY
LS3R	03/30/2023	DRY
LD1R2	03/30/2023	DRY
LD2R2	03/30/2023	DRY
LD3R	03/30/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than twelve inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	03/30/2023	72.46	DRY	N/A
P7	03/30/2023	92.50	DRY	N/A
P8	03/30/2023	97.51	96.67	0.84
P9	03/30/2023	72.30	71.95	0.35
P10	03/30/2023	58.30	57.47	0.83
P11	03/30/2023	41.80	41.40	0.40
P12	03/30/2023	41.71	41.63	0.08
P13	03/30/2023	41.34	41.02	0.32
P14	03/30/2023	41.24	DRY	N/A
P15	03/30/2023	41.10	40.85	0.25

The leak detection system at the LTF Collection Pond was inspected March 30, 2023 and 880 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected March 30, 2023 and the flow rate was measured to be approximately 31.5 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of March 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 7,252,800 gallons (22.3 acre-feet) of treated water was discharged to the Rito Seco and 421,800 gallons (1.29 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltrated into the West Pit in March.

BMRI performed the monthly visual seepage expression inspections on March 22, 2023 in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

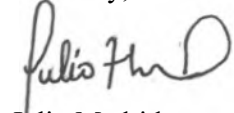
Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	03/30/2023	24.89
BF-5R	03/30/2023	30.80
BF-6	03/30/2023	30.91
M-6	03/30/2023	DRY
M-7	03/30/2023	DRY
M-8	03/30/2023	DRY
M-9	03/30/2023	141.10
M-10	03/30/2023	24.35
M-11R	03/30/2023	39.81
M-12	03/30/2023	174.14
M-13R	03/30/2023	125.38
M-14	03/30/2023	130.23
M-16	03/30/2023	23.01
M-17	03/30/2023	30.18

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	03/30/2023	26.59
M-19	03/30/2023	24.25
M-21	03/30/2023	18.47
M-22	03/30/2023	17.09
M-23	03/30/2023	43.80
M-24	03/30/2023	25.79
M-26	03/30/2023	15.30
M-31	03/30/2023	39.11
M-32	03/30/2023	43.78
M-33	03/30/2023	54.25
M-34	03/30/2023	20.78

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File

Devon Horntvedt, Newmont USA Limited
Lawrence Fiske, Newmont USA Limited
Alan Fosdick, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

May 8, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
April 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of April 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	04/27/2023	DRY
LS2R2	04/27/2023	DRY
LS3R	04/27/2023	DRY
LD1R2	04/27/2023	DRY
LD2R2	04/27/2023	DRY
LD3R	04/27/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than twelve inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	04/27/2023	72.46	DRY	N/A
P7	04/27/2023	92.50	DRY	N/A
P8	04/27/2023	97.51	96.65	0.86
P9	04/27/2023	72.30	71.95	0.35
P10	04/27/2023	58.30	57.48	0.82
P11	04/27/2023	41.80	41.39	0.41
P12	04/27/2023	41.71	41.63	0.08
P13	04/27/2023	41.34	41.03	0.31
P14	04/27/2023	41.24	DRY	N/A
P15	04/27/2023	41.10	40.86	0.24

The leak detection system at the LTF Collection Pond was inspected April 27, 2023 and 880 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected April 27, 2023 and the flow rate was measured to be approximately 31.0 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of April 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 6,823,600 gallons (20.9 acre-feet) of treated water was discharged to the Rito Seco and 241,300 gallons (0.74 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltreated into the West Pit in April.

BMRI performed the monthly visual seepage expression inspections on April 27, 2023 in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

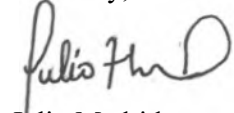
Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	04/27/2023	24.81
BF-5R	04/27/2023	30.78
BF-6	04/27/2023	30.86
M-6	04/27/2023	DRY
M-7	04/27/2023	DRY
M-8	04/27/2023	DRY
M-9	04/27/2023	141.21
M-10	04/27/2023	24.20
M-11R	04/27/2023	39.84
M-12	04/27/2023	174.39
M-13R	04/27/2023	125.69
M-14	04/27/2023	130.51
M-16	04/27/2023	22.56
M-17	04/27/2023	29.89

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	04/27/2023	25.50
M-19	04/27/2023	23.40
M-21	04/27/2023	17.87
M-22	04/27/2023	16.64
M-23	04/27/2023	43.78
M-24	04/27/2023	25.72
M-26	04/27/2023	15.09
M-31	04/27/2023	39.14
M-32	04/27/2023	44.00
M-33	04/27/2023	55.54
M-34	04/27/2023	20.33

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File

Devon Horntvedt, Newmont USA Limited
Lawrence Fiske, Newmont USA Limited
Alan Fosdick, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

June 8, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
May 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of May 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	05/31/2023	DRY
LS2R2	05/31/2023	DRY
LS3R	05/31/2023	DRY
LD1R2	05/31/2023	DRY
LD2R2	05/31/2023	DRY
LD3R	05/31/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than twelve inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	05/31/2023	72.46	DRY	N/A
P7	05/31/2023	92.50	DRY	N/A
P8	05/31/2023	97.51	96.67	0.84
P9	05/31/2023	72.30	71.95	0.35
P10	05/31/2023	58.30	57.47	0.83
P11	05/31/2023	41.80	41.40	0.40
P12	05/31/2023	41.71	41.62	0.09
P13	05/31/2023	41.34	41.02	0.32
P14	05/31/2023	41.24	DRY	N/A
P15	05/31/2023	41.10	40.85	0.25

The leak detection system at the LTF Collection Pond was inspected May 31, 2023 and 880 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected May 31, 2023 and the flow rate was measured to be approximately 29.5 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of May 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 8,850,800 gallons (27.2 acre-feet) of treated water was discharged to the Rito Seco and 579,000 gallons (1.78 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltrated into the West Pit in May.

BMRI performed the monthly visual seepage expression inspections on May 31, 2023 in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

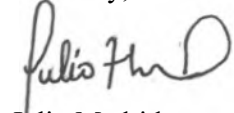
Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	05/31/2023	24.84
BF-5R	05/31/2023	30.76
BF-6	05/31/2023	30.82
M-6	05/31/2023	DRY
M-7	05/31/2023	DRY
M-8	05/31/2023	DRY
M-9	05/31/2023	141.09
M-10	05/31/2023	23.96
M-11R	05/31/2023	39.25
M-12	05/31/2023	174.23
M-13R	05/31/2023	125.47
M-14	05/31/2023	130.34
M-16	05/31/2023	21.21
M-17	05/31/2023	28.49

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	05/31/2023	24.47
M-19	05/31/2023	22.86
M-21	05/31/2023	17.02
M-22	05/31/2023	15.99
M-23	05/31/2023	43.30
M-24	05/31/2023	25.28
M-26	05/31/2023	14.30
M-31	05/31/2023	38.36
M-32	05/31/2023	43.28
M-33	05/31/2023	56.11
M-34	05/31/2023	19.89

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File

Devon Horntvedt, Newmont USA Limited
Lawrence Fiske, Newmont USA Limited
Alan Fosdick, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

July 7, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
June 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of June 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	06/29/2023	DRY
LS2R2	06/29/2023	DRY
LS3R	06/29/2023	DRY
LD1R2	06/29/2023	DRY
LD2R2	06/29/2023	DRY
LD3R	06/29/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than twelve inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	06/29/2023	72.46	DRY	N/A
P7	06/29/2023	92.50	DRY	N/A
P8	06/29/2023	97.51	96.66	0.85
P9	06/29/2023	72.30	71.94	0.36
P10	06/29/2023	58.30	57.48	0.82
P11	06/29/2023	41.80	41.40	0.40
P12	06/29/2023	41.71	41.64	0.07
P13	06/29/2023	41.34	41.02	0.32
P14	06/29/2023	41.24	DRY	N/A
P15	06/29/2023	41.10	40.84	0.26

The leak detection system at the LTF Collection Pond was inspected June 29, 2023 and 880 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected June 29, 2023 and the flow rate was measured to be approximately 29.0 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of June 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 8,881,800 gallons (27.3 acre-feet) of treated water was discharged to the Rito Seco and 506,500 gallons (1.55 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltated into the West Pit in June.

BMRI performed the monthly visual seepage expression inspections on June 29, 2023 in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

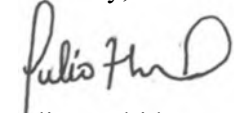
Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	06/29/2023	24.85
BF-5R	06/29/2023	30.81
BF-6	06/29/2023	30.89
M-6	06/29/2023	DRY
M-7	06/29/2023	DRY
M-8	06/29/2023	DRY
M-9	06/29/2023	141.23
M-10	06/29/2023	24.28
M-11R	06/29/2023	39.19
M-12	06/29/2023	174.34
M-13R	06/29/2023	125.68
M-14	06/29/2023	130.49
M-16	06/29/2023	21.04
M-17	06/29/2023	28.62

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	06/29/2023	25.59
M-19	06/29/2023	23.44
M-21	06/29/2023	17.87
M-22	06/29/2023	16.56
M-23	06/29/2023	43.07
M-24	06/29/2023	25.27
M-26	06/29/2023	15.11
M-31	06/29/2023	38.53
M-32	06/29/2023	49.20
M-33	06/29/2023	50.99
M-34	06/29/2023	20.17

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Lawrence Fiske, Newmont USA Limited
Alan Fosdick, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

August 3, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
July 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of July 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	07/31/2023	DRY
LS2R2	07/31/2023	DRY
LS3R	07/31/2023	DRY
LD1R2	07/31/2023	DRY
LD2R2	07/31/2023	DRY
LD3R	07/31/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than 12 inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	07/31/2023	72.46	DRY	N/A
P7	07/31/2023	92.50	DRY	N/A
P8	07/31/2023	97.51	96.65	0.86
P9	07/31/2023	72.30	71.95	0.35
P10	07/31/2023	58.30	57.47	0.83
P11	07/31/2023	41.80	41.39	0.41
P12	07/31/2023	41.71	41.63	0.08
P13	07/31/2023	41.34	41.02	0.32
P14	07/31/2023	41.24	DRY	N/A
P15	07/31/2023	41.10	40.85	0.25

The leak detection system at the LTF Collection Pond was inspected July 31, 2023 and 890 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected July 31, 2023 and the flow rate was measured to be approximately 27.8 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of July 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 7,885,800 gallons (24.20 acre-feet) of treated water was discharged to the Rito Seco and 421,700 gallons (1.29 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltreated into the West Pit in May.

BMRI performed the monthly visual seepage expression inspections on July 31, 2023, in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

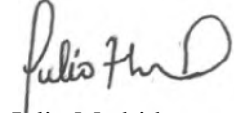
Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	7/31/2023	24.89
BF-5R	7/31/2023	30.83
BF-6	7/31/2023	30.92
M-6	7/31/2023	DRY
M-7	7/31/2023	DRY
M-8	7/31/2023	DRY
M-9	7/31/2023	141.28
M-10	7/31/2023	24.23
M-11R	7/31/2023	39.56
M-12	7/31/2023	174.33
M-13R	7/31/2023	125.67
M-14	7/31/2023	130.5
M-16	7/31/2023	22.04
M-17	7/31/2023	29.92

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	7/31/2023	26.20
M-19	7/31/2023	23.85
M-21	7/31/2023	18.30
M-22	7/31/2023	17.07
M-23	7/31/2023	43.65
M-24	7/31/2023	25.74
M-26	7/31/2023	15.41
M-31	7/31/2023	38.91
M-32	7/31/2023	47.43
M-33	7/31/2023	48.47
M-34	7/31/2023	20.71

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

September 5, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
August 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of August 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	08/31/2023	DRY
LS2R2	08/31/2023	DRY
LS3R	08/31/2023	DRY
LD1R2	08/31/2023	DRY
LD2R2	08/31/2023	DRY
LD3R	08/31/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than 12 inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	08/29/2023	72.46	DRY	N/A
P7	08/29/2023	92.50	DRY	N/A
P8	08/29/2023	97.51	96.63	0.88
P9	08/29/2023	72.30	71.95	0.35
P10	08/29/2023	58.30	57.48	0.82
P11	08/29/2023	41.80	41.40	0.40
P12	08/29/2023	41.71	41.64	0.07
P13	08/29/2023	41.34	41.01	0.33
P14	08/29/2023	41.24	DRY	N/A
P15	08/29/2023	41.10	40.86	0.24

The leak detection system at the LTF Collection Pond was inspected August 31, 2023, and 870 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected August 31, 2023, and the flow rate was measured to be approximately 25.0 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of August 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 8,195,000 gallons (25.15 acre-feet) of treated water was discharged to the Rito Seco and 394,500 gallons (1.21 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltrated into the West Pit in August.

BMRI performed the monthly visual seepage expression inspections on August 31, 2023, in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	8/31/2023	24.90
BF-5R	8/31/2023	30.80
BF-6	8/31/2023	30.92
M-6	8/31/2023	DRY
M-7	8/31/2023	DRY
M-8	8/31/2023	DRY
M-9	8/31/2023	141.14
M-10	8/31/2023	24.22
M-11R	8/31/2023	39.79
M-12	8/31/2023	174.26
M-13R	8/31/2023	125.55
M-14	8/31/2023	130.42
M-16	8/31/2023	22.78
M-17	8/31/2023	30.16

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	8/31/2023	26.26
M-19	8/31/2023	24.01
M-21	8/31/2023	18.18
M-22	8/31/2023	17.01
M-23	8/31/2023	44.08
M-24	8/31/2023	25.99
M-26	8/31/2023	15.16
M-31	8/31/2023	39.18
M-32	8/31/2023	47.78
M-33	8/31/2023	45.70
M-34	8/31/2023	20.92

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0827. Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

October 3, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
September 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of September 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	9/28/2023	DRY
LS2R2	9/28/2023	DRY
LS3R	9/28/2023	DRY
LD1R2	9/28/2023	DRY
LD2R2	9/28/2023	DRY
LD3R	9/28/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than 12 inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	9/28/2023	72.46	DRY	N/A
P7	9/28/2023	92.50	DRY	N/A
P8	9/28/2023	97.51	96.64	0.87
P9	9/28/2023	72.30	71.94	0.36
P10	9/28/2023	58.30	57.48	0.82
P11	9/28/2023	41.80	41.39	0.41
P12	9/28/2023	41.71	41.63	0.08
P13	9/28/2023	41.34	41.02	0.32
P14	9/28/2023	41.24	DRY	N/A
P15	9/28/2023	41.10	40.85	0.25

The leak detection system at the LTF Collection Pond was inspected September 28, 2023, and 860 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected September 28, 2023, and the flow rate was measured to be approximately 25.0 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of September 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 6,430,800 gallons (19.74 acre-feet) of treated water was discharged to the Rito Seco and 460,800 gallons (1.41 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltrated into the West Pit in September.

BMRI performed the monthly visual seepage expression inspections on September 28, 2023, in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	9/28/2023	24.92
BF-5R	9/28/2023	30.82
BF-6	9/28/2023	30.92
M-6	9/28/2023	DRY
M-7	9/28/2023	DRY
M-8	9/28/2023	DRY
M-9	9/28/2023	141.18
M-10	9/28/2023	24.35
M-11R	9/28/2023	40.01
M-12	9/28/2023	174.25
M-13R	9/28/2023	125.58
M-14	9/28/2023	130.18
M-16	9/28/2023	22.93
M-17	9/28/2023	30.25

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	9/28/2023	26.47
M-19	9/28/2023	24.2
M-21	9/28/2023	18.22
M-22	9/28/2023	17.00
M-23	9/28/2023	44.21
M-24	9/28/2023	26.02
M-26	9/28/2023	15.71
M-31	9/28/2023	39.35
M-32	9/28/2023	47.78
M-33	9/28/2023	46.89
M-34	9/28/2023	21.04

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0827. Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

November 6, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
October 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of October 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	10/31/2023	DRY
LS2R2	10/31/2023	DRY
LS3R	10/31/2023	DRY
LD1R2	10/31/2023	DRY
LD2R2	10/31/2023	DRY
LD3R	10/31/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than 12 inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	10/31/2023	72.46	DRY	N/A
P7	10/31/2023	92.50	DRY	N/A
P8	10/31/2023	97.51	96.62	0.89
P9	10/31/2023	72.30	71.95	0.35
P10	10/31/2023	58.30	57.49	0.81
P11	10/31/2023	41.80	41.40	0.4
P12	10/31/2023	41.71	41.62	0.09
P13	10/31/2023	41.34	41.01	0.33
P14	10/31/2023	41.24	DRY	N/A
P15	10/31/2023	41.10	40.85	0.25

The leak detection system at the LTF Collection Pond was inspected October 31, 2023, and 880 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected October 31, 2023, and the flow rate was measured to be approximately 26.6 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of October 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 7,280,000 gallons (22.34 acre-feet) of treated water was discharged to the Rito Seco and 633,600 gallons (1.94 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltrated into the West Pit in October.

BMRI performed the monthly visual seepage expression inspections on October 31, 2023, in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	10/31/2023	24.88
BF-5R	10/31/2023	30.81
BF-6	10/31/2023	30.93
M-6	10/31/2023	DRY
M-7	10/31/2023	DRY
M-8	10/31/2023	DRY
M-9	10/31/2023	141.33
M-10	10/31/2023	24.33
M-11R	10/31/2023	40.22
M-12	10/31/2023	174.59
M-13R	10/31/2023	125.79
M-14	10/31/2023	130.59
M-16	10/31/2023	22.78
M-17	10/31/2023	30.23

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	10/31/2023	26.36
M-19	10/31/2023	24.22
M-21	10/31/2023	18.15
M-22	10/31/2023	16.75
M-23	10/31/2023	44.16
M-24	10/31/2023	25.90
M-26	10/31/2023	15.44
M-31	10/31/2023	39.52
M-32	10/31/2023	47.85
M-33	10/31/2023	55.94
M-34	10/31/2023	21.12

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0827. Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

December 6, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
November 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of November 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	11/30/2023	DRY
LS2R2	11/30/2023	DRY
LS3R	11/30/2023	DRY
LD1R2	11/30/2023	DRY
LD2R2	11/30/2023	DRY
LD3R	11/30/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than 12 inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	11/30/2023	72.46	DRY	N/A
P7	11/30/2023	92.50	DRY	N/A
P8	11/30/2023	97.51	96.63	0.88
P9	11/30/2023	72.30	71.96	0.34
P10	11/30/2023	58.30	57.48	0.82
P11	11/30/2023	41.80	41.41	0.39
P12	11/30/2023	41.71	41.63	0.08
P13	11/30/2023	41.34	41.00	0.34
P14	11/30/2023	41.24	DRY	N/A
P15	11/30/2023	41.10	40.86	0.24

The leak detection system at the LTF Collection Pond was inspected November 29, 2023, and 880 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected November 30, 2023, and the flow rate was measured to be approximately 26.0 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of November 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 7,282,900 gallons (22.35 acre-feet) of treated water was discharged to the Rito Seco and 578,800 gallons (1.78 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltrated into the West Pit in November.

BMRI performed the monthly visual seepage expression inspections on November 30, 2023, in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	11/30/2023	24.90
BF-5R	11/30/2023	30.81
BF-6	11/30/2023	30.91
M-6	11/30/2023	DRY
M-7	11/30/2023	DRY
M-8	11/30/2023	DRY
M-9	11/30/2023	140.89
M-10	11/30/2023	24.24
M-11R	11/30/2023	40.13
M-12	11/30/2023	173.94
M-13R	11/30/2023	125.23
M-14	11/30/2023	130.09
M-16	11/30/2023	22.78
M-17	11/30/2023	30.22

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	11/30/2023	26.63
M-19	11/30/2023	24.39
M-21	11/30/2023	18.28
M-22	11/30/2023	16.73
M-23	11/30/2023	44.06
M-24	11/30/2023	25.86
M-26	11/30/2023	15.26
M-31	11/30/2023	39.41
M-32	11/30/2023	56.24
M-33	11/30/2023	45.69
M-34	11/30/2023	21.27

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0827. Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics, Inc.

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

January 3, 2023

Mr. Lucas J. West
State of Colorado
Colorado Department of Reclamation, Mining, & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Battle Mountain Resources, Inc.
San Luis Project - M-88-112
December 2023 Monthly Report

Dear Mr. West:

The following summarizes monitoring and site activities at the Battle Mountain Resources Inc. (BMRI) “San Luis Project” (M-88-112) for the month of December 2023. Surface and groundwater monitoring and analysis were completed for all the required sites during the month as specified in the TR-32 Quality Assurance and Quality Control (QA/QC) Plan.

Tailing Facility / Leak Detection System

The six lysimeters which are a part of the Lined Tailing Facility (LTF) leak detection system were inspected and verified for proper vacuum and operation. As shown in Table 1, there was no pore space water found to be present in any of the six lysimeter collection pans, therefore, no sampling or laboratory analysis was required.

Table 1 – Monthly Lysimeter Monitoring

Lysimeter Identification	Observation Date	Depth to Water (feet)
LS1R2	12/28/2023	DRY
LS2R2	12/28/2023	DRY
LS3R	12/28/2023	DRY
LD1R2	12/28/2023	DRY
LD2R2	12/28/2023	DRY
LD3R	12/28/2023	DRY

The ten piezometers located on the tailing impoundment main embankment were inspected and measured for depth to water. The depths to water found for each piezometer are shown in Table 2. All piezometers were either dry or contained less than 12 inches of water.

Table 2 – Monthly Piezometer Elevations

Monitoring Well Identification	Observation Date	Piezometer Depth (ft)	Depth to Water (ft)	Depth of Water (ft)
P6	12/28/2023	72.46	DRY	N/A
P7	12/28/2023	92.50	DRY	N/A
P8	12/28/2023	97.51	96.65	0.86
P9	12/28/2023	72.30	71.96	0.34
P10	12/28/2023	58.30	57.46	0.84
P11	12/28/2023	41.80	41.42	0.38
P12	12/28/2023	41.71	41.64	0.07
P13	12/28/2023	41.34	41.01	0.33
P14	12/28/2023	41.24	DRY	N/A
P15	12/28/2023	41.10	40.87	0.23

The leak detection system at the LTF Collection Pond was inspected December 28, 2023, and 810 gallons were evacuated from the leak detection system and pumped to the LTF. The LTF underdrain system was visually inspected December 28, 2023, and the flow rate was measured to be approximately 25.5 gallons per minute (gpm).

West Pit Waste Water Treatment Plant

During the month of December 2023, the West Pit Waste Water Treatment Plant (WWTP) was operated intermittently (3 to 4 days per week) under Colorado Department of Public Health and Environment (CDPHE) CDPS Permit No. CO0045675 for discharge into the Rito Seco alluvial aquifer. During the month, 5,847,500 gallons (17.95 acre-feet) of treated water was discharged to the Rito Seco and 0 gallons (0 acre-feet) of water was transferred from the West Pit to the Lined Tailing Facility (LTF). Additionally, no water was reinfiltrated into the West Pit in December.

BMRI performed the monthly visual seepage expression inspections on December 28, 2023, in the historic seepage area identified in Figure 2 of the permit. No seepage expressions were observed in the historic seepage area.

BMRI measured the monthly West Pit backfill, alluvial and monitoring wells as required under in the QA/QC Plan. Measurements obtained for the monthly wells are shown in Table 3.

Table 3 – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
BF-4	12/28/2023	24.93
BF-5R	12/28/2023	30.82
BF-6	12/28/2023	30.96
M-6	12/28/2023	DRY
M-7	12/28/2023	DRY
M-8	12/28/2023	DRY
M-9	12/28/2023	141.23
M-10	12/28/2023	24.33
M-11R	12/28/2023	39.98
M-12	12/28/2023	174.39
M-13R	12/28/2023	125.68
M-14	12/28/2023	130.52
M-16	12/28/2023	23.18
M-17	12/28/2023	30.29

Table 3 Continued – Monthly and Quarterly Groundwater Depth to Water

Monitoring Well Identification	Observation Date	Depth to Water (ft)
M-18	12/28/2023	26.84
M-19	12/28/2023	24.58
M-21	12/28/2023	18.43
M-22	12/28/2023	16.88
M-23	12/28/2023	43.99
M-24	12/28/2023	25.80
M-26	12/28/2023	15.22
M-31	12/28/2023	39.27
M-32	12/28/2023	43.22
M-33	12/28/2023	56.28
M-34	12/28/2023	21.47

M-32 and M-33 Depth to Water values are transposed. Correct values are included

Should you have any questions or comments, please do not hesitate to call me at (719) 379-0827. Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics, Inc.

Monthly Water Quality Data for Tailings 2023																						
230131BMGTA	1/31/2023 9:55		2/28/2023 9:20		3/29/2023 8:50		4/27/2023 10:05		5/31/2023 9:10		6/29/2023 9:05		8/31/2023 8:40		9/28/2023 9:20		10/31/2023 9:40		11/29/2023 9:35		12/13/2023 8:50	
ANALYTE	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Arsenic, total	0.00086	B	0.00049	B	0.00062	B	0.00054	B	0.00141	B	0.00176		0.00108		0.0018		0.0011		0.00142		0.00092	B
Calcium, total	404						533						508				504					
Copper, total	0.031	B					0.074						0.363				0.242					
Iron, total	2.16						0.38						2.19				1.59					
Sodium, total	921						810						1160				1300					
Zinc, total	<0.02	U					<0.02	U					0.036	B			<0.02	U				

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-13R 2023										
230111BMGM13R			1/11/2023 10:00		4/5/2023 10:40		7/12/2023 10:10		10/30/2023 10:00	
ANALYTE	UNITS	METHOD	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	M200.7 ICP	<0.05	U	<0.05	U	<0.05	U	<0.05	U
Arsenic, dissolved	mg/L	M200.8 ICP-MS	0.00042	B	0.00046	B	0.00051	B	0.00047	B
Barium, dissolved	mg/L	M200.7 ICP	0.131		0.126		0.129		0.125	
Bicarbonate as CaCO3	mg/L	SM2320B - Titration	337		343		362		346	
Cadmium, dissolved	mg/L	M200.8 ICP-MS	0.000184	B	0.000202	B	0.000189	B	0.000209	B
Calcium, total	mg/L	M200.7 ICP	85.3		90.7		89.2		92.2	
Carbonate as CaCO3	mg/L	SM2320B - Titration	<2	U	<2	U	<2	U	6.8	B
Chloride	mg/L	M300.0 - Ion Chromat	3.51		3.88		3.66		4.11	
Chromium, dissolved	mg/L	M200.8 ICP-MS	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U
Copper, dissolved	mg/L	M200.8 ICP-MS	<0.0008	U	0.00117	B	0.00092	B	0.00102	B
Cyanide, WAD	mg/L	SM4500-CN I,E-Colori	<0.003	U	<0.003	U	<0.003	U	<0.003	U
Fluoride	mg/L	M300.0 - Ion Chromat	0.357		0.394		0.354		0.453	
Gross Alpha	pCi/L	M900.0	28		35		20		40	
Gross Beta	pCi/L	M900.0	20		12		8		15	
Hardness as CaCO3 (total)	mg/L	SM2340B - Calculatio	271		287		284		293	
Hydroxide as CaCO3	mg/L	SM2320B - Titration	<2	U	<2	U	<2	U	<2	U
Iron, dissolved	mg/L	M200.7 ICP	<0.06	U	<0.06	U	<0.06	U	<0.06	U
Lead, dissolved	mg/L	M200.8 ICP-MS	0.00071		0.00074		0.00075		0.00072	
Magnesium, total	mg/L	M200.7 ICP	14.2		14.8		14.8		15.3	
Manganese, dissolved	mg/L	M200.7 ICP	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Mercury, dissolved	mg/L	M245.1 CVAA	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	M200.8 ICP-MS	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Potassium, total	mg/L	M200.7 ICP	1.45		1.41		1.42		1.33	
Residue, Filterable (TDS) @180C	mg/L	SM2540C	378		390		384		388	
Selenium, dissolved	mg/L	M200.8 ICP-MS	0.0062		0.00648		0.00729		0.00669	
Silica, total	mg/L	M200.7 ICP	23.8		25		22.6		25.6	
Silver, dissolved	mg/L	M200.8 ICP-MS	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	M200.7 ICP	29.9		31.8		31.4		32.3	
Sulfate	mg/L	M300.0 - Ion Chromat	16.5		16.9		16.4		17.5	
Total Alkalinity	mg/L	SM2320B - Titration	337		343		362		353	
Zinc, dissolved	mg/L	M200.8 ICP-MS	0.529		0.572		0.543		0.527	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-12 2023										
230111BMGM12			1/11/2023 8:00		4/5/2023 8:40		7/12/2023 8:10		10/30/2023 8:10	
ANALYTE	UNITS	METHOD	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	M200.7 ICP	<0.05	U	<0.05	U	<0.05	U	<0.05	U
Arsenic, dissolved	mg/L	M200.8 ICP-MS	<0.0002	U	0.00023	B	0.0003	B	0.00024	B
Barium, dissolved	mg/L	M200.7 ICP	0.157		0.15		0.157		0.154	
Bicarbonate as CaCO3	mg/L	SM2320B - Titration	147		154		156		150	
Cadmium, dissolved	mg/L	M200.8 ICP-MS	0.000287		0.000295		0.000326		0.00032	
Calcium, total	mg/L	M200.7 ICP	49.7		51.9		51.2		52.4	
Carbonate as CaCO3	mg/L	SM2320B - Titration	<2	U	<2	U	<2	U	5.8	B
Chloride	mg/L	M300.0 - Ion Chromat	19.9		20.4		20.5		21.2	
Chromium, dissolved	mg/L	M200.8 ICP-MS	0.0007	B	0.0007	B	0.00099	B	0.00068	B
Copper, dissolved	mg/L	M200.8 ICP-MS	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Cyanide, WAD	mg/L	SM4500-CN I,E-Colori	<0.003	U	<0.003	U	<0.003	U	<0.003	U
Fluoride	mg/L	M300.0 - Ion Chromat	0.262		0.305		0.239	B	0.363	
Gross Alpha	pCi/L	M900.0	7.5		4.5		8		11	
Gross Beta	pCi/L	M900.0	5.1		11		5.5		5.1	
Hardness as CaCO3 (total)	mg/L	SM2340B - Calculatio	159		165		164		167	
Hydroxide as CaCO3	mg/L	SM2320B - Titration	<2	U	<2	U	<2	U	<2	U
Iron, dissolved	mg/L	M200.7 ICP	<0.06	U	<0.06	U	<0.06	U	<0.06	U
Lead, dissolved	mg/L	M200.8 ICP-MS	0.00103		0.00109		0.00117		0.00101	
Magnesium, total	mg/L	M200.7 ICP	8.53		8.7		8.66		8.8	
Manganese, dissolved	mg/L	M200.7 ICP	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Mercury, dissolved	mg/L	M245.1 CVAA	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	M200.8 ICP-MS	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Potassium, total	mg/L	M200.7 ICP	1.99		1.88		1.98		1.86	
Residue, Filterable (TDS) @180C	mg/L	SM2540C	228		238		226		224	
Selenium, dissolved	mg/L	M200.8 ICP-MS	0.00155		0.00167		0.00177		0.00157	
Silica, total	mg/L	M200.7 ICP	21		19.4		17.7		20.4	
Silver, dissolved	mg/L	M200.8 ICP-MS	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	M200.7 ICP	13		13.5		13.3		13.4	
Sulfate	mg/L	M300.0 - Ion Chromat	11.9		10.9		10.4		12.3	
Total Alkalinity	mg/L	SM2320B - Titration	147		154		156		156	
Zinc, dissolved	mg/L	M200.8 ICP-MS	0.389		0.42		0.432		0.383	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Monthly Water Quality Data for M-14 2023																										
230112BMGM14			1/12/2023 9:48		2/23/2023 9:55		3/27/2023 10:10		4/10/2023 10:05		5/30/2023 10:00		6/14/2023 10:05		7/13/2023 9:55		8/14/2023 10:05		9/27/2023 10:05		10/17/2023 10:00		11/7/2023 10:00		12/12/2023 10:05	
ANALYTE	UNITS	METHOD	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	M200.7 ICP	<0.05	U	<0.05	U	<0.05	U	<0.05	U	<0.05	U	<0.05	U	<0.05	U	<0.05	U	<0.05	U	<0.05	U	<0.05	U	<0.05	U
Arsenic, dissolved	mg/L	M200.8 ICP-MS	0.00061	B	0.0007	B	0.0006	B	0.0007	B	0.00059	B	0.0006	B	0.00072	B	0.0006	B	0.00086	B	0.00063	B	0.00076	B	0.00105	B
Barium, dissolved	mg/L	M200.7 ICP	0.386		0.372		0.38		0.397		0.379		0.384		0.373		0.388		0.373		0.392		0.374		0.372	
Bicarbonate as CaCO3	mg/L	SM2320B - Titration	646		674		674		665		670		669		631		644		616		658	H	652		687	
Cadmium, dissolved	mg/L	M200.8 ICP-MS	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	0.000152	B	0.000057	B	<0.00005	U	0.0001	B	<0.00005	U	<0.00005	U	0.000069	B	<0.00025	U
Calcium, total	mg/L	M200.7 ICP	191		190		187		198		187		187		204		202		204		189		193		193	
Carbonate as CaCO3	mg/L	SM2320B - Titration	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	UH	<2	U	<2	U
Chloride	mg/L	M300.0 - Ion Chromat	9.66	B	9.12		9.23		9.31		8.84		8.97		8.78		9.08		9.61		9.62		9.36		9.4	
Chromium, dissolved	mg/L	M200.8 ICP-MS	0.00107	B	0.00087	B	0.00098	B	0.0006	B	0.00175	B	0.00085	B	0.00148	B	0.0016	B	0.00118	B	0.0007	B	0.00145	B	<0.0025	U
Copper, dissolved	mg/L	M200.8 ICP-MS	0.00144	B	0.00116	B	0.00241		0.00128	B	0.00235		0.00175	B	0.00158	B	0.0023		0.00194	B	0.0012	B	0.00107	B	<0.004	U
Cyanide, WAD	mg/L	SM4500-CN I,E-Colori	<0.003	UH	<0.003	U	<0.003	U	<0.003	U	<0.003	UH	<0.003	U	<0.003	U	<0.003	U	<0.003	U	<0.003	U	<0.003	U	0.003	BH
Fluoride	mg/L	M300.0 - Ion Chromat	0.364		0.471		0.397		0.402		0.336		0.346		0.362		0.306		0.466		0.361		0.458		0.447	
Gross Alpha	pCi/L	M900.0	100		110		120		200		120		140		94		200		170		150		100		120	
Gross Beta	pCi/L	M900.0	80		41		35		52		28		40		27		56		41		57		49		33	
Hardness as CaCO3 (total)	mg/L	SM2340B - Calculatio	603		597		589		625		590		588		643		636		644		596		608		610	
Hydroxide as CaCO3	mg/L	SM2320B - Titration	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	UH	<2	U	<2	U
Iron, dissolved	mg/L	M200.7 ICP	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U
Lead, dissolved	mg/L	M200.8 ICP-MS	<0.0001	U	0.00011	B	<0.0001	U	<0.0001	U	0.00014	B	0.0001	B	<0.0001	U	0.0002	B	0.0001	B	<0.0001	U	<0.0001	U	<0.0005	U
Magnesium, total	mg/L	M200.7 ICP	30.6		29.8		29.6		31.8		29.8		29.5		32.5		32		32.7		30.1		30.7		31	
Manganese, dissolved	mg/L	M200.7 ICP	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	0.027	B	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Mercury, dissolved	mg/L	M245.1 CVAA	<0.0002		<0.0002		<0.0002		<0.0002		<0.0002		<0.0002		<0.0002		<0.0002		<0.0002		<0.0002		<0.0002		<0.0002	
Nickel, dissolved	mg/L	M200.8 ICP-MS	0.00193		0.00215		0.00132		0.00181		0.00342		0.00207		0.00387		0.0058		0.00243		0.00253		0.00454		0.00378	B
Potassium, total	mg/L	M200.7 ICP	1.99		2.03		2.14		2.18		1.9		1.98		2.12		2.19		2.28		2.04		2.14		2.07	
Residue, Filterable (TDS) @180C	mg/L	SM2540C	694		704		698		736		708		716		716	H	710		728		716		710		706	
Selenium, dissolved	mg/L	M200.8 ICP-MS	0.00269		0.00284		0.00255		0.00253		0.00249		0.00247		0.003		0.0025		0.00214		0.00265		0.0026		0.00284	
Silica, total	mg/L	M200.7 ICP	27.6		27.2		26.5		30.3		28.3		26.8		25.1		29.9		31.6		28.6		30.1		30.4	
Silver, dissolved	mg/L	M200.8 ICP-MS	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0005	U
Sodium, total	mg/L	M200.7 ICP	30.3		31.5		30.1		31.6		29.8		29.7		32.6		32.2		32.4		29.7		30.7		31.7	
Sulfate	mg/L	M300.0 - Ion Chromat	28.6		29.5		29.5		30.2		29.3		29.7		28.3	H	28.9		30.7		28.9		29.9		30.3	
Total Alkalinity	mg/L	SM2320B - Titration	646		674		674		665		670		669		631		644		616		658	H	652		687	
Zinc, dissolved	mg/L	M200.8 ICP-MS	0.0082	B	<1.2	U	<0.006	U	<0.006	U	<0.006	U	<0.006	U	<0.006	U	<0.006	U	<0.006	U	<0.006	U	<0.006	U	<0.03	U

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Quarterly Water Quality Data for M-9 2023										
230111BMGM9			1/11/2023 9:00		4/5/2023 9:40		7/12/2023 9:10		10/30/2023 9:00	
ANALYTE	UNITS	METHOD	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	M200.7 ICP	<0.05	U	<0.05	U	<0.05	U	<0.05	U
Arsenic, dissolved	mg/L	M200.8 ICP-MS	0.00102		0.00109		0.00115		0.00112	
Barium, dissolved	mg/L	M200.7 ICP	0.124		0.118		0.125		0.119	
Bicarbonate as CaCO3	mg/L	SM2320B - Titration	310		318		331		327	
Cadmium, dissolved	mg/L	M200.8 ICP-MS	0.000215	B	0.000218	B	0.000231	B	0.000239	B
Calcium, total	mg/L	M200.7 ICP	82.7		87.5		86.8		88.4	
Carbonate as CaCO3	mg/L	SM2320B - Titration	<2	U	<2	U	<2	U	<2	U
Chloride	mg/L	M300.0 - Ion Chromat	3.32		3.72		3.42		3.89	
Chromium, dissolved	mg/L	M200.8 ICP-MS	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U
Copper, dissolved	mg/L	M200.8 ICP-MS	0.00411		0.00405		0.00429		0.00401	
Cyanide, WAD	mg/L	SM4500-CN I,E-Colori	<0.003	U	<0.003	U	<0.003	U	<0.003	U
Fluoride	mg/L	M300.0 - Ion Chromat	0.229	B	0.244	B	0.226	B	0.301	
Gross Alpha	pCi/L	M900.0	6.6		11		5.8		9.6	
Gross Beta	pCi/L	M900.0	9.5		3.7		5		3.3	
Hardness as CaCO3 (total)	mg/L	SM2340B - Calculatio	260		274		272		278	
Hydroxide as CaCO3	mg/L	SM2320B - Titration	<2	U	<2	U	<2	U	<2	U
Iron, dissolved	mg/L	M200.7 ICP	<0.06	U	<0.06	U	<0.06	U	<0.06	U
Lead, dissolved	mg/L	M200.8 ICP-MS	0.00061		0.00058		0.00055		0.00056	
Magnesium, total	mg/L	M200.7 ICP	12.9		13.4		13.5		13.8	
Manganese, dissolved	mg/L	M200.7 ICP	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Mercury, dissolved	mg/L	M245.1 CVAA	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	M200.8 ICP-MS	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Potassium, total	mg/L	M200.7 ICP	1.79		1.72		1.73		1.83	
Residue, Filterable (TDS) @180C	mg/L	SM2540C	344		364		354		340	
Selenium, dissolved	mg/L	M200.8 ICP-MS	0.00377		0.00365		0.00421		0.00348	
Silica, total	mg/L	M200.7 ICP	25.7		26.3		24.2		31.9	
Silver, dissolved	mg/L	M200.8 ICP-MS	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	M200.7 ICP	24.5		25.9		25.6		25.9	
Sulfate	mg/L	M300.0 - Ion Chromat	19.3		19.4		19.1		20.3	
Total Alkalinity	mg/L	SM2320B - Titration	310		318		331		327	
Zinc, dissolved	mg/L	M200.8 ICP-MS	0.339		0.35		0.342		0.356	

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Bi-Annual Water Quality Data for Ranch					
Well 2023					
230221BMGSRW		2/21/2023 8:50		8/29/2023 9:30	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL
Aluminum, total	mg/L	<0.05	U	<0.05	U
Arsenic, total	mg/L	0.00027	B	<0.0002	U
Barium, total	mg/L	0.0668		0.0723	
Boron, total	mg/L	<0.03	U	<0.03	U
Cadmium, total	mg/L	<0.00005	U	<0.00005	U
Chromium, total	mg/L	<0.02	U	<0.02	U
Copper, total	mg/L	<0.01	U	<0.01	U
Cyanide, WAD	mg/L	<0.003	U	<0.003	U
Fluoride	mg/L	0.437		0.312	
Iron, total	mg/L	0.064	B	<0.06	U
Lead, total	mg/L	<0.03	U	<0.03	U
Manganese, total	mg/L	<0.01	U	<0.01	U
Mercury, total	mg/L	<0.0002	U	<0.0002	U
Molybdenum, total	mg/L	<0.02	U	<0.02	U
Nickel, total	mg/L	<0.008	U	<0.008	U
Selenium, total	mg/L	0.00016	B	<0.0001	U
Silver, total	mg/L	<0.0001	U	<0.0001	U
Zinc, total	mg/L	<0.02	U	0.039	B

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Bi-Annual Water Quality Data for San Luis

Town Well 2023

230221BMGSLTW 2/21/2023 9:20 8/29/2023 10:00

ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL
Aluminum, total	mg/L	<0.05	U	<0.05	U
Arsenic, total	mg/L	0.00022	B	0.0003	B
Barium, total	mg/L	0.0418		0.0367	
Boron, total	mg/L	<0.03	U	<0.03	U
Cadmium, total	mg/L	<0.00005	U	<0.00005	U
Chromium, total	mg/L	<0.02	U	<0.02	U
Copper, total	mg/L	<0.01	U	<0.01	U
Cyanide, WAD	mg/L	<0.003	U	<0.003	U
Fluoride	mg/L	0.405		0.343	
Iron, total	mg/L	<0.06	U	<0.06	U
Lead, total	mg/L	<0.03	U	<0.03	U
Manganese, total	mg/L	<0.01	U	<0.01	U
Mercury, total	mg/L	<0.0002	U	<0.0002	U
Molybdenum, total	mg/L	<0.02	U	<0.02	U
Nickel, total	mg/L	<0.008	U	<0.008	U
Selenium, total	mg/L	0.00012	B	0.00017	B
Silver, total	mg/L	<0.0001	U	<0.0001	U
Zinc, total	mg/L	<0.02	U	<0.02	U

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Quarterly Water Quality Data for WD-1 2023									
230221BMGWD1		2/21/2023 8:10		5/2/2023 8:50		8/29/2023 8:25		11/28/2023 8:20	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Arsenic, total	mg/L	0.00033	B	0.00028	B	0.00069	B	0.00026	B
Copper, total	mg/L	0.00129	B	0.00134	B	<0.0008	U	<0.0008	U
Cyanide, WAD	mg/L	<0.003	U	<0.003	U	<0.003	U	0.0923	
Fluoride	mg/L	0.64		0.79		0.76		0.68	
Iron, total	mg/L	1.71		0.885		0.767		0.781	
Manganese, dissolved	mg/L	0.149		0.046	B	0.081		0.102	
Sulfate	mg/L	10.8		14.1		8.4		22.5	
Zinc, total	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U

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Quarterly Water Quality Data for RS1										
2023		1/9/2023 7:30		4/3/2023 7:15		7/10/2023 7:45		10/3/2023 7:10		
230109BMGRS1										
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	MDL
Aluminum, potentially dissolved	mg/L	0.0132	B	0.0325		0.0418		0.0334		0.005
Arsenic, total	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	0.0002
Bicarbonate as CaCO3	mg/L	57.1		62.4		46.3		59.8		2
Cadmium, potentially dissolved	mg/L	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	0.00005
Calcium, dissolved	mg/L	15.8		15.3		12.4		15.6		0.1
Carbonate as CaCO3	mg/L	<2	U	<2	U	<2	U	3.5	B	2
Chloride	mg/L	1.26	B	<1	U	<1	U	<1	U	1
Chromium, dissolved	mg/L	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	0.0005
Copper, potentially dissolved	mg/L	<0.0008	U	<0.0008	U	<0.0008	B	<0.0008	U	0.0008
Fluoride	mg/L	0.58		0.51		0.39		0.41		0.15
Gross Alpha	pCi/L	2.5		4.3		2		1.9		5.3
Gross Beta	pCi/L	1.1		3.8		1.3		0.81		9.2
Hardness as CaCO3 (dissolved)	mg/L	56		54		44		55		0.2
Hydroxide as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U	2
Iron, dissolved	mg/L	<0.06	U	0.074	B	0.102	B	0.126	B	0.06
Iron, total recoverable	mg/L	0.215	B	0.339		0.326		0.325		0.06
Lead, potentially dissolved	mg/L	<0.0001	U	0.0002	B	0.00014	B	0.00014	B	0.0001
Magnesium, dissolved	mg/L	4.04		3.89		3.26		3.9		0.2
Manganese, dissolved	mg/L	0.019	B	0.011	B	0.016	B	0.014	B	0.01
Manganese, total recoverable	mg/L	0.023	B	0.021	B	0.027	B	0.025	B	0.01
Mercury, total	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	0.0002
Nickel, dissolved	mg/L	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	0.0004
Nitrogen, ammonia	mg/L	<0.05	U	<0.05	U	<0.05	U	<0.05	U	0.1
Oil and Grease	mg/L	<2	U	<2	U	<2	U	<2	U	2
Potassium, total	mg/L	1.06	B	0.94	B	0.72	B	1.14		0.5
Residue, Non-Filterable (TSS) @10'	mg/L	<5	U	<5	U	5	U	5	U	5
Selenium, dissolved	mg/L	0.00016	B	<0.0001	U	<0.0001	U	<0.0001	U	0.0001
Silica, total	mg/L	13		10.7		11.3		13.3		0.2
Silver, potentially dissolved	mg/L	,0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	0.0001
Sodium, total	mg/L	3.16	B	3.14		2.88		3.26		0.2
Sulfate	mg/L	2.77		3.85		1.61	B	3.62		0.9
Total Alkalinity	mg/L	57.1		62.4		46.3		63.3		2
Zinc, potentially dissolved	mg/L	<0.006	U	<0.006	U	<0.006	U	<0.006	U	0.006

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Monthly Water Quality Data for RS2 2023 Table 1/2		2/8/2023 7:35		3/1/2023 7:30		5/3/2023 7:10		6/1/2023 7:40	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	<0.05	U	0.068	B	<0.05	U	<0.05	U
Aluminum, total	mg/L	0.472		0.303		0.785		0.767	
Arsenic, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	0.0002	B
Arsenic, total	mg/L	<0.0002	U	<0.0002	U	0.0003	B	0.00027	B
Barium, dissolved	mg/L	0.0203	B	0.0222	B	0.0211	B		U
Barium, total	mg/L	0.0245	B	0.028	B	0.0294	B	0.0274	B
Bicarbonate as CaCO3	mg/L	47		58.6		56.5		40.9	
Boron, dissolved	mg/L	<0.03	U	<0.03	U	<0.03	U	<0.03	U
Boron, total	mg/L	<0.03	U	<0.03	U	<0.03	U	<0.03	U
Cadmium, dissolved	mg/L	<0.00005	U	<0.00005	U	<0.00005	U	0.000057	B
Cadmium, total	mg/L	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U
Calcium, dissolved	mg/L	15		15.7		15.5		9.79	
Calcium, total	mg/L	17.2		15.8		15.7		10.4	
Carbon, total organic (TOC)	mg/L	<1	U	<1	U	2.5	B	4.2	B
Carbonate as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Chloride	mg/L	3.7		1.81	B	1	B	0.48	B
Chromium, dissolved	mg/L	<0.0005	U	<0.0005	U		U	<0.0005	U
Chromium, total	mg/L	<0.0005	U	<0.0005	U	0.00075	B	0.00055	B
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	0.00107	B	0.00119	B
Copper, total	mg/L	<0.0008	U	0.00112	B	0.00192	B	0.00199	B
Cyanide, total	mg/L	0.0209	H	<0.003	U	<0.003	U	<0.03	UH
Cyanide, WAD	mg/L	<0.003	U	<0.003	U	<0.003	U	<0.003	U
Fluoride	mg/L	0.91		0.72	H	0.56		0.3	B
Hardness as CaCO3 (dissolved)	mg/L	54		58		56		36	
Hydroxide as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Iron, dissolved	mg/L	0.073	B	0.099	B	0.14	B	0.088	B
Iron, total	mg/L	0.785		0.494		1.06		0.921	
Lead, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	0.00017	B
Lead, total	mg/L	0.00042	B	0.00026	B	0.00077		0.00063	
Magnesium, dissolved	mg/L	4.04		4.48		4.25		2.81	
Magnesium, total	mg/L	4.77		4.54		4.21		2.93	
Manganese, dissolved	mg/L	0.023	B	0.022	B	0.018	B		U
Manganese, total	mg/L	0.05		0.046	B	0.064		0.05	B
Mercury, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Mercury, total	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	<0.008	U	<0.008	U	<0.008	U	<0.008	U
Nickel, total	mg/L	<0.008	U	<0.008	U	<0.008	U	<0.008	U
Nitrate/Nitrite as N	mg/L	0.073	B	0.109		0.038	B	0.091	B
Nitrogen, ammonia	mg/L	<0.05	U	<0.05	U	<0.05	U	<0.1	U
Potassium, total	mg/L	1.01		1.04		1.21		0.91	B
Residue, Filterable (TDS) @180C	mg/L	102	H	98		78		58	
Residue, Non-Filterable (TSS) @105C	mg/L	8	B	10	B	25		17	B
Selenium, dissolved	mg/L	0.00014	B	<0.0001	U	<0.0001	U	0.00018	B
Selenium, total	mg/L	<0.0001	U	<0.0001	U	0.00014	B	<0.0001	U
Silica, total	mg/L	9.6		12.8		13.5		11.8	
Silver, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Silver, total	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	9.97		5.89		4.43		2.54	
Sulfate	mg/L	24.3		12.3		4.91		2.41	
Total Alkalinity	mg/L	47		58.6		56.5		42.5	
Zinc, dissolved	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U
Zinc, total	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

8/1/2023 6:35		9/11/2023 7:25		11/1/2023 7:35		12/11/2023 7:25	
RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
<0.05	U	<0.05	U	<0.05	U	<0.05	U
0.427		1.11		<0.05	U	<0.05	U
<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
<0.0002	U	0.00047	B	<0.0002	U	<0.0002	U
0.024	B	0.0213	B	0.0235	B	0.0223	B
0.0297	B	0.0429		0.021	B	0.0206	B
61.7		69.8		46.5		66.8	
<0.03	U	<0.03	U	<0.03	U	<0.03	U
<0.03	U	<0.03	U	<0.03	U	<0.03	U
<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U
<0.00005	U	0.00008	B	<0.00005	U	<0.00005	U
14.8		16.7		14.9		18.5	
14.8		17		14.9		18.7	
2.3	B	3.4	B	1.4	B	1.3	B
<2	U	<2	U	3.4	B	<2	U
0.84	B	0.95	B	6.87		0.88	B
0.00051	B	0.00062	B	<0.0005	U	<0.0005	U
<0.0005	U	0.00175	B	<0.0005	U	<0.0005	U
<0.0008	U	0.00086	B	<0.0008	U	<0.0008	U
<0.0008	U	0.00272		<0.0008	U	<0.0008	U
<0.003	U	<0.003	U	<0.003	U	<0.003	UH
<0.003	U	<0.003	U	<0.003	U	<0.003	U
0.72		0.52		1.02		0.59	
54		60		56		66	
<2	U	<2	U	<2	U	<2	U
0.314		0.432		0.14	B	0.089	B
0.815		2.2		0.225		0.228	
0.00014	B	0.00019	B	<0.0001	U	<0.0001	U
0.00049	B	0.00216	<0.0001	<0.0001	U	<0.0001	U
4.06		4.46		4.48		4.76	
4.07		4.66		4.42		4.74	
0.027	B	0.032	B	0.019	B	0.016	B
0.059		0.214		0.029	B	0.02	B
<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
<0.008	U	<0.008	U	<0.008	U	<0.008	U
<0.008	U	<0.008	U	<0.008	U	<0.008	U
0.064	B	<0.02	U	<0.02	U	0.054	B
<0.1	U	<0.1	U	<0.1	U	<0.1	U
0.97	B	1.42		1.35		0.86	B
94		96		114		90	
10	B	45		<5	U	<5	U
<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
<0.0001	U	0.00031		<0.0001	U	<0.0001	U
12.5		14.8		11.9		12.3	
<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
4.47		4.26		13.3		4.64	
3.38		4.36		33.8		6.55	
61.7		69.8		50		66.8	
<0.02	U	<0.02	U	<0.02	U	<0.02	U
<0.02	U	<0.02	U	<0.02	U	<0.02	U

Quarterly Water Quality Data for M-9 2023 Table 2/2		1/9/2023 8:05		4/3/2023 7:15		7/10/2023 8:15		10/3/2023 7:40	
230109BMGRS2									
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	<0.05	U	<0.05	U	<0.05	U	<0.05	U
Aluminum, potentially dissolved	mg/L	0.0132	B	0.175		0.139		0.0535	
Aluminum, total	mg/L	0.066	B	1.44		0.676		0.223	B
Arsenic, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Arsenic, total	mg/L	<0.0004	U	0.00034	B	0.00025	B	<0.0004	U
Arsenic, total	mg/L	<0.0002	U	0.00031	B	0.00026	B	<0.0002	U
Barium, dissolved	mg/L	0.0237	B	0.0224	B	0.0209	B	0.0247	B
Barium, total	mg/L	0.0263	B	0.0355		0.0284	B	0.0245	B
Bicarbonate as CaCO3	mg/L	62.1		65.3		50.3		54.9	
Bicarbonate as CaCO3	mg/L	61.7		62.9		50.4		55.8	
Boron, dissolved	mg/L	<0.03	U	<0.03	U	<0.03	U	<0.03	U
Boron, total	mg/L	<0.03	U	<0.03	U	<0.03	U	<0.03	U
Cadmium, dissolved	mg/L	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U
Cadmium, potentially dissolved	mg/L	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U
Cadmium, total	mg/L	<0.00005	U	<0.00005	U	0.000066	B	<0.00005	U
Calcium, dissolved	mg/L	17.4		15.6		13.7		15.1	
Calcium, dissolved	mg/L	16.7		15.6		13.8		14.8	
Calcium, total	mg/L	16.9		16.8		14.6		15.2	
Carbon, total organic (TOC)	mg/L	1.3	B	2.3		2.6	B	3	B
Carbonate as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Carbonate as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Chloride	mg/L	1.12	B	<1	U	<1	U	4.89	
Chloride	mg/L	1.03	B	0.8	B	<0.4	U	5.54	
Chromium, dissolved	mg/L	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U
Chromium, dissolved	mg/L	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U
Chromium, total	mg/L	<0.0005	U	<0.0005	U	0.00055	B	<0.0005	U
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Copper, potentially dissolved	mg/L	<0.0008	U	0.00157	B	0.00142	B	0.0008	B
Copper, total	mg/L	0.00146	B	0.00159	B	0.00145	B	0.00096	B
Cyanide, total	mg/L	<0.03	U	<0.03	U	<0.03	U	<0.03	U
Cyanide, WAD	mg/L	<0.003	U	<0.003	U	<0.003	UH	<0.003	U
Fluoride	mg/L	0.59		0.52		0.42		0.89	
Fluoride	mg/L	0.5		0.54		0.41		0.88	
Gross Alpha	pCi/L	1.7		3.3		0.63		2.4	
Gross Beta	pCi/L	2.4		1.7		2.8		3.3	
Hardness as CaCO3 (dissolved)	mg/L	62		56		49		57	
Hardness as CaCO3 (dissolved)	mg/L	60		56		49		56	
Hydroxide as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Hydroxide as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Iron, dissolved	mg/L	0.097	B	0.12	B	0.177		0.256	
Iron, dissolved	mg/L	0.099	B	0.153		0.207		0.259	
Iron, total	mg/L	0.234		1.82		0.978		0.607	
Iron, total recoverable	mg/L	0.201		1.76		1.07		0.522	
Lead, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Lead, potentially dissolved	mg/L	<0.0001	U	0.0009		0.00059		0.00025	B
Lead, total	mg/L	<0.0001	U	0.00094		0.00062		0.00029	B
Magnesium, dissolved	mg/L	4.54		4.1		3.47		4.63	
Magnesium, dissolved	mg/L	4.33		4.05		3.5		4.53	
Magnesium, total	mg/L	4.48		4.8		3.87		4.74	
Manganese, dissolved	mg/L	0.021	B	0.02	B	0.016	B	0.017	B
Manganese, dissolved	mg/L	0.019	B	0.021	B	0.02	B	0.018	B
Manganese, total	mg/L	0.025	B	0.108		0.071		0.032	B
Manganese, total recoverable	mg/L	0.02	B	0.109		0.069		0.028	B
Mercury, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Mercury, total	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Mercury, total	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Nickel, dissolved	mg/L	<0.008	U	<0.008	U	<0.008	U	<0.008	U
Nickel, total	mg/L	<0.008	U	<0.008	U	<0.008	U	<0.008	U
Nitrate/Nitrite as N	mg/L	0.112		0.048	B	0.074	B		U
Nitrogen, ammonia	mg/L	<0.1	U	<0.1	U	<0.1	U	<0.1	U
Nitrogen, ammonia	mg/L	<0.1	U	<0.1	U	<0.1	U	<0.1	U
Oil and Grease	mg/L	<2	U	<2	U	<2	U	<2	U
Potassium, total	mg/L	0.79	B	1.35		0.94	B	1.65	
Potassium, total	mg/L	0.82	B	1.36		0.91	B	1.63	
Residue, Filterable (TDS) @180C	mg/L	76		88		72		118	
Residue, Non-Filterable (TSS) @105C	mg/L	<5	U	32		21		8	B
Residue, Non-Filterable (TSS) @105C	mg/L	<5	U	33		21		5	B
Selenium, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Selenium, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Selenium, total	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Silica, total	mg/L	10.9		14.2		13.1		14	
Silica, total	mg/L	11.4		15.8		13.5		13.7	
Silver, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Silver, potentially dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Silver, total	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	4.06		4.19		3.25		13.9	
Sodium, total	mg/L	4.16		4.27		3.37		13.8	
Sulfate	mg/L	5.96		5.74		2.24		25.2	
Sulfate	mg/L	5.88		5.72		2.13		25.4	
Total Alkalinity	mg/L	62.1		65.3		50.3		54.9	
Total Alkalinity	mg/L	61.7		62.9		50.4		55.8	
Zinc, dissolved	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U
Zinc, potentially dissolved	mg/L	<0.006	U	<0.006	U	<0.006	U	<0.006	U
Zinc, total	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U

Definitions:

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Monthly Water Quality Data for RS5																	
2023 Table 1/2		2/8/2023 8:00		3/1/2023 8:00		5/3/2023 7:40		6/1/2023 8:10		8/1/2023 7:05		9/11/2023 8:00		11/1/2023 8:00		12/11/2023 7:55	
230109BMGRS5																	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Cyanide, WAD	mg/L	<0.003	U	<0.003	U	<0.003	U	<0.003	U	<0.003	U	<0.003	U	<0.003	U	<0.003	U
Iron, dissolved	mg/L	0.227		0.254		0.312		0.154		0.7		0.419		0.518		0.444	
Iron, total recoverable	mg/L	1.81		2.22		0.688		0.69		2.09		1.37		1.19		1.12	
Manganese, dissolved	mg/L	0.194		0.206		0.06		0.037 B		0.112		0.15		0.142		0.195	
Manganese, total recoverable	mg/L	0.262		0.258		0.07		0.061		0.163		0.165		0.155		0.203	
Sulfate	mg/L	17.2		22.4		11		4.34		2.6		16.7		14.1		19.6	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
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- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for RS5									
2023 Table 2/2		1/9/2023 8:40		4/3/2023 8:30		7/10/2023 8:45		10/3/2023 8:10	
230109BMGRS5									
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, potentially dissolved	mg/L	0.0424		0.076		0.0708		0.0711	
Arsenic, total	mg/L	0.00021	B	0.00028	B	0.00055	B	0.00053	B
Bicarbonate as CaCO3	mg/L	78.7		73.2		65.1		103	
Cadmium, potentially dissolved	mg/L	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U
Calcium, dissolved	mg/L	22.5		20.2		18.3		29.6	
Carbonate as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Chloride	mg/L	2.67		3.36		<1	U	5.11	
Chromium, dissolved	mg/L	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U
Copper, potentially dissolved	mg/L	<0.0008	U	<0.0008	U	0.00123	B	0.00099	B
Cyanide, WAD	mg/L	<0.003	U	<0.003	U	<0.003	UH	<0.003	U
Fluoride	mg/L	0.67		0.67		0.53		0.89	
Gross Alpha	pCi/L	-4.6		2.3		1.2		1.4	
Gross Beta	pCi/L	-5.3		1		-0.23		7.5	
Hardness as CaCO3 (dissolved)	mg/L	77		69		63		99	
Hydroxide as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Iron, dissolved	mg/L	0.364		0.361		0.543		0.337	
Iron, dissolved	mg/L	0.305		0.356		0.617		0.12	B
Iron, total recoverable	mg/L	0.85		1.28		1.25		1.16	
Iron, total recoverable	mg/L	0.799		1.21		1.11		1.13	
Lead, potentially dissolved	mg/L	0.00017	B	0.00034	B	0.00036	B	0.00033	B
Magnesium, dissolved	mg/L	5.13		4.39		4.2		6.02	
Manganese, dissolved	mg/L	0.181		0.157		0.079		0.134	
Manganese, dissolved	mg/L	0.189		0.161		0.083		0.035	B
Manganese, total recoverable	mg/L	0.193		0.183		0.106		0.135	
Manganese, total recoverable	mg/L	0.197		0.185		0.104		0.142	
Mercury, total	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Nitrogen, ammonia	mg/L	<0.05	U	<0.05	U	<0.1	U	<0.1	U
Oil and Grease	mg/L	<2	U			<2	U	<2	U
Potassium, total	mg/L	1.08		1.32		1.07		1.99	
Residue, Non-Filterable (TSS) @105C	mg/L	<5	U	9	B	<5	U	8	B
Selenium, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Silica, total	mg/L	12.6		12.4		14.2		18.9	
Silver, potentially dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	7.43		7.24		4.68		12.1	
Sulfate	mg/L	13.5		13.7		2.49		18.5	
Sulfate	mg/L	12.6		13.6		2.39		18.4	
Total Alkalinity	mg/L	78.7		73.2		65.1		103	
Zinc, potentially dissolved	mg/L	<0.006	U	<0.006	U	<0.006	U	<0.006	U

Definitions:

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Monthly Water Quality Data for M-19																	
2023		2/8/2023 8:40		3/1/2023 9:00		5/3/2023 8:10		6/1/2023 8:50		8/1/2023 7:40		9/11/2023 8:40		11/1/2023 8:40		12/11/2023 8:40	
230109BMGM19																	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	22		21.3		19.8		17.3		17		18		20.6		21.2	
Copper, dissolved	mg/L	0.00085	B	0.00113	B	0.00108	B	0.00083	B	<0.0008	U	0.00108	B	<0.0008	U	<0.0008	U
Fluoride	mg/L	0.942		0.946		0.772		0.761		0.745		0.853		0.903		0.93	
Iron, dissolved	mg/L	<0.06	U	0.101	B	0.215		0.201		0.119	B	0.181		0.167		0.148	B
Manganese, dissolved	mg/L	0.131		0.154		0.094		0.043	B	0.046	B	0.044	B	0.049	B	0.085	
Residue, Filterable (TDS) @180C	mg/L	100	H	112		90		82		100		104		112		114	
Sulfate	mg/L	5.98		6		10.5		8.15		6.66		7.34		6.99		8.32	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-19									
2023		1/9/2023 9:30		4/3/2023 9:20		7/10/2023 9:50		10/3/2023 9:05	
230109BMGM19									
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	20.8		22.3		16		19.3	
Calcium, total	mg/L	20.8		21.3		30.4		19.1	
Copper, dissolved	mg/L	0.00221		0.00132 B		0.00102 B		0.0035	
Copper, dissolved	mg/L	0.00252		0.00181 B		0.00111 B		0.00264	
Fluoride	mg/L	0.825		0.909		0.877		0.876	
Fluoride	mg/L	0.822		0.871		0.868		0.9	
Iron, dissolved	mg/L	0.095 B		0.108 B		0.1 B		0.248	
Iron, dissolved	mg/L	0.113 B		0.134 B		0.095 B		0.233	
Manganese, dissolved	mg/L	0.134		0.164		0.032 B		0.051	
Manganese, dissolved	mg/L	0.124		0.165		0.032 B		0.05 B	
Residue, Filterable (TDS) @180C	mg/L	96		102		82		90	
Residue, Filterable (TDS) @180C	mg/L	86		106		86		98	
Sulfate	mg/L	6.92		8.01		5.21		7.24	
Sulfate	mg/L	6.94		7.9		5.24		7.17	

Monthly Water Quality Data for M-21 2023		2/8/2023 9:30		3/1/2023 9:40		5/3/2023 8:40		6/1/2023 9:30		8/1/2023 8:20		9/11/2023 9:20		11/1/2023 9:20		12/11/2023 9:20	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	30.5		31.6		18.8		29.3		30.6		29.7		31.8		32.3	
Copper, dissolved	mg/L	<0.0008	U	0.00087	B	<0.0008	U	0.00087	B	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Fluoride	mg/L	1.36		1.48		1.32		1.2		1.31		1.46		1.49		1.49	
Iron, dissolved	mg/L	0.081	B	<0.06	U	0.076	B	<0.06	U	0.076	B	0.064	B	0.093	B	0.072	B
Manganese, dissolved	mg/L	0.361		0.369		0.357		0.303		0.359		0.37		0.37		0.386	
Residue, Filterable (TDS) @180C	mg/L	136	H	140		130		126		144	H	142		144		136	
Sulfate	mg/L	8.68		9.05		9.03		10.1		8.18		8.99		9.08		9.26	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-21									
2023		1/9/2023 10:10		4/3/2023 10:00		7/10/2023 10:30		10/3/2023 9:45	
230109BMGM21									
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	31.4		33.2		30.6		31	
Calcium, total	mg/L	30.9		33.6		32.2		31.2	
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Fluoride	mg/L	1.31		1.46		1.48		1.49	
Fluoride	mg/L	1.31		1.46		1.37		1.44	
Iron, dissolved	mg/L	0.073	B	<0.06	U	<0.06	U	0.063	B
Iron, dissolved	mg/L	0.073	B	<0.06	U	<0.06	U	0.061	B
Manganese, dissolved	mg/L	0.367		0.364		0.35		0.369	
Manganese, dissolved	mg/L	0.369		0.365		0.349		0.371	
Residue, Filterable (TDS) @180C	mg/L	130		140		142		132	
Residue, Filterable (TDS) @180C	mg/L	128		144		142		138	
Sulfate	mg/L	8.85		9.41		8.36		9.22	
Sulfate	mg/L	8.88		9.35		8.26		9.31	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Monthly Water Quality Data for M-24 2023																	
ANALYTE	UNITS	2/8/2023 10:20		3/1/2023 10:30		5/3/2023 9:30		6/1/2023 10:10		8/1/2023 9:00		9/11/2023 10:00		11/1/2023 10:05		12/11/2023 10:00	
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	76		78.5		31		79.3		77.1		74.6		76.5		77.2	
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Fluoride	mg/L	0.744	B	0.685	B	0.71	B	0.714		0.328	B	0.847		0.743	B	0.79	
Iron, dissolved	mg/L	4.09		4.03		4.25		4.24		4.23		4.14		3.78		3.97	
Manganese, dissolved	mg/L	0.847		0.861		0.853		0.842		0.835		0.831		0.79		0.828	
Residue, Filterable (TDS) @180C	mg/L	394	H	402		384		398		406		394		370		384	
Sulfate	mg/L	129		147		128		136		127		124		121		130	

Definitions:

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- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-24									
2022		1/9/2023 10:50		4/3/2023 10:40		7/10/2023 11:10		10/3/2023 10:25	
230109BMGM24									
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	78.7		84.8		77.7		75.1	
Calcium, total	mg/L	77.9		82.5		75.7		80.2	
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Fluoride	mg/L	0.831		0.642	B	0.396	B	0.939	
Fluoride	mg/L	0.897		0.585	B	0.402	B	0.966	
Iron, dissolved	mg/L	4.06		4.09		4.08		4.18	
Iron, dissolved	mg/L	4.12		4.03		4.11		4.15	
Manganese, dissolved	mg/L	0.871		0.84		0.826		0.844	
Manganese, dissolved	mg/L	0.884		0.834		0.834		0.838	
Residue, Filterable (TDS) @180C	mg/L	392		400		388		388	
Residue, Filterable (TDS) @180C	mg/L	394		398		394		376	
Sulfate	mg/L	145		139		142		140	
Sulfate	mg/L	147		139		144		145	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Monthly Water Quality Data for M-11R																		
2023		2/8/2023 10:40		3/1/2023 11:05		5/3/2023 10:10		6/1/2023 10:45		8/1/2023 9:35		9/11/2023 10:35		11/1/2023 10:40		12/11/2023 10:40		
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
Calcium, total	mg/L	82		86.4		79.1		74.2		78		83.7		96.7		92.4		
Copper, dissolved	mg/L	0.00095	B	0.00121	B	0.00115	B	0.00101	B	<0.0008	U	0.00098	B	0.00083	B	0.00097	B	
Fluoride	mg/L	0.886		0.694	B	0.739		0.738		0.72		0.852		0.929		0.898		
Iron, dissolved	mg/L	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	<0.06	U	
Manganese, dissolved	mg/L	0.122		0.18		0.238		0.15		0.151		0.164		0.19		0.211		
Residue, Filterable (TDS) @180C	mg/L	318	H	384		384		328		352		384		424		418		
Sulfate	mg/L	85.5		138		139		101		107		119		152		155		

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-11R
2023

230109BMGM11R		1/9/2023 11:30		4/3/2023 11:20		7/10/2023 11:40		10/3/2023 11:05	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	<0.05	U	<0.05	U	<0.05	U	<0.05	U
Arsenic, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Barium, dissolved	mg/L	0.0439		0.0501		0.0399		0.0438	
Bicarbonate as CaCO3	mg/L	167		184		158		161	
Cadmium, dissolved	mg/L	<0.008	U	<0.008	U	<0.008	U	<0.008	U
Calcium, total	mg/L	73.4		98.5		78.7		74.1	
Calcium, total	mg/L	73.1		97.5		77.5		75.3	
Carbonate as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Chloride	mg/L	2.69		4.62	B	2.35	B	3.06	B
Chromium, dissolved	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U
Copper, dissolved	mg/L	0.00092	B	<0.01	U	0.00091	B	0.00094	B
Copper, dissolved	mg/L	<0.01	U	0.00122	B	<0.01	U	<0.01	U
Cyanide, WAD	mg/L	0.0034	B	0.0065	B	<0.003	U	<0.003	U
Fluoride	mg/L	0.847		0.646	B	0.736		0.928	
Fluoride	mg/L	0.843		0.655	B	0.823		0.957	
Gross Alpha	pCi/L	1.6		2		0.6		1.9	
Gross Beta	pCi/L	3.2		8.3		1.9		5.8	
Hardness as CaCO3 (total)	mg/L	234		316		250		241	
Hydroxide as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Iron, dissolved	mg/L	<0.06	U	<0.06	U	<0.06	U	<0.06	U
Iron, dissolved	mg/L	<0.06	U	<0.06	U	<0.06	U	<0.06	U
Lead, dissolved	mg/L	<0.03	U	<0.03	U	<0.03	U	<0.03	U
Magnesium, total	mg/L	12.5		17		13.8		12.8	
Manganese, dissolved	mg/L	0.119		0.248		0.167		0.105	
Manganese, dissolved	mg/L	0.118		0.244		0.168		0.106	
Mercury, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Potassium, total	mg/L	2.29		2.56		2.42		2.31	
Residue, Filterable (TDS) @180C	mg/L	308		432		342		326	
Residue, Filterable (TDS) @180C	mg/L	314		434		352		330	
Selenium, dissolved	mg/L	0.00023	B	0.00028		0.00021	B	0.0002	B
Silica, total	mg/L	17.1		17.3		15.1		17.7	
Silver, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	13.9		20.3		14.8		14.2	
Sulfate	mg/L	97.5		152		119		103	
Sulfate	mg/L	97.3		153		119		106	
Total Alkalinity	mg/L	167		184		158		161	
Zinc, dissolved	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-16

2023

230110BMGM16		1/10/2023 8:05		4/4/2023 7:20		7/11/2023 7:35		10/16/2023 7:30	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	17.1		19.5		16.6		16.7	
Copper, dissolved	mg/L	<0.0008	U	0.00085	B	<0.0008	U	<0.0008	U
Fluoride	mg/L	0.564		0.626		0.555		0.699	
Iron, dissolved	mg/L	0.066	B	0.09	B	<0.06	U	<0.06	U
Manganese, dissolved	mg/L	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Residue, Filterable (TDS) @180C	mg/L	80		92		90	H	88	
Sulfate	mg/L	7.68		10.2		7.07		11.9	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-26

2023

230110BMGM26		1/10/2023 9:40		4/4/2023 9:00		7/11/2023 9:05		10/16/2023 8:55	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	31.6		33.4		32.8		31.8	
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	0.00352		<0.0008	U
Fluoride	mg/L	0.73		0.8		0.724		0.695	
Iron, dissolved	mg/L	0.429		0.431		0.435		0.387	
Manganese, dissolved	mg/L	0.33		0.332		0.328		0.336	
Residue, Filterable (TDS) @180C	mg/L	128		140		146		144	
Sulfate	mg/L	7.62		7.77		9.77		9.9	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-22

2023

230110BMGM22		1/10/2023 9:00		4/4/2023 8:20		7/11/2023 8:25		10/16/2023 8:15	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	40.1		44.6		41		39.7	
Copper, dissolved	mg/L	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Fluoride	mg/L	1.33		1.43		1.34		1.38	
Iron, dissolved	mg/L	0.27		0.27		0.364		0.407	
Manganese, dissolved	mg/L	0.161		0.161		0.162		0.17	
Residue, Filterable (TDS) @180C	mg/L	166		178		184		182	
Sulfate	mg/L	25.8		29.1		26.7		28.8	

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-34
2023

230110BMGM34		1/10/2023 10:15		4/4/2023 9:40		7/11/2023 9:35		10/16/2023 9:30	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	<0.05	U	<0.05	U	<0.05	U	<0.05	U
Arsenic, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Barium, dissolved	mg/L	0.0436		0.0405		0.0484		0.0496	
Bicarbonate as CaCO3	mg/L	74.5		84.6		76.7		78.2	
Cadmium, dissolved	mg/L	<0.008	U	<0.008	U	<0.008	U	<0.008	U
Calcium, total	mg/L	22.3		23.8		24.2		24.3	
Carbonate as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Chloride	mg/L	2.21		2.64		2.57		3	
Chromium, dissolved	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U
Copper, dissolved	mg/L	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Cyanide, WAD	mg/L	<0.003	U	<0.003	U	<0.003	U	<0.003	U
Fluoride	mg/L	0.432		0.483		0.392		0.396	
Gross Alpha	pCi/L	2.7		0.04		0.16		1.1	
Gross Beta	pCi/L	3.2		3.7		1.2		0.33	
Hardness as CaCO3 (total)	mg/L	78		84		85		86	
Hydroxide as CaCO3	mg/L	<2	U	<2	U	<2	U	<2	U
Iron, dissolved	mg/L	<0.06	U	<0.06	U	<0.06	U	<0.06	U
Lead, dissolved	mg/L	<0.03	U	<0.03	U	<0.03	U	<0.03	U
Magnesium, total	mg/L	5.47		5.95		6.01		6.03	
Manganese, dissolved	mg/L	0.224		0.225		0.244		0.25	
Mercury, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Potassium, total	mg/L	0.89	B	1.03		0.98	B	0.97	B
Residue, Filterable (TDS) @180C	mg/L	104		124		128		132	
Selenium, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	0.0001	B
Silica, total	mg/L	15.4		14.3		14		15.4	
Silver, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	7.58		8.08		7.98		7.52	
Sulfate	mg/L	17.7		21		24.3		26.5	
Total Alkalinity	mg/L	74.5		84.6		76.7		78.2	
Zinc, dissolved	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for M-10
2023

230110BMGM10		1/10/2023 10:50		4/4/2023 10:20		7/11/2023 10:15		10/16/2023 10:10	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum, dissolved	mg/L	<0.05	U	<0.05	U	<0.05	U	<0.05	U
Arsenic, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Barium, dissolved	mg/L	0.128		0.127		0.131		0.115	
Bicarbonate as CaCO3	mg/L	244		238		235	H	238	
Cadmium, dissolved	mg/L	<0.008	U	<0.008	U	<0.008	U	<0.008	U
Calcium, total	mg/L	73.2		74.7		78.2		76.5	
Carbonate as CaCO3	mg/L	<2	U	<2	U	<2	UH	<2	U
Chloride	mg/L	2.97		3.24		3.06		3.45	
Chromium, dissolved	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U
Copper, dissolved	mg/L	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Cyanide, WAD	mg/L	<0.003	U	<0.003	U	<0.003	U	<0.003	U
Fluoride	mg/L	0.868		0.975		0.9		0.876	
Gross Alpha	pCi/L	-1.2		3		0.43		5.9	
Gross Beta	pCi/L	2.1		7		3.9		4.2	
Hardness as CaCO3 (total)	mg/L	224		229		239		234	
Hydroxide as CaCO3	mg/L	<2	U	<2	U	<2	UH	<2	U
Iron, dissolved	mg/L	1.14		1.15		1.1		0.79	
Lead, dissolved	mg/L	<0.03	U	0.033	B	<0.03	U	0.043	B
Magnesium, total	mg/L	10		10.2		10.6		10.5	
Manganese, dissolved	mg/L	0.899		0.875		0.875		0.673	
Mercury, dissolved	mg/L	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Nickel, dissolved	mg/L	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Potassium, total	mg/L	1.63		1.78		1.79		1.74	
Residue, Filterable (TDS) @180C	mg/L	300		312		318		322	
Selenium, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Silica, total	mg/L	28.2		25.1		26.8		26	
Silver, dissolved	mg/L	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Sodium, total	mg/L	20.7		21.4		20.9		19.8	
Sulfate	mg/L	34.9		36.5		39.8		39.9	
Total Alkalinity	mg/L	244		238		235	H	238	
Zinc, dissolved	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for COL 2023									
230131BMGCOL		1/31/2023 9:10		4/27/2023 9:05		7/31/2023 9:25		10/31/2023 8:50	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	515		469		510		492	
Copper, total	mg/L	<0.0008	U	<0.0008	U	<0.0008	U	<0.0008	U
Cyanide, WAD	mg/L	0.0032	B	<0.003	U	0.0041	B	<0.003	UH
Iron, total	mg/L	29.2		30.1		30		33.1	
Sodium, total	mg/L	949		995		926		888	
Zinc, total	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U

Definitions:

- B Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

Quarterly Water Quality Data for LD									
2023									
230131BMGLD		1/31/2023 8:55		4/27/2023 8:50		7/31/2023 9:10		10/31/2023 8:35	
ANALYTE	UNITS	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Calcium, total	mg/L	480		504		466		482	
Copper, total	mg/L	0.0446		0.06		0.0401		0.054	
Cyanide, WAD	mg/L	<0.003	U	<0.003	U	<0.003	U	0.004	BH
Iron, total	mg/L	<0.06	U	<0.06	U	<0.06	U	<0.06	U
Sodium, total	mg/L	970		1050		927		975	
Zinc, total	mg/L	<0.02	U	<0.02	U	<0.02	U	<0.02	U

Definitions:

- B Analyte concentration detected at a value between MDL and PQL.
The associated value is an estimated quantity
- H Analysis exceeded method hold time. pH is a field test with an immediate hold time
- L Target analyte response was below the laboratory defined negative threshold
- U The material was analyzed for but was not detected above the level of the associated value

APPENDIX C

DMR's, BMP, and WET Testing Reports

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

April 26, 2023

Colorado Department of Public Health and Environment
Water Quality Control Division
Attn: WQDC-B2 – DMR Receipt
4300 Cherry Creek Drive
Denver, CO 80246-1530

Re: Battle Mountain Resources, Inc.
San Luis Project - San Luis, Colorado
First Quarter 2023 – DMR's, BMP and WET Testing Reports
CDPHE CDPS Permit No. CO0045675

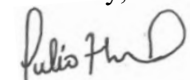
Dear Sir or Madame:

Please find the enclosed Battle Mountain Resources, Inc. "San Luis Project" (Permit No. CO0045675) Colorado Department of Public Health and Environment-Colorado Discharge Permit System (CDPS) Best Management Practices (BMP) report for permitted outfall 002 for the first quarter 2023. The quarterly BMP report provides the required data associated with groundwater well elevations, the quarterly potentiometric surface map and groundwater well chemistry.

In addition, the first quarter 2023 Discharge Monitoring Reports (DMRs) were submitted for each of the permitted water treatment plant discharges in the NetDMR System and the WET Testing Reports were attached to the appropriate DMR submittal in NetDMR. These permitted discharges consist of water treatment plant Discharge Numbers 001-A and 001-B. During the quarter, the maximum 30-day average flow was 0.23 million gallons of water discharged per day, therefore the applicable permit criteria for the reporting period is associated with discharge number 001-B.

Should any questions arise or if I can be of any assistance providing clarification, please call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Lawrence Fiske, Newmont USA Limited
Tim Runnells, Engineering Analytics
Alan Fosdick, Engineering Analytics

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

April 26, 2023

Colorado Department of Public Health and Environment
Water Quality Control Division
Attn: WQDC-B2 – DMR Receipt
4300 Cherry Creek Drive
Denver, CO 80246-1530

Re: Battle Mountain Resources, Inc.
San Luis Project
First Quarter 2023 BMP Report
CDPHE CDPS Permit No. CO0045675

Dear Sir or Madame:

In accordance with and compliance of the permit limitations and permit terms and conditions contained in Part I, Section 5 Discharge Point 002: (Permit Limitations, Best Management Practices, and Schedule of Compliance of the State of Colorado Authorization to Discharge Under the Colorado Discharge Permit System, Battle Mountain Resources, Inc. submits the following *Quarterly Best Management Practices Report*.

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Sections 61.8(2), 61.8(3)(n), and 61.8(3)(r), 5 C.C.R. 1002-61, the permittee shall continue to implement the following limitations, compliance schedules, and Best Management Practices (BMPs).

The attainment of applicable water quality standards will be implemented and evaluated through the application of the following limitations, compliance schedules, and BMPs that are designed to monitor and control the groundwater quality and quantity discharging from the West Pit to the Rito Seco alluvial aquifer.

Specifically, the limitations, compliance schedules, and BMPs are those activities that address contaminated groundwater that may flow into the Rito Seco. This includes: (1) the potential flow of the affected groundwater from the West Pit that, in the past, manifested itself in the formation of the surface seeps along the arroyo sidewall of the Rito Seco, and (2) the plume of affected groundwater within the Rito Seco alluvial aquifer downgradient of the West Pit that flows along the naturally occurring hydraulic gradient and that may flow into the Rito Seco. The activities will include the following specific requirements:

- 1) The elevation of the groundwater table in the vicinity of the West Pit shall be measured on a weekly basis at the following locations: (i) the West Pit backfill wells BF-4 and BF-5 and (ii) the Rito Seco alluvial wells M-16 and M-20, as shown in Figure 3 of the permit, for purposes of determining the performance of the “pump and treat” system that regulates the flow and quality of the groundwater in the seepage front. The permittee shall

also determine on a quarterly basis the elevations of the groundwater table at BF-3, BF-4, BF-5, BF-6, M-11R, M-16, M-17, M-18, M-19, M-20, M-21, M-22, M-23, M-24, M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-32, and M-33 for the purpose of developing a groundwater potentiometric map as monitoring confirmation of the groundwater flow direction. The quarterly data regarding depth to groundwater and groundwater potentiometric surface map will be submitted to the WQCD with the BMP report as described.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the weekly West Pit backfill and alluvial wells as required under Paragraph 1 of the specific requirements. Measurements obtained for the weekly West Pit backfill wells (BF-4 and BF-5R) and alluvial wells (M-16 and M-20) are shown in Table 1. The quarterly groundwater elevations required under Paragraph 1 were also measured and are shown in Table 2. A potentiometric surface map, developed by Engineering Analytics, is shown in Figure 1. The groundwater table elevations and potentiometric map confirm that the groundwater flow gradient during the first quarter of 2023 was from the Rito Seco to the West Pit. No corrective action is required under Paragraph 1 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 1 – Weekly Groundwater Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
BF-4	01/04/2023	8579.33
	01/11/2023	8579.32
	01/18/2023	8579.29
	01/25/2023	8579.25
	02/01/2023	8579.27
	02/08/2023	8579.29
	02/15/2023	8579.38
	02/22/2023	8579.29
	03/01/2023	8579.28
	03/08/2023	8579.25
	03/15/2023	8579.25
	03/22/2023	8579.29
	03/29/2023	8579.29
BF-5R	01/04/2023	8579.09
	01/11/2023	8579.06
	01/18/2023	8579.05
	01/25/2023	8579.02
	02/01/2023	8579.04
	02/08/2023	8579.07
	02/15/2023	8579.12
	02/22/2023	8579.06
	03/01/2023	8579.03
	03/08/2023	8579.04
	03/15/2023	8579.03
	03/22/2023	8579.06
	03/29/2023	8579.08

Table 1 – Weekly Groundwater Elevations (continued)

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
M-16	01/04/2023	8602.43
	01/11/2023	8602.05
	01/18/2023	8601.73
	01/25/2023	8601.50
	02/01/2023	8601.38
	02/08/2023	8601.29
	02/15/2023	8601.18
	02/22/2023	8601.19
	03/01/2023	8601.17
	03/08/2023	8601.17
	03/15/2023	8601.23
	03/22/2023	8601.32
	03/29/2023	8601.36
M-20	01/04/2023	8580.29
	01/11/2023	8580.32
	01/18/2023	8580.33
	01/25/2023	8580.29
	02/01/2023	8580.23
	02/08/2023	8580.07
	02/15/2023	8580.10
	02/22/2023	8580.05
	03/01/2023	8580.04
	03/08/2023	8579.99
	03/15/2023	8580.00
	03/22/2023	8580.15
	03/29/2023	8580.21

Table 2 – Quarterly Groundwater Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
BF-3	01/31/2023	8578.04
BF-4	01/31/2023	8579.27
BF-5R	01/31/2023	8579.04
BF-6	01/31/2023	8578.99
M-11R	01/31/2023	8550.41
M-16	01/31/2023	8601.38
M-17	01/31/2023	8586.83
M-18	01/31/2023	8579.39
M-19	01/31/2023	8580.42
M-20	01/31/2023	8580.23
M-21	01/31/2023	8577.39
M-22	01/31/2023	8573.03
M-23	01/31/2023	8555.95
M-24	01/31/2023	8559.34
M-25	01/31/2023	DRY
M-26	01/31/2023	8543.86
M-27	01/31/2023	DRY
M-28	01/31/2023	8579.70
M-29	01/31/2023	8580.26
M-30	01/31/2023	8610.41
M-31	01/31/2023	8550.03
M-32	01/31/2023	8537.83
M-33	01/31/2023	8534.28

- 2) The weekly groundwater table elevation data shall be tabulated and reported on the quarterly BMP reports, and the data will be used to evaluate compliance with the following permit limitations.

The groundwater table elevation, based on the average of all measured values for each calendar month in the West Pit backfill groundwater monitoring wells BF-4 and BF-5, must be equal to or lower than an elevation of 8582 feet above sea level (ft. amsl).

Compliance Action Taken: Battle Mountain Resources, Inc. measured the West Pit backfill monitoring wells (BF-4 and BF-5R) weekly and the measurements are shown in Table 1. The groundwater measurements for wells BF-4 and BF-5R were averaged by calendar month and the results are shown in Table 3. The January, February, March 2023 averages were below the 8582 ft. amsl required in Paragraph 2. No corrective action is required under the Paragraph 2 requirement and schedule compliance monitoring will continue unchanged next quarter.

Table 3 – Quarterly West Pit Backfill Monthly Average Groundwater Table Elevations

Monitoring Well Identification	Month (2023)	Number of Observations	Average Monthly Groundwater Elevation (ft amsl)
BF-4	January	4	8579.30
	February	4	8579.31
	March	5	8579.27
BF-5R	January	4	8579.06
	February	4	8579.07
	March	5	8579.05

- 3) If the average monthly groundwater table elevation in the West Pit backfill for any calendar month, measured as described in the above paragraph, is greater than 8582 ft. amsl or the quarterly determination of the groundwater potentiometric surface map indicates that the flow of the groundwater is from the West Pit to the Rito Seco alluvium, the permittee shall verbally communicate such condition to WQCD within 24 hours of the determination of the condition (elevated West Pit backfill table or groundwater flow from the West Pit as indicated by the quarterly groundwater potentiometric surface map) and initiate the following compliance schedule.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the West Pit backfill monitoring wells (BF-4 and BF-5R) weekly and the calendar month average groundwater measurement elevations (Table 3) were below the 8582 ft. amsl required in Paragraph 2. The January 31, 2023, potentiometric surface map (Figure 1) shows the groundwater flow gradient was from the Rito Seco alluvium to the West Pit backfill. Therefore, site operations demonstrated the West Pit backfill groundwater level was maintained at or below an elevation of 8582 ft. amsl through the quarter. Therefore, no requirement(s) to initiate actions contained within the schedule of compliance for Section 5.3 is required.

- 4) The quality of groundwater in the vicinity of the West Pit shall be monitored on a monthly basis in the Rito Seco alluvial groundwater monitoring wells M-19, M-21, M-24 and M-11R for the purposes of monitoring the changes in the quality of the plume or affected groundwater in the Rito Seco alluvial aquifer. Groundwater quality in these monitoring wells will be analyzed for pH, temperature, total dissolved solids, calcium, sulfate, manganese, fluoride, copper, and iron for the purpose of evaluating the status of the groundwater quality in the downgradient groundwater plume. The groundwater quality data will be summarized and transmitted to the WQCD in the quarterly BMP report required under Part I, Section E.1 of this permit.

Compliance Action Taken: Battle Mountain Resources, Inc. collected monthly groundwater samples in the vicinity of the West Pit backfill area from Rito Seco alluvial monitoring wells M-19, M-21, M-24 and M-11R. No corrective action is required under the Paragraph 4 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 4 – Rito Seco Alluvial Groundwater Quality Summary

Analyte	Reporting Units	Sample Date	Monitoring Well Identifier			
			M-11R	M-19	M-21	M-24
pH	SU	01/09/2023	7.15	6.49	6.78	6.93
		02/08/2023	7.08	6.70	6.82	6.8
		03/01/2023	6.96	6.45	6.69	6.8
Temperature	°C	01/09/2023	9.3	10.6	8.1	8.3
		02/08/2023	9.0	9.9	8.0	8.1
		03/01/2023	8.8	9.4	7.5	7.5
Calcium, Total	mg/L	01/09/2023	73.1	20.8	30.9	77.9
		02/08/2023	82.0	22.0	30.5	76.0
		03/01/2023	86.4	21.3	31.6	78.5
Copper, Dissolved	mg/L	01/09/2023	LT 0.002	0.00221	LT 0.002	LT 0.002
		02/08/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
		03/01/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
Fluoride	mg/L	01/09/2023	0.843	0.822	1.31	0.831
		02/08/2023	0.886	0.942	1.36	LT 1.25
		03/01/2023	LT 1.25	0.946	1.48	LT 1.25
Iron, Dissolved	mg/L	01/09/2023	LT 0.15	LT 0.15	LT 0.15	4.06
		02/08/2023	LT 0.15	LT 0.15	LT 0.15	4.09
		03/01/2023	LT 0.15	LT 0.15	LT 0.15	4.03
Manganese, Dissolved	mg/L	01/09/2023	0.118	0.124	0.367	0.871
		02/08/2023	0.122	0.131	0.361	0.847
		03/01/2023	0.180	0.154	0.369	0.861
Sulfate	mg/L	01/09/2023	97.3	6.92	8.85	145
		02/08/2023	85.5	5.98	8.68	129
		03/01/2023	138	6.00	9.05	147
Total Dissolved Solids	mg/L	01/09/2023	308	86	128	392
		02/08/2023	318 H	100 H	136 H	394 H
		03/01/2023	384	112	140	402

H = Sample was analyzed outside of analytical holding times by the laboratory. The subsequent month sample was already collected prior to the laboratory reporting, so the sample was not recollected. Results from the January and March sampling events were consistent with February results and previous historical results.

- 5) The historical seeps were caused by the plume of affected groundwater and may, in the future, also be caused by natural variation in the flow of groundwater in the vicinity of the area where the past seeps occurred. The permittee shall conduct a monthly visual inspection of the area of historical seeps and the permittee shall report any seepage flow that is associated with the area historic seepage expression, as is identified in Figure 2 of the permit. Results of the seep monitoring shall be tabulated and summarized in the quarterly BMP report.

If these inspections identified the occurrence of seeps, the permittee will be required to communicate verbally to the WQCD within 24 hours of the seepage observation, followed by written notification within 7 calendar days of the seepage observation. Verbal updates will then be provided to the WQCD every second day thereafter until the WQCD has made a determination regarding the status of the West Pit groundwater control system through the implementation of the following compliance schedule.

Compliance Action Taken: Battle Mountain Resources, Inc. performed monthly visual seepage expression inspections in the historic seepage area identified in Figure 2 of the permit. Visual observations during these inspections are shown in Table 5. No seepage expressions were observed in the historic seepage area during the first quarter of 2023. Therefore, no verbal or written notifications were required and the implementation of the compliance schedule was not required. No corrective action is required under the Paragraph 5 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 5 – Monthly Seepage Expression Inspection Tabulation

Visual Inspection Date	Was Visual Observation of Seepage Determined in the Area of the Historic Seepage Expression	Comments
01/31/2023	No	All Dry
02/28/2023	No	All Dry
03/22/2023	No	All Dry

- 6) The BMP for the groundwater flow downgradient from the groundwater divide (see section VI.A.2 for the Rationale) that has been developed in the Rito Seco alluvial aquifer consists of a groundwater capture system in conjunction with groundwater table elevation control in the West Pit. The water management plan for the Rito Seco alluvial aquifer consists of pumping two groundwater capture wells (M-32 and M-33) located downgradient of the plume of affected groundwater. This action will allow flushing of constituents in the groundwater of the Rito Seco alluvial aquifer in that portion (plume) of the aquifer affected by previous flow of groundwater from the West Pit. Measurements of the groundwater table elevations will be taken on a weekly basis from M-32 and M-33. This data shall be tabulated and reported for outfall 002 on the quarterly BMP report, and the data will be used to evaluate compliance with the following permit limitation.

The groundwater table elevation, based on the average of all measured values for each calendar month at M-32 and M-33 in the Rito Seco alluvial aquifer, must be equal to or lower than an elevation of 8540 ft. amsl.

If the average monthly groundwater table elevations measured in the Rito Seco alluvial aquifer at M-32 and M-33 is greater than 8540 ft. amsl, the permittee shall initiate the following compliance schedule within 24 hours of the determination of groundwater table elevation exceedance.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the alluvial aquifer monitoring wells (M-32 and M-33) weekly and the resulting elevations are presented in Table 6. The groundwater elevations for wells M-32 and M-33 were averaged by calendar month and the results are shown in Table 6. The January, February, March 2023 averages were below the 8540 ft. amsl required under Paragraph 6. Therefore, site operations were in full compliance of Part I, Section 5.5 and there were no requirements(s) to initiate actions contained within the schedule of compliance for Section 5.5. No corrective action is required under Paragraph 6 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 6 – Weekly/Monthly Rito Seco Alluvial Aquifer Average Groundwater Table Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)	Month (2023)	Average Monthly Groundwater Elevation (ft amsl)
M-32	01/04/2023	8532.87	January	8535.22
	01/11/2023	8533.71		
	01/18/2023	8533.63		
	01/25/2023	8538.06		
	01/31/2023	8537.83		
	02/01/2023	8537.87	February	8533.68
	02/08/2023	8535.96		
	02/15/2023	8536.00		
	02/22/2023	8527.22		
	02/28/2023	8531.37		

Table 6 (Cont) – Weekly/Monthly Rito Seco Alluvial Aquifer Average Groundwater Table Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)	Month (2023)	Average Monthly Groundwater Elevation (ft amsl)
M-32	03/01/2023	8531.36	March	8531.11
	03/08/2023	8529.41		
	03/15/2023	8531.56		
	03/22/2023	8531.48		
	03/29/2023	8531.36		
	03/30/2023	8531.49		
M-33	01/04/2023	8535.80	January	8534.76
	01/11/2023	8536.12		
	01/18/2023	8534.49		
	01/25/2023	8533.10		
	01/31/2023	8534.28		
	02/01/2023	8534.37	February	8532.07
	02/08/2023	8534.67		
	02/15/2023	8529.92		
	02/22/2023	8531.52		
	02/28/2023	8529.88		
	03/01/2023	8530.80	March	8529.24
	03/08/2023	8528.16		
	03/15/2023	8530.43		
	03/22/2023	8529.21		
	03/29/2023	8527.77		
	03/30/2023	8529.07		

- 7) The water quality of the Rito Seco will be assessed using surface water quality collected at RS-2, as shown in Figure 3. Surface water monitoring in the Rito Seco shall be conducted at RS-2 on a monthly basis and the laboratory analytical results shall be submitted to the WQCD in the quarterly BMP report. Water quality samples collected at RS-2 shall be analyzed for the following constituents: calcium, magnesium, sodium, potassium, ammonia, total dissolved solids, total hardness, pH, total suspended solids, cyanide (WAD and total), bicarbonate, alkalinity, chloride, sulfate, nitrate-nitrite, fluoride and the total and dissolved concentrations of aluminum, arsenic, barium, boron, cadmium, copper, chromium, iron, lead, manganese, mercury, nickel, selenium, silica, silver and zinc. The following compliance schedule shall be implemented in the event that any constituent exceeds the applicable water quality standards for the Rito Seco.

Compliance Action Taken: Battle Mountain Resources, Inc. collected monthly surface water samples in January, February, March 2023 at location RS-2, as shown in Figure 3 of the permit. Results of analyses performed on these samples are shown in Table 7. The results of the laboratory analytical testing show that the applicable water quality standards were met for the Rito Seco during the months of January, February, March 2023. Site operations were in full compliance of Part I, Section 5.7 and there was no requirement(s) to initiate actions contained within the schedule of compliance for Section 5.7. Scheduled compliance monitoring will continue unchanged next quarter.

Table 7 – RS-2 Surface Water Quality Results

Analyte	Reporting Units	01/09/2023	02/08/2023	03/01/2023
Alkalinity	mg/L as CaCO ₃	61.7	47.0	58.6
Aluminum, Dissolved	mg/L	LT 0.25	LT 0.25	LT 0.25
Aluminum, Total	mg/L	LT 0.25	0.472	0.303
Ammonia as N	mg/L	LT 0.2	LT 0.2	LT 0.2
Arsenic, Dissolved	mg/L	LT 0.001	LT 0.001	LT 0.001
Arsenic, Total	mg/L	LT 0.001	LT 0.001	LT 0.001
Barium, Dissolved	mg/L	LT 0.035	LT 0.035	LT 0.035
Barium, Total	mg/L	LT 0.035	LT 0.035	LT 0.035
Bicarbonate as CaCO ₃	mg/L	61.7	47.0	58.6
Boron, Dissolved	mg/L	LT 0.1	LT 0.1	LT 0.1
Boron, Total	mg/L	LT 0.1	LT 0.1	LT 0.1
Cadmium, Dissolved	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Cadmium, Total	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Calcium, Total	mg/L	16.9	17.2	15.8
Carbonate as CaCO ₃	mg/L	LT 20	LT 20	LT 20
Chloride	mg/L	LT 2	3.70	LT 2
Chromium, Dissolved	mg/L	LT 0.002	LT 0.002	LT 0.002
Chromium, Total	mg/L	LT 0.002	LT 0.002	LT 0.002
Copper, Dissolved	mg/L	LT 0.002	LT 0.002	LT 0.002
Copper, Total	mg/L	LT 0.002	LT 0.002	LT 0.002
Cyanide, Total	mg/L	LT 0.1	0.0209 H	LT 0.01
Cyanide, WAD	mg/L	LT 0.01	LT 0.01	LT 0.01
Fluoride	mg/L	0.50	0.91	0.72 H
Hardness as CaCO ₃	mg/L	60	54	58
Iron, Dissolved	mg/L	LT 0.15	LT 0.15	LT 0.15
Iron, Total	mg/L	0.234	0.785	0.494
Lead, Dissolved	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Lead, Total	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Magnesium, Total	mg/L	4.48	4.77	4.54
Manganese, Dissolved	mg/L	LT 0.05	LT 0.05	LT 0.05
Manganese, Total	mg/L	LT 0.05	LT 0.05	LT 0.05
Mercury, Dissolved	mg/L	LT 0.001	LT 0.001	LT 0.001
Mercury, Total	mg/L	LT 0.001	LT 0.001	LT 0.001
Nickel, Dissolved	mg/L	LT 0.001	LT 0.04	LT 0.04
Nickel, Total	mg/L	LT 0.04	LT 0.04	LT 0.04
Nitrate+Nitrite as N	mg/L	0.112	LT 0.1	0.109
pH	SU	7.06	7.38	6.49
Potassium, Total	mg/L	LT 1	1.01	1.04
Selenium, Dissolved	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Selenium, Total	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Silica, Total	mg/L	10.9	9.6	12.8
Silver, Dissolved	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Silver, Total	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Sodium, Total	mg/L	4.06	9.97	5.89
Sulfate	mg/L	5.88	24.3	12.3
Total Dissolved Solids	mg/L	76	102 H	98
Total Suspended Solids	mg/L	LT 20	LT 20	LT 20
Zinc, Dissolved	mg/L	LT 0.05	LT 0.05	LT 0.05
Zinc, Total	mg/L	LT 0.05	LT 0.05	LT 0.05

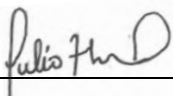
H = Sample was analyzed outside of analytical holding times by the laboratory. The subsequent month sample was already collected prior to the laboratory reporting, so the sample was not recollected.

- 8) If any component of the groundwater control system is not performing within the limits set forth in this permit, the permittee will be required to initiate appropriate compliance schedule activities, including the preparation of a response plan, for any and all components of the groundwater control system that do not meet the applicable requirements. The permittee shall also conduct weekly sampling at RS-2 until such time as the other compliance schedule activity(ies) have been completed.

Compliance Action Taken: *As demonstrated by the information and data presented in this report, all components of the groundwater control system performed within the limits set forth in the permit. Therefore, site operations were in full compliance of Part I, Section 8 and there was no requirement(s) to initiate actions contained within the schedule of compliance for Section 8.*

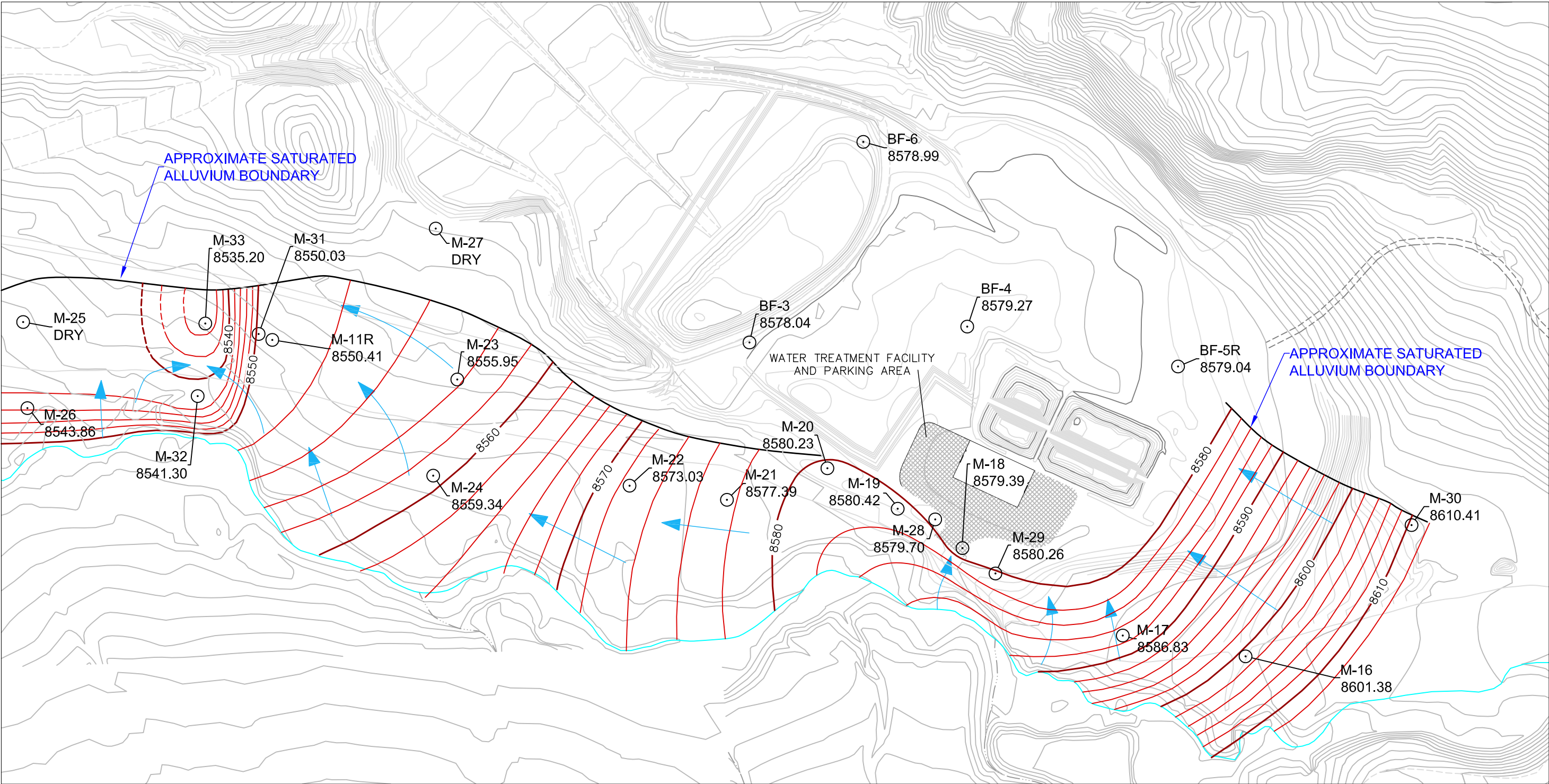
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Julio Madrid

Signature: 

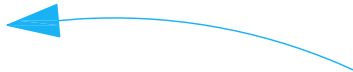
Date: April 26, 2023

0:_05 San Luis\POTENTIOMETRIC MAPS\GW Map 2023 1st qtr\Groundwater 2023 1st Qtr.dwg SAVED: 4/23/23 PRINTED: 4/24/23

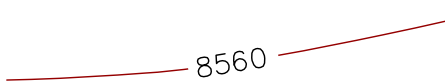


SCALE IN FEET
0 200

KEY



GROUND WATER FLOW
DIRECTION



LINE OF EQUIPOTENTIAL
HYDRAULIC HEAD



M-23
8555.72

WELL NAME

WATER LEVEL



SAN LUIS PROJECT



Engineering Analytics, Inc.

ISSUED BY
Drawn By: RDP
Designed By: AF
Approved By: AF
Date: 4/24/2023
Project: 21010506
Scale: 1" = 200'
Sheet Number:

1

ALLUVIAL GROUND WATER
POTENTIOMETRIC SURFACE MAP
FIRST QUARTER (JANUARY 2023)

NO	REVISION DESCR.	DATE	BY
A			
B			
C			
1			
2			

DESIGNED AND SPECIFICATIONS BY
ENGINEERING ANALYTICS, INC.
STATED IN THE TITLE BLOCK. IT MAY
NOT BE REPRODUCED OR USED FOR OTHER
PROJECTS. ANY OTHER USE OF THE
MAPS WITHOUT THE WRITTEN
CONSENT OF THE ENGINEER, IS
PROHIBITED.



January 27, 2023

Julio Madrid
Battle Mountain Resources, Inc.
P.O. Box 310
San Luis, CO 81152

Dear Julio:

Enclosed is the report for chronic biomonitoring tests performed for Battle Mountain Resources, Inc. on effluent from the 001B outfall. There was no statistically significant toxicity to either test species at any effluent concentration. The effluent passes WET (Whole Effluent Toxicity) testing requirements for this sampling period.

If you have any questions or concerns, please do not hesitate to contact me at (303) 661-9324.

Best regards,

Haley West
Laboratory Manager
Enclosure(s): Invoice
Report

**REPORT OF CHRONIC BIOMONITORING TESTS
CONDUCTED FOR
BATTLE MOUNTAIN RESOURCES, INC.
ON EFFLUENT FROM
THE 001B OUTFALL**

Prepared for:

Julio Madrid
Battle Mountain Resources, Inc.
P.O. box 310
San Luis, CO 81152

Prepared by:

Haley West
SeaCrest Group
500 S Arthur Ave. Suite 450
Louisville, Colorado 80027-3065
(303) 661-9324

January 27, 2023

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Chronic Toxicity Test Summary

Test:	7-day static renewal using <i>Ceriodaphnia dubia</i> 7-day static renewal using fathead minnow (<i>Pimephales promelas</i>)
Client:	Battle Mountain Resources, Inc.
Test Procedure Followed:	<i>Ceriodaphnia dubia</i> : EPA/821/R-02-013. Method 1002.0 (2002) fathead minnow: EPA/821/R-02-013. Method 1000.0 (2002)
Sample Number:	423029.B
Dilution Water:	moderately hard laboratory reconstituted water
Test Organism Source:	SeaCrest Group
Reference Toxicant:	Sodium Chloride

Sample	Time of Collection	Date of Collection	Time of Receipt	Date of Receipt
Effluent 1	0600	01-16-2023	1135	01-16-2023
Effluent 2	0800	01-18-2023	0945	01-19-2023
Effluent 3	0600	01-20-2023	1050	01-20-2023

	<i>Ceriodaphnia dubia</i>	fathead minnow
Test Initiation Time	1315	1530
Test Initiation Date	01-16-2023	01-16-2023
Test Completion Time	1330	1500
Test Completion Date	01-22-2023	01-23-2023

Abstract with Results

Test Concentrations: Control (0%), 13%, 26%, 52%, 76%, 100%

Number of Organisms/Concentration: 10 for *Ceriodaphnia dubia*
40 for fathead minnow

Replicates at each Concentration: 10 for *Ceriodaphnia dubia*
4 for fathead minnow

	<i>Ceriodaphnia dubia</i>	fathead minnow
Test vessel size/Exposure volume	30ml/15ml	500ml/200ml
Sub-lethal NOEL/IC25	100%/>100%	100%/>100%
Pass/Fail Status	PASS	PASS
Temperature Range (°C)	24.1 – 25.9	24.1 – 25.5
Dissolved Oxygen Range (mg/L)	6.9 – 8.2	4.0 – 8.4
pH Range	7.6 – 8.0	7.2 – 8.1
	Control (Cerio/FHM)	Effluent Sample
Hardness (mg/L as CaCO ₃)	88/93	54/47/31
Alkalinity (mg/L as CaCO ₃)	59/57	29/71/38
Total residual chlorine (mg/L)	<0.01	<0.01
Total ammonia (mg/L as NH ₃)	<0.03	0.07/<0.03/0.03

INTRODUCTION

Biomonitoring provides an effective means by which the toxicity of discharges from municipal, industrial, and mining operations can be tested. Among the advantages of biomonitoring is the ability to test complex effluents containing a broad range of contaminants. Biomonitoring, when used in conjunction with chemical analyses, can generate data capable of identifying a much wider range of contaminants.

The Colorado Water Quality Control Division requires certain NPDES permittees to perform acute and/or chronic biomonitoring tests. The chronic test measures significant differences in lethality and in reproduction (*Ceriodaphnia dubia*) or growth (fathead minnow – *Pimephales promelas*) between control and effluent-exposed organisms.

The present report discusses the results of chronic biomonitoring tests conducted on effluent from the Battle Mountain Resources, Inc. 001B discharge. These tests were conducted in accordance with EPA and State of Colorado procedures in January 2023.

MATERIALS AND METHODS

Sample Collection

Two gallons of the effluent were collected on three separate dates as specified in Permit CO-0045675. Samples were delivered chilled to the SeaCrest lab where they were held at 0-6°C. Chain of custody forms showing sample collection and laboratory arrival times are included (Appendix 1).

Dilution Water

Laboratory reconstituted water was used as both the dilution water source and the control for the tests. Reconstituted water for the *Ceriodaphnia dubia* test was produced by adding sodium bicarbonate, calcium sulfate, magnesium sulfate, potassium chloride, and sodium selenate to deionized water. Reconstituted water for the fathead minnow test was produced by adding sodium bicarbonate, calcium sulfate, magnesium sulfate, and potassium chloride to deionized water.

Test Organisms

The biomonitoring test used *Ceriodaphnia dubia*, cultured in the SeaCrest laboratory. The organisms are cultured in brood culture boards from which individual females are monitored for survival and reproduction for periods of up to two weeks. Neonates less than 24-hours old, released from third or subsequent broods of eight or more within an 8-hour period, are collected from the brood chambers and used in tests. The animals are fed daily with a mixture of Yeast, Cereal Leaves, and Trout Chow (YCT), produced in-house. This is supplemented with cultured green algae (*Selenastrum capricornutum*) provided by Aquatic Biosystems.

Less than one-day-old fathead minnow, cultured in the laboratory, were also used in the test. Adult fish are maintained in 10-gallon aquaria where females deposit their eggs on the under-surface of split PVC pipe sections. The eggs are collected daily and transferred to aerated containers where they hatch after three to four days. The larval fish are fed newly hatched brine shrimp (*Artemia* sp.) at least twice per day.

In-house organisms are tested monthly in a reference toxicant test using sodium chloride to monitor overall health and test reproducibility (Appendix 4).

Test Procedures

Upon receipt at the lab, samples were analyzed for alkalinity, ammonia, chlorine, conductivity, dissolved oxygen, hardness, and pH.

Methods used in chemical analysis

Alkalinity	EPA 310.2	Hach 8203	I-2030-85.2
Ammonia	SM4500-NH ₃ , C-E1997	ASTM D1426-08	
Chlorine	SM4500-Cl D	Hach 10026	
Conductivity	SM2510		
Dissolved Oxygen	SM4500-O	Electrode: G-2001	Winkler (QC): B-F-2001
Hardness	SM2340 B or C	Hach 8213	
pH	SM4500-H+ B-2000		

The test followed procedures in EPA³ and CDPHE⁴ guidelines. Exposure concentrations included control (0%), 13%, 26%, 52%, 76%, and 100% mixtures, diluted with moderately hard laboratory reconstituted water.

Individual *Ceriodaphnia dubia* were placed in 30ml plastic containers containing approximately 15ml of exposure medium. Ten replicates at each concentration were used. The animals were fed daily with the YCT mixture and an equal volume of the green algae (*Selenastrum capricornutum*). The exposure medium was changed daily in each container and the number of young released overnight were counted and recorded. Young were removed from the containers daily and discarded. Routine measurements were made each day of temperature, dissolved oxygen, and pH before and after the water changes.

Fathead minnow were exposed in 500ml plastic cups to which 250ml of media was replaced daily. Four replicates were used at each concentration. Ten fish, less than 24-hours old, were placed in each cup. The fish were monitored daily for survival and fed live brine shrimp at least twice per day. After seven days, the fish were removed from the cups, euthanized with isopropyl alcohol, and then placed in aluminum pans and dried in an oven for a minimum of six hours at 100°C. The pans were then weighed on a five-place analytical balance to determine the average dry weight of the fish from each replicate.

Data Analysis

Data from the tests were analyzed on a personal computer using the CETIS program (developed by Tidepool Scientific Software). Statistical tests used in the analyses are shown in Table 1. Test acceptability was determined using control survival and reproduction/growth criteria, concentration-response relationships, and percent minimum significant differences (USEPA ^{5,6}).

Table 1. Statistical methods used in testing for significant differences in test parameters.

Variance		Distribution		
Bartlett Equality of Variance Test		Shapiro-Wilk W Normality Test		
Statistical Difference				
Species	Survival	Growth	Reproduction	IC ₂₅
<i>Ceriodaphnia dubia</i>	N/A	N/A	Dunnett Multiple Comparison Test	IC _p
fathead minnow	Steel Many-One Rank Sum Test	Dunnett Multiple Comparison Test	N/A	IC _p

RESULTS

Ceriodaphnia dubia Test Results

Test results for the *Ceriodaphnia dubia* are summarized in Table 2 and provided on the data sheets located in Appendix 2. Survival was 100% in the 100% effluent and was 100% in the remaining effluent concentrations. Control survival was 100%. No statistically significant lethality was measured in any effluent concentration when compared to the control. The NOEL (No Observed Effect Level) for lethality was 100% and the LC₂₅ (Lethal Concentration 25) for lethality was >100%.

Average number of neonates was 21.2 in the 100% effluent concentration and ranged from 22.6 – 24.6 in the remaining effluent concentrations. Average number of neonates in the control was 23.4 for statistical analyses and test acceptability criteria. No statistically significant differences in the number of neonates were found between the control and any effluent concentration. The NOEL for reproduction was 100% and the IC₂₅ (Inhibition Concentration 25) for reproduction was >100%.

Table 2. Summary of *Ceriodaphnia dubia* test results. An asterisk (*) denotes a statistically significant difference from the control.

Concentration	Percent Survival	Mean Neonates	Min.	Max.	Significant Difference	
					Lethality	Reprod.
Control (0%)	100	23.4	10	30		
13%	100	23.7	17	30		
26%	100	23.5	18	29		
52%	100	24.6	20	28		
76%	100	22.6	16	31		
100%	100	21.2	15	26		

Fathead Minnow Test Results

Fathead minnow results are summarized in Table 3 and are provided on data sheets in Appendix 3. Survival was 98% in the 100% effluent concentration and was 100% in the remaining effluent concentrations. Control survival was 98%. No statistically significant lethality was measured in any effluent concentration when compared to the control. The NOEL for lethality was 100% and the LC₂₅ for lethality was >100%.

Average weight in the 100% effluent concentration was 0.402mg and ranged from 0.349mg - 0.411mg per individual in the remaining effluent concentrations. Average weight for the control fish was 0.424mg for statistical analyses and test acceptability criteria. No statistically significant differences for growth were measured in any effluent concentration when compared to the control. The NOEL for growth was 100% and the IC₂₅ for growth was >100%.

Table 3. Summary of fathead minnow test results. An asterisk (*) denotes a statistically significant difference from the control.

Concentration	Percent Survival	Average Weight (mg)	Min.	Max.	Significant Difference	
					Lethality	Growth
Control (0%)	98	0.424	0.393	0.458		
13%	100	0.349	0.281	0.413		
26%	100	0.380	0.369	0.389		
52%	100	0.411	0.378	0.441		
76%	100	0.369	0.326	0.388		
100%	98	0.402	0.372	0.423		

Test Acceptability

Acceptable control survival (80%) was achieved in both tests. Similarly, *Ceriodaphnia dubia* reproduction (average 15 neonates/organism) and fathead minnow growth (average 0.250mg/test container) in control organisms met required levels. PMSD was within the required limits for an acceptable test (Table 4).

Table 4. PMSD for chronic test parameters.

PMSD (% Minimum significant difference)	fathead minnow growth		<i>C. dubia</i> reproduction	
	Lower bound	Upper bound	Lower bound	Upper bound
	12	30	13	47
	14.5		17.8	

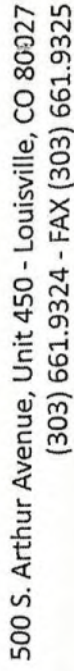
DISCUSSION

A failed test for this discharge occurs when there is an NOEL or IC₂₅ less than the IWC (Instream Waste Concentration) of 52%. The NOEL represents the highest effluent concentration at which no statistically significant effect is observed. The IC₂₅ represents an estimate of the effluent concentration that would cause a 25 percent reduction of a non-quantal biological measurement. A violation for this discharge occurs when both the NOEL and the IC₂₅ are less than the IWC. Since neither test species demonstrated statistically significant differences meeting these criteria, the discharge passes WET testing requirements for this sampling period.

REFERENCES

1. **Hach Chemical Company.** 2008. *Hach's Water Analysis Handbook*. Fifth Edition. Hach Chemical Company, Loveland, Colorado. Digital Medium.
2. **APHA/AWWA/WEF.** 1998. *Standard Methods for the Examination of Water and Wastewater*. 20th Edition. American Public Health Association, Washington, D.C.
3. **USEPA.** 2002. *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*. EPA-821-R-02-013. 335 pp.
4. **CDPHE (Colorado Department of Public Health and Environment).** 1998. *Laboratory Guidelines for Conducting Whole Effluent Toxicity Tests*. Water Quality Control Division.
5. **USEPA.** 2000. *Method of Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR Part 136). EPA/821/B-00/004.
6. **USEPA.** 2000. *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the National Pollutant Discharge Elimination System Program*. EPA/833/R-00/003.

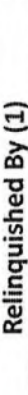
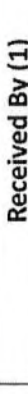

Appendix 1 – Chain of Custody with Sample Receipt Forms



Analysis (Check all applicable)

[illegible]

Turnaround Requirements (Analytical Testing Only)	
Test Species:	<input type="checkbox"/> Fathead Minnow <input type="checkbox"/> Cerio daphnia <input type="checkbox"/> Daphnia magna <input type="checkbox"/> Daphnia pulex <input type="checkbox"/> Other (List Below)

Relinquished By (1)		Received By (1)		Relinquished By (2)		Received By (2)	
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
	116123 0600		116123 1135				

Sample Receipt Form

Project # 423 029.B

Date: 01/16/23

Samples Were:

1. FedEx UPS Courier

Notes:

2. Chilled to Ship

3. Cooler Received Broken or Leaking

Notes:

4. Sample Received Broken or Leaking

Notes:

5. Received Within 36hr Holding Time

Notes:

6. Aeration necessary

7. pH adjustment necessary

8. Sample Received at Temperature between 0-6° C .

Notes: same day sample

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: clear, no. pm

Receiving: N/A

Presence of native species:

Sample #: 1

Initials: LR

Hand Delivery (circle one)

Ambient Chilled

Y N NA

Y N

Y N

Y N

Y N

Y N NA

Y N

Lab #	Temp	D.O.	pH	Cond
029.B#	8.2°C	8.2	7.8	244

Custody Seals:

1. Present on Outer Package
2. Unbroken on Outer Package
3. Present on Sample
4. Unbroken on Sample

Y
Y
Y
Y

N
N
N
N

NA
NA

Custody Documentation (Chain of Custody):

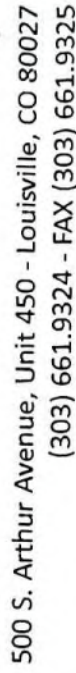
1. Present Upon Receipt of Sample

Y

N

ec-LR

W



0800	0800
------	------

Analysis (Check all applicable)

P. O./Project Number: <u>San Luis</u>			
Contact: <u>Julio Madrid</u>			
Address: <u>P.O. BOX 310 San Luis, Co 81152</u>			
Phone # <u>719-379-0827</u>		E-Mail: <u>David.Carino@clearmont.com</u>	
Fax # <u>N/A</u>		Sampler: <u>David S Carino</u>	
Report By: <input checked="" type="checkbox"/> Mail <input type="checkbox"/> PDF <input type="checkbox"/> FAX			
Sample Location or ID	Date	Time	Grab/Comp
<u>W.E.T. Test</u>	<u>1/18/23</u>	<u>0800</u>	<u>Comp</u>
Lab ID <u>4230298#2</u>			
WET: Acute (Indicate Below)			
WET: Chronic (Indicate Below)			
WET: Accelerated (Indicate Below)			
WET: PTI/TIE/TRE (Indicate Below)			
Metals (List Below)			
Solids (TS/TDS/TSS) (Circle)			
Anions (List Below)			
Chromium III/VI (Circle)			
Oil and Grease			
Coliform (Total/Fecal/E-Coli) (Circle)			
BOD/COD (Circle)			
Other Analysis (List Below)			
Number of Containers			
Total Volume			

Test Species: ☒ Fathead Minnow ☒ Cerio daphnia ☐ Daphnia magna ☐ Daphnia pulex ☐ Other (List Below)

Special Instructions/Comments:

Requested Report Date:

Received By (1)

Relinquished By (2)

Received By (2)

Signature

Date/Time

Signature _____

Signature _____

113

David & Lucine

11/18/23

505

vis

Signature

Date/Time
1/19/23

Sample Receipt Form

Project # **423** 029.B

Date: 9/19/23

Samples Were:

1. FedEx UPS Courier

Notes:

2. Chilled to Ship

3. Cooler Received Broken or Leaking

Notes:

4. Sample Received Broken or Leaking

Notes:

5. Received Within 36hr Holding Time

Notes:

6. Aeration necessary

7. pH adjustment necessary

8. Sample Received at Temperature between 0-6° C .

Notes:

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent:

Receiving: N/A

Presence of native species:

Sample #: 2

Initials: SW

Hand Delivery (circle one)

Ambient Chilled

Y N NA

Y N

Y N

Y N

Y N

Y N NA

clear, no visible pm

Y N

Lab #	Temp	D.O.	pH	Cond
<u>029.B</u>	<u>4.9</u>	<u>7.8</u>	<u>7.9</u>	<u>253</u>

Custody Seals:

1. Present on Outer Package

Y N

2. Unbroken on Outer Package

Y N NA

3. Present on Sample

Y N

4. Unbroken on Sample

Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y N

SW

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 490 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 1-18-23 Circle One: M ☒ F

Sampling Personnel: R. Lucero, D. Carino, A. Taylor, S. Maestas

~3 Hour Time 0900 Observation good water flow, power on to sampler, Sample Container on ice

~6 Hour Time 1200 Observation good water flow, power on to sampler, Sample Container on ice

~9 Hour Time 1500 Observation good water flow, power on to sampler, Sample Container on ice

~12 Hour Time 1800 Observation good water flow, power on to sampler, Sample Container on ice

~15 Hour Time 2100 Observation good water flow, power on to sampler, Sample Container on ice

~18 Hour Time 2400 Observation good water flow, power on to sampler, Sample Container on ice

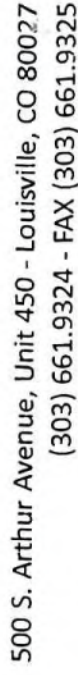
~21 Hour Time 0300 Observation good water flow, power on to sampler, Sample Container on ice

~24 Hour Time 0600 Observation good water flow, power on to sampler, Sample Container on ice

Volume sent to lab 2 gallons

Total Volume Collected 4 gallons
 Samples packed on ice ☒
 Completed COC ☒
 Cooler Sealed ☒
 Unsampled per time ☒

~~DATE Delivered~~
 UPS Delivered ☒

[illegible]

Analysis (Check all applicable)

[illegible]

Test Species: ☒ Fathead Minnow ☐ Cerio daphnia ☐ Daphnia magna ☐ Daphnia pulex ☐ Other (List Below)

Special Instructions/Comments:

outfall - 001B

Received By (1)	Relinquished By (2)	Received By (2)
-----------------	---------------------	-----------------

	Date/Time	Signature	Date/Time	Signature	Date/Time

01/2023

1	2607			
---	------	--	--	--

Sample Receipt Form

Project # 423 029-B

Date: 01/20/23

Samples Were:

1. FedEx UPS Courier

Notes:

2. Chilled to Ship

3. Cooler Received Broken or Leaking

Notes:

4. Sample Received Broken or Leaking

Notes:

5. Received Within 36hr Holding Time

Notes:

6. Aeration necessary

7. pH adjustment necessary

8. Sample Received at Temperature between 0-6° C .

Notes: sameday sample

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: clear, no PM

Receiving: N/A

Presence of native species:

Sample #: 3

Initials: JM

Hand Delivery (circle one)

Ambient Chilled

Y N NA

Y N

Y N

Y N

Y N

Y N NA

Y N

Lab #	Temp	D.O.	pH	Cond
<u>423 029-BH3</u>	<u>6-8</u>	<u>7.6</u>	<u>7.7</u>	<u>246</u>

Custody Seals:

1. Present on Outer Package	Y	<u>N</u>	
2. Unbroken on Outer Package	Y	N	<u>NA</u>
3. Present on Sample	Y	<u>N</u>	
4. Unbroken on Sample	Y	N	<u>NA</u>

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample	<u>Y</u>	N
-----------------------------------	----------	---

JM

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 480 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 1-20-23 Circle One: M W F

Sampling Personnel: S. Maestas, D. Carino, R. Lucero, A. Taylor

~3 Hour Time 0900 Observation good water flow, power on to sampler, sample container on ice
 ~6 Hour Time 1200 Observation good water flow, power on to sampler, sample container on ice
 ~9 Hour Time 1500 Observation good water flow, power on to sampler, sample container on ice
 ~12 Hour Time 1800 Observation good water flow, power on to sampler, sample container on ice
 ~15 Hour Time 2100 Observation good water flow, power on to sampler, sample container on ice
 ~18 Hour Time 2400 Observation good water flow, power on to sampler, sample container on ice
 ~21 Hour Time 0300 Observation good water flow, power on to sampler, sample container on ice
 ~24 Hour Time 0600 Observation good water flow, power on to sampler, sample container on ice

Volume sent to lab 2 gallons

Total Volume Collected 4 gallons

Samples packed on ice ☒

Completed COC ☒

Cooler Sealed ☒

~~_____~~
 BmRT Delivered ☒

Appendix 2 – Data Sheets for the *Ceriodaphnia dubia* Test

Client: BMRI
Site: 001B

CO-0045675

SCG Project No.: 423029.B
Project: Quarterly WET

WET TEST REPORT FORM – CHRONIC

Permittee: Battle Mountain Resources, Inc.
Permit No.: CO-0045675
Outfall: 001B – IWC: 52%
Test Type: Routine ☒ Accelerated ☐ Screen ☐
Test Species: *Ceriodaphnia dubia*

Test Start Time	Test Start Date	Test End Time	Test End Date
1315	01-16-2023	1330	01-22-2023

Test Results	Lethality/TCP3B	Reproduction/TKP3B
S code: NOEL	100%	100%
	PASS	PASS
P code: LC ₂₅ /IC ₂₅	>100%	>100%
	PASS	PASS
T code:	>100%	>100%

Test Summary

Measurements	Control (0%)	13%	26%	52%	76%	100%
Exposed organisms	10	10	10	10	10	10
Survival for day 1	10	10	10	10	10	10
Survival for day 2	10	10	10	10	10	10
Survival for day 3	10	10	10	10	10	10
Survival for day 4	10	10	10	10	10	10
Survival for day 5	10	10	10	10	10	10
Survival for day 6	10	10	10	10	10	10
Mean 3 Brood Total	23.4	23.7	23.5	24.6	22.6	21.2

Hardness (mg/L) – Receiving Water: N/A Effluent: 54/47/31 Recon Water: 88
Alkalinity (mg/L) – Receiving Water: N/A Effluent: 29/71/38 Recon Water: 59
Chlorine (mg/L) – Effluent: <0.01 pH (initial/final) – Control: 7.9/7.8 100%: 7.8/7.8
Total Ammonia as NH₃ (mg/L) - Effluent: 0.07/<0.03/0.03

Were all Test Conditions in Conformance with Division Guidelines? YES ☒ NO ☐

If **NO**, list deviations from test specifications: N/A

Laboratory: SeaCrest Group

Comments:

Analyst's Name: Lindsay Rutherford, Haley West, Julie McKenney, and Daniela Thornton

Signature

Haley West

Date

January 27, 2023

Permittee: BMRI

Lab #: 423029.B

Site: 001B

IWC #: 52 Template #: 5

Dilution Water: MH23-001

Sample Date: 011623

Age & Source: 011623 1133

Test Start: 011623 1315

Test End: 012223 1330

Test Conditions:

	0	1	2	3	4	5	6	7	Total
(C)	0	0	0	0	4	6	0		10
	0	0	0	4	8	0	12		24
	0	0	0	0	6	10	13		29
	0	0	0	0	4	11	15		29
	0	0	0	0	5	6	13		24
	0	0	0	4	4	8	11		23
	0	0	0	0	0	9	15		28
	0	0	0	0	0	8	11		19
	0	0	0	0	0	10	13		23
	0	0	0	0	6	12	6		24
DO	7.2	7.5	7.6	7.0	7.1	7.1	7.3	7.5	6.9
Temp	24.6	24.8	24.6	25.5	25.1	24.5	24.1	24.9	24.1
pH	7.9	7.9	8.0	7.8	8.0	7.9	8.0	7.8	7.9
Cond	303	310	295	305	299	295			
(1)	0	0	0	0	4	8	12		24
	0	0	0	4	7	0	10		21
	0	0	0	0	6	8	16		30
	0	0	0	0	6	9	13		28
	0	0	0	0	4	6	11		21
	0	0	0	0	4	7	12		23
	0	0	0	2	5	0	10		17
	0	0	0	5	0	7	10		22
	0	0	0	0	4	9	9		22
	0	0	0	0	4	10	15		29
DO	7.4	7.5	7.6	7.0	7.2	7.1	7.4	7.5	7.0
Temp	24.6	24.8	24.6	25.5	25.1	24.5	24.2	24.9	24.1
pH	7.9	7.9	7.9	7.8	8.0	7.9	8.0	7.8	7.9
Cond	294	300	287	293	288	281			
(2)	0	0	0	0	4	7	9		20
	0	0	0	2	8	0	9		19
	0	0	0	0	5	9	15		29
	0	0	0	0	7	7	14		28
	0	0	0	0	5	5	15		25
	0	0	0	0	3	6	11		20
	0	0	0	0	4	0	13		18
	0	0	0	5	0	6	13		24
	0	0	0	0	4	8	14		26
	0	0	0	0	4	10	12		26
DO	7.6	7.5	7.1	7.1	7.3	7.1	7.5	7.6	7.2
Temp	24.6	24.8	24.6	25.5	25.1	24.5	24.4	24.9	24.1
pH	7.9	7.9	7.9	7.8	8.0	7.9	8.0	7.8	7.9
Cond	286	291	283	286	281	271			
(3)	0	0	0	0	4	8	13		25
	0	0	0	4	7	0	13		25
	0	0	0	0	5	8	15		28
	0	0	0	0	6	9	10		25
	0	0	0	0	2	7	12		21
	0	0	0	0	4	8	13		25
	0	0	0	1	9	0	14		24
	0	0	0	5	0	10	10		25
	0	0	0	0	5	8	15		28
	0	0	0	0	1	7	12		20
DO	7.8	7.6	7.7	7.1	7.4	7.0	7.6	7.3	7.1
Temp	24.6	24.8	24.6	25.5	25.1	24.5	24.4	24.9	24.1
pH	7.9	7.9	7.8	7.8	8.0	7.9	8.0	7.8	7.9
Cond	273	274	269	275	269	261			

30

23.4

23.7

23.5

24.6

	0	1	2	3	4	5	6	7	Total
(4)	0	0	0	0	6	11	14		31
76	0	0	0	0	6	0	10		16
	0	0	0	0	5	7	13		25
	0	0	0	0	3	9	11		23
	0	0	0	0	4	7	12		23
	0	0	0	0	5	8	13		26
	0	0	0	4	0	7	6		17
	0	0	0	4	0	7	10		21
	0	0	0	0	4	9	10		23
	0	0	0	0	3	7	11		21
DO	8.0	7.6	7.8	7.2	7.5	7.0	7.7	7.2	
Temp	24.6	24.8	24.6	25.5	25.1	24.5	24.7	24.9	24.1
pH	7.8	7.9	7.8	7.8	7.9	7.9	7.7	7.6	7.8
Cond	258	259	255	263	258	249	249		
(5)	0	0	0	0	4	8	9		21
100	0	0	0	0	4	0	10		20
	0	0	0	0	4	11	11		26
	0	0	0	0	5	8	11		24
	0	0	0	0	5	5	9		19
	0	0	0	0	5	5	12		22
	0	0	0	3	0	9	9		21
	0	0	0	0	4	6	5		15
	0	0	0	0	3	8	12		23
	0	0	0	0	4	8	9		21
DO	8.2	7.6	7.8	7.2	7.6	7.0	7.8	7.1	8.0
Temp	24.6	24.8	24.6	25.5	25.1	24.5	24.8	24.9	24.1
pH	7.8	7.9	7.8	7.8	7.8	7.9	7.9	7.7	7.8
Cond	244	245	244	253	246	240			
Algae	ABS	ABS	ABS	ABS	ABS	ABS			
YCT	2209	2209	2209	2209	2209	2209			
H ₂ O	1	1	1	2	3	2			
Initials	UR	UR	HW	JM	DT	JM	UR		
	Eff #1	Eff #2	Eff #3	Recon					
Hardness	54	47	31	88					
Alkalinity	79	71	38	59					
Chlorine	10.01	10.01	10.01	10.01					
Ammonia	0.07	0.03	0.03	0.03					

Exposure Chamber: Total Capacity: 30mL
Total Solution Volume: 15mL

Feeding Schedule: Fed daily
Food used: YCT, Algae

Units:
DO: mg/L
Temp: °C
pH: N/A
Cond: µS/cm³

Hardness: mg/L
Alkalinity: mg/L
Chlorine: mg/L
Ammonia: mg/L

Comments: Active and mobile

x:y:z = board #:row:column

1	2	3	4	5	6	7	8	9	10
C1	C2	C3	C4	C5	C6	C8	C9	C10	D1

CETIS Analytical Report

Report Date: 23 Jan-23 15:13 (p 1 of 1)
Test Code/ID: 423029CD / 05-8876-0205

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 19-7191-6752	Endpoint: Reproduction	CETIS Version: CETISv1.9.6
Analyzed: 23 Jan-23 15:13	Analysis: Parametric-Control vs Treatments	Status Level: 1
Batch ID: 02-4430-3640	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 16 Jan-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 22 Jan-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 10-1693-5936	Code: 423029.B	Project: WET Quarterly Compliance Test (1Q)
Sample Date: 16 Jan-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 16 Jan-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	100	>100	n/a	1	17.82%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	-0.1647	2.289	4.169	18	CDF	0.8777	Non-Significant Effect
		26	-0.05491	2.289	4.169	18	CDF	0.8491	Non-Significant Effect
		52	-0.659	2.289	4.169	18	CDF	0.9600	Non-Significant Effect
		76	0.4393	2.289	4.169	18	CDF	0.6722	Non-Significant Effect
		100	1.208	2.289	4.169	18	CDF	0.3263	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	66.9333	13.3867	5	0.8073	0.5495	Non-Significant Effect
Error	895.4	16.5815	54			
Total	962.333		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	6.91	15.09	0.2274	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9684	0.9459	0.1218	Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	23.4	19.29	27.51	24	10	30	1.815	24.52%	0.00%
13		10	23.7	20.76	26.64	22.5	17	30	1.3	17.35%	-1.28%
26		10	23.5	20.67	26.33	24.5	18	29	1.249	16.81%	-0.43%
52		10	24.6	22.78	26.42	25	20	28	0.8055	10.35%	-5.13%
76		10	22.6	19.51	25.69	23	16	31	1.368	19.14%	3.42%
100		10	21.2	19.07	23.33	21	15	26	0.9404	14.03%	9.40%

CETIS Analytical Report

Report Date: 23 Jan-23 15:13 (p 2 of 2)
Test Code/ID: 423029CD / 05-8876-0205

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 02-9574-7104	Endpoint: Reproduction	CETIS Version: CETISv1.9.6
Analyzed: 23 Jan-23 15:13	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 02-4430-3640	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 16 Jan-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 22 Jan-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 10-1693-5936	Code: 423029.B	Project: WET Quarterly Compliance Test (1Q)
Sample Date: 16 Jan-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 16 Jan-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	914859	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	75.8	6.319	n/a	1.319	n/a	15.83
IC10	96.23	12.64	n/a	1.039	n/a	7.913
IC15	>100	n/a	n/a	<1	n/a	n/a
IC20	>100	n/a	n/a	<1	n/a	n/a
IC25	>100	n/a	n/a	<1	n/a	n/a
IC40	>100	n/a	n/a	<1	n/a	n/a
IC50	>100	n/a	n/a	<1	n/a	n/a

Reproduction Summary

Calculated Variate

Isotonic Variate

Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	Mean	%Effect
0	D	10	23.4	10	30	5.739	24.52%	0.0%	23.8	0.0%
13		10	23.7	17	30	4.111	17.35%	-1.28%	23.8	0.0%
26		10	23.5	18	29	3.951	16.81%	-0.43%	23.8	0.0%
52		10	24.6	20	28	2.547	10.35%	-5.13%	23.8	0.0%
76		10	22.6	16	31	4.326	19.14%	3.42%	22.6	5.04%
100		10	21.2	15	26	2.974	14.03%	9.4%	21.2	10.92%

Appendix 3 – Data Sheets for the Fathead Minnow Test

WET TEST REPORT FORM – CHRONIC

Permittee: Battle Mountain Resources, Inc.
Permit No.: CO-0045675
Outfall: 001B – IWC: 52%
Test Type: Routine ☒ Accelerated ☐ Screen ☐
Test Species: fathead minnow

Test Start Time	Test Start Date	Test End Time	Test End Date
1530	01-16-2023	1500	01-23-2023

Test Results	Lethality/TCP6C	Growth/TKP6C
S code: NOEL	100%	100%
	PASS	PASS
P code: LC ₂₅ /IC ₂₅	>100%	>100%
	PASS	PASS
T code:	>100%	>100%

Test Summary

Measurements	Control (0%)	13%	26%	52%	76%	100%
Exposed organisms	40	40	40	40	40	40
Survival for day 1	39	40	40	40	40	40
Survival for day 2	39	40	40	40	40	40
Survival for day 3	39	40	40	40	40	40
Survival for day 4	39	40	40	40	40	40
Survival for day 5	39	40	40	40	40	40
Survival for day 6	39	40	40	40	40	40
Survival for day 7	39	40	40	40	40	39
Mean Dry Wt. (mg)	0.424	0.349	0.380	0.411	0.369	0.402

Hardness (mg/L) – Receiving Water: N/A Effluent: 54/47/31 Recon Water: 93
Alkalinity (mg/L) – Receiving Water: N/A Effluent: 29/71/38 Recon Water: 57
Chlorine (mg/L) – Effluent: <0.01 pH (initial/final) – Control: 8.1/7.5 100%: 7.6/7.4
Total Ammonia as NH₃ (mg/L) - Effluent: 0.07/<0.03/0.03

Were all Test Conditions in Conformance with Division Guidelines? YES ☒ NO ☐

If **NO**, list deviations from test specifications: N/A

Laboratory: SeaCrest Group

Comments:

Analyst's Name: Shanna Wepman, Julie McKenney, and Lindsay Rutherford

Signature Kathy Went Date January 27, 2023

M473-001

Test Start: 01/06/23 - 1530 Test End: 01/23/23 1500										Species Info: FH01G23										Test Conditions:										Sample Date: 01/23/23										Dilution H ₂ O:									
Conc		Read	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	#	Fish & Tare	Tare	Fish Wt mg	Ave wt																										
0	DO	68	6.0	7.0	5.0	1.5	4.6	6.8	5.5	7.0	4.7	6.8	4.9	7.0	4.5	10	9	9	#1	1.8959	1.8506	0.393	0.424																										
	Temp	24.4	24.9	24.1	25.0	24.1	24.4	24.1	24.8	24.1	24.7	24.1	24.7	24.3	24.4	10	10	10	#2	1.15799	1.15377	0.422																											
	pH	8.1	7.7	8.0	7.6	8.1	7.6	8.0	7.7	8.0	7.5	8.0	7.5	8.0	7.5	10	10	10	#3	1.17011	1.16553	0.458																											
	Cond	333	351	318	333	329	330	332	329	332	330	332	332	332	332	10	10	10	#4	1.19232	1.18808	0.424																											
13	DO	69	6.0	7.0	5.0	1.5	4.5	7.0	5.4	7.5	4.6	7.0	4.8	7.2	4.1	10	10	10	#5	1.17548	1.17142	0.406	0.349																										
	Temp	24.3	24.9	24.1	25.0	24.1	24.5	24.1	24.8	24.1	24.7	24.1	24.7	24.3	24.4	10	10	10	#6	1.17605	1.17192	0.413																											
	pH	8.0	7.7	8.0	7.6	8.0	7.7	8.0	7.7	8.0	7.5	8.0	7.5	8.0	7.5	10	10	10	#7	1.18303	1.18022	0.281																											
	Cond	325	335	313	327	323	323	323	323	323	323	323	323	323	323	10	10	10	#8	1.18425	1.18129	0.296																											
26	DO	70	6.1	7.0	4.9	7.3	4.4	7.3	5.3	7.6	4.4	7.2	4.7	7.4	4.8	10	10	10	#9	1.20897	1.19720	0.377	0.380																										
	Temp	24.3	24.9	24.1	24.9	24.1	24.6	24.1	24.9	24.1	25.0	24.1	24.8	24.7	24.4	10	10	10	#10	1.20583	1.20194	0.389																											
	pH	7.9	7.6	8.0	7.5	8.0	7.4	7.9	7.4	8.0	7.4	7.9	7.4	8.0	7.5	10	10	10	#11	1.23012	1.22628	0.384																											
	Cond	300	324	300	318	310	315	315	315	315	315	315	315	315	315	10	10	10	#12	1.15829	1.15460	0.369																											
52	DO	70	6.1	7.0	4.9	7.2	4.4	7.6	5.2	7.9	4.2	7.4	4.6	7.6	5.0	10	10	10	#13	1.20805	1.20344	0.441	0.411																										
	Temp	24.2	24.8	24.1	24.9	24.1	24.6	24.1	24.9	24.1	25.2	24.1	24.8	24.2	24.4	10	10	10	#14	1.15899	1.15521	0.378																											
	pH	7.9	7.6	7.9	7.4	7.9	7.5	7.9	7.5	7.9	7.3	7.8	7.4	7.9	7.4	10	10	10	#15	1.18399	1.17982	0.417																											
	Cond	295	298	287	302	292	297	297	297	297	297	297	297	297	297	10	10	10	#16	1.18129	1.17723	0.406																											
76	DO	71	6.2	7.0	4.8	7.1	4.3	7.9	5.1	8.2	4.0	7.6	4.5	8.0	5.1	10	10	10	#17	1.17278	1.16892	0.386	0.369																										
	Temp	24.2	24.8	24.1	24.8	24.1	24.7	24.1	25.0	24.1	25.4	24.1	24.9	24.1	24.4	10	10	10	#18	1.19128	1.18740	0.388																											
	pH	7.8	7.5	7.8	7.3	7.8	7.4	7.8	7.4	7.8	7.2	7.7	7.3	7.8	7.4	10	10	10	#19	1.15808	1.15482	0.326	0.402																										
	Cond	275	279	271	285	272	281	279	279	279	279	279	279	279	279	10	10	10	#20	1.19882	1.19500	0.370																											
100	DO	72	6.2	7.0	4.8	7.2	4.2	8.1	5.0	8.3	4.0	7.8	4.3	8.4	5.3	10	10	10	#21	1.20545	1.20122	0.423																											
	Temp	24.1	24.8	24.1	24.8	24.1	24.8	24.1	25.0	24.1	25.3	24.1	25.0	24.1	24.4	10	10	10	#22	1.16553	1.16137	0.419																											
	pH	7.6	7.5	7.7	7.4	7.7	7.4	7.7	7.4	7.8	7.2	7.7	7.3	7.7	7.4	10	10	10	#23	1.16949	1.16554	0.345																											
	Cond	224	220	220	269	226	234	234	234	234	234	234	234	234	234	10	10	10	#24	1.17747	1.17405	0.372																											
	DO															10			#																														
	Temp															10			#																														
	pH															10			#																														
	Cond															10			#																														
Initials		SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	pretest	#25	1.13097	1.13094																												
Water #		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																
Hard		54	47	31	93																																												
Alk		79	77	38	57																																												
Chlor		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0																																
NH ₃		0.07	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03																																
Feeding		0	1	2	3	4	5	6	7																																								
AM																																																	
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CETIS Analytical Report

Report Date: 24 Jan-23 12:27 (p 1 of 3)
Test Code/ID: 423029FHM / 02-2796-2913

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 06-9667-4147	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 24 Jan-23 12:27	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Batch ID: 17-6622-9005	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 16 Jan-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 23 Jan-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 07-6700-6200	Code: 423029.B	Project: WET Quarterly Compliance Test (1Q)
Sample Date: 16 Jan-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 16 Jan-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	>100	n/a	1	5.25%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	20	10	1	6	CDF	0.9516	Non-Significant Effect
		26	20	10	1	6	CDF	0.9516	Non-Significant Effect
		52	20	10	1	6	CDF	0.9516	Non-Significant Effect
		76	20	10	1	6	CDF	0.9516	Non-Significant Effect
		100	18	10	2	6	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0088531	0.0017706	5	0.8	0.5640	Non-Significant Effect
Error	0.039839	0.0022133	18			
Total	0.0486921		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.6154	0.884	9.2E-07	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%
13		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
26		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
52		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
76		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
100		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	0.00%
13		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	-2.97%
26		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	-2.97%
52		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	-2.97%
76		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	-2.97%
100		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	0.00%

CETIS Analytical Report

Report Date: 24 Jan-23 12:27 (p 1 of 2)
Test Code/ID: 423029FHM / 02-2796-2913

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 01-7359-5902	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 24 Jan-23 12:27	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 17-6622-9005	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 16 Jan-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 23 Jan-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 07-6700-6200	Code: 423029.B	Project: WET Quarterly Compliance Test (1Q)
Sample Date: 16 Jan-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 16 Jan-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1081301	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC5	>100	n/a	n/a	<1	n/a	n/a
LC10	>100	n/a	n/a	<1	n/a	n/a
LC15	>100	n/a	n/a	<1	n/a	n/a
LC20	>100	n/a	n/a	<1	n/a	n/a
LC25	>100	n/a	n/a	<1	n/a	n/a
LC40	>100	n/a	n/a	<1	n/a	n/a
LC50	>100	n/a	n/a	<1	n/a	n/a

7d Survival Rate Summary

Calculated Variate(A/B)

Isotonic Variate

Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	D	4	0.9750	0.9000	1.0000	0.0500	5.13%	0.0%	39/40	0.995	0.0%
13		4	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%	40/40	0.995	0.0%
26		4	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%	40/40	0.995	0.0%
52		4	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%	40/40	0.995	0.0%
76		4	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%	40/40	0.995	0.0%
100		4	0.9750	0.9000	1.0000	0.0500	5.13%	0.0%	39/40	0.975	2.01%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.9000	1.0000	1.0000	1.0000
13		1.0000	1.0000	1.0000	1.0000
26		1.0000	1.0000	1.0000	1.0000
52		1.0000	1.0000	1.0000	1.0000
76		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9000	1.0000

CETIS Analytical Report

Report Date: 24 Jan-23 12:27 (p 3 of 3)
Test Code/ID: 423029FHM / 02-2796-2913

Fathead Minnow 7-d Larval Survival and Growth Test					SeaCrest Group
Analysis ID:	05-4326-7713	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.9.6
Analyzed:	24 Jan-23 12:27	Analysis:	Parametric-Control vs Treatments	Status Level:	1
Batch ID:	17-6622-9005	Test Type:	Growth-Survival (7d)	Analyst:	Lab Tech
Start Date:	16 Jan-23	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Reconstituted Water
Ending Date:	23 Jan-23	Species:	Pimephales promelas	Brine:	Not Applicable
Test Length:	7d 0h	Taxon:	Actinopterygii	Source:	In-House Culture
					Age:
Sample ID:	07-6700-6200	Code:	423029.B	Project:	WET Quarterly Compliance Test (1Q)
Sample Date:	16 Jan-23	Material:	POTW Effluent	Source:	NPDES Permit # (XX99999999)
Receipt Date:	16 Jan-23	CAS (PC):		Station:	001B
Sample Age:	n/a	Client:	BMRI		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	100	>100	n/a	1	14.47%

Dunnett Multiple Comparison Test

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13*	2.951	2.407	0.061	6	CDF	0.0170	Significant Effect
		26	1.745	2.407	0.061	6	CDF	0.1583	Non-Significant Effect
		52	0.539	2.407	0.061	6	CDF	0.6305	Non-Significant Effect
		76	2.167	2.407	0.061	6	CDF	0.0778	Non-Significant Effect
		100	0.8628	2.407	0.061	6	CDF	0.4835	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0158636	0.0031727	5	2.441	0.0742	Non-Significant Effect
Error	0.0234003	0.0013000	18			
Total	0.0392639		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	10.72	15.09	0.0573	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9765	0.884	0.8235	Normal Distribution

Mean Dry Biomass-mg Summary

Conc.-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.4242	0.3819	0.4666	0.423	0.393	0.458	0.01329	6.27%	0.00%
13		4	0.349	0.2373	0.4607	0.351	0.281	0.413	0.03509	20.11%	17.74%
26		4	0.3798	0.3659	0.3936	0.3805	0.369	0.389	0.004346	2.29%	10.49%
52		4	0.4105	0.3689	0.4521	0.4115	0.378	0.441	0.01307	6.37%	3.24%
76		4	0.369	0.3226	0.4154	0.381	0.326	0.388	0.01457	7.90%	13.02%
100		4	0.4022	0.3646	0.4399	0.407	0.372	0.423	0.01183	5.88%	5.18%

Mean Dry Biomass-mg Detail

Conc.-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.393	0.422	0.458	0.424
13		0.406	0.413	0.281	0.296
26		0.377	0.389	0.384	0.369
52		0.441	0.378	0.417	0.406
76		0.386	0.388	0.326	0.376
100		0.423	0.419	0.395	0.372

CETIS Analytical Report

Report Date: 24 Jan-23 12:27 (p 2 of 2)
Test Code/ID: 423029FHM / 02-2796-2913

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 08-5470-3419	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.6
Analyzed: 24 Jan-23 12:27	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 17-6622-9005	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 16 Jan-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 23 Jan-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 07-6700-6200	Code: 423029.B	Project: WET Quarterly Compliance Test (1Q)
Sample Date: 16 Jan-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 16 Jan-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1477121	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	6.543	2.583	n/a	15.28	n/a	38.72
IC10	>100	n/a	n/a	<1	n/a	n/a
IC15	>100	n/a	n/a	<1	n/a	n/a
IC20	>100	n/a	n/a	<1	n/a	n/a
IC25	>100	n/a	n/a	<1	n/a	n/a
IC40	>100	n/a	n/a	<1	n/a	n/a
IC50	>100	n/a	n/a	<1	n/a	n/a

Mean Dry Biomass-mg Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	Mean	%Effect
0	D	4	0.4242	0.393	0.458	0.02659	6.27%	0.0%	0.4242	0.0%
13		4	0.349	0.281	0.413	0.07018	20.11%	17.74%	0.3821	9.93%
26		4	0.3798	0.369	0.389	0.008691	2.29%	10.49%	0.3821	9.93%
52		4	0.4105	0.378	0.441	0.02613	6.37%	3.24%	0.3821	9.93%
76		4	0.369	0.326	0.388	0.02914	7.90%	13.02%	0.3821	9.93%
100		4	0.4022	0.372	0.423	0.02366	5.88%	5.19%	0.3821	9.93%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.393	0.422	0.458	0.424
13		0.406	0.413	0.281	0.296
26		0.377	0.389	0.384	0.369
52		0.441	0.378	0.417	0.406
76		0.386	0.388	0.326	0.376
100		0.423	0.419	0.395	0.372

Appendix 4 – QA/QC and Reference Toxicant Test Chart

Quality Assurance Check List – Chronic Whole Effluent Toxicity Test

Client: Battle Mountain Resources, Inc.
SeaCrest Sample No: 423029.B
Species Tested: *Ceriodaphnia dubia* and fathead minnow

Sample Dates	Start Date of Test (<i>Ceriodaphnia dubia</i>)	Start Date of Test (fathead minnow)
01-16-2023		
01-18-2023		
01-20-2023	01-16-2023	01-16-2023

Sample received in lab properly preserved (0-6°C)? N*

Sample received at laboratory within 36 hours of collection? Y

Sample delivered on ice or equivalent? Y

Test initiated within 36-hours of collection? Y

Test protocol conforms to CDPHE guidelines (*Ceriodaphnia dubia*)? Y

Test protocol conforms to CDPHE guidelines (fathead minnow)? Y

Average test temp. $\pm 1^{\circ}\text{C}$ (*Ceriodaphnia dubia*)? Y

Average test temp. $\pm 1^{\circ}\text{C}$ (fathead minnow)? Y

DO level $\geq 4.0\text{mg/L}$; no super-saturation (*Ceriodaphnia dubia*)? Y

DO level $\geq 4.0\text{mg/L}$; no super-saturation (fathead minnow)? Y

Survival in control $\geq 80\%$ (*Ceriodaphnia dubia*)? Y

Survival in control $\geq 80\%$ (fathead minnow)? Y

Ceriodaphnia dubia neonates <24-hours old? Y

Fathead minnow larvae <24-hours old? Y

Appropriate reference toxicity test conducted? Y

Reference toxicity test results within the confidence limits for the lab? Y

* Samples #1 and #3 were received at 8.2°C and 6.8°C on the same day as sampling.

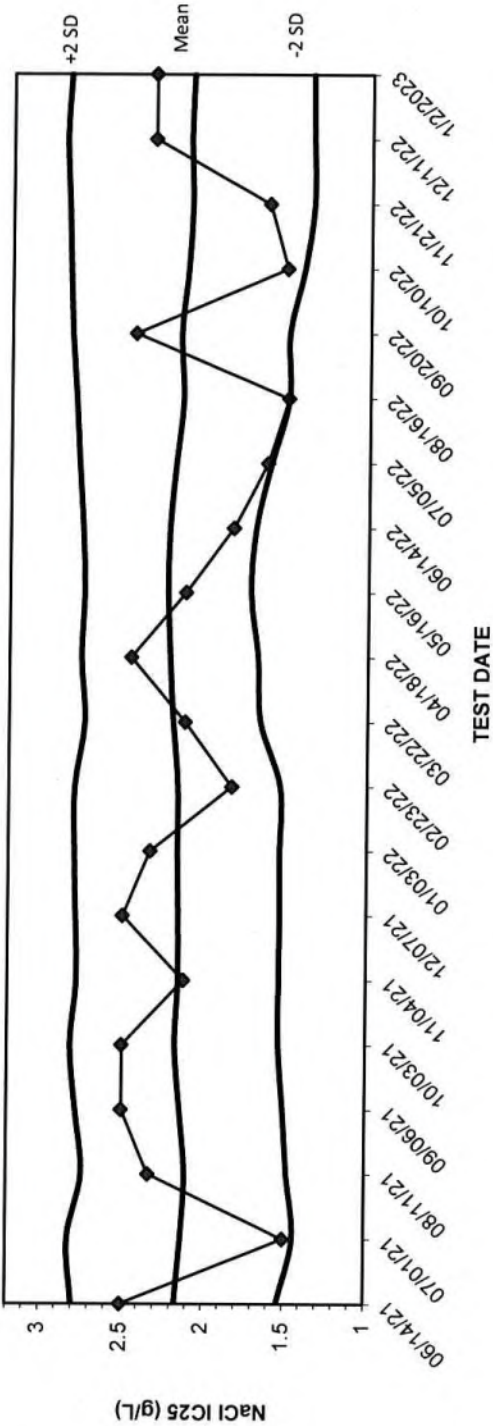
Author Kally Went Date January 27, 2023
Position: Laboratory Manager
Quality Control Cat McD Date January 27, 2023

Method	Analyte	Date	LCS (rec)	%REC	%RPD	QC LIMITS
2320 B	Alkalinity - Total	12/8/2022	99.20%	99.76%	-1.00%	± 5.00%
2320 B	Alkalinity - Total	12/15/2022	100.80%	98.83%	0.83%	± 5.00%
2320 B	Alkalinity - Total	12/21/2022	101.60%	100.57%	-0.60%	± 5.00%
2320 B	Alkalinity - Total	12/30/2022	95.60%	100.60%	0.62%	± 5.00%
4500 NH ₃ D	Ammonia	12/1/2022	102.80%	102.52%	0.00%	± 10.00%
4500 NH ₃ D	Ammonia	12/9/2022	98.20%	100.01%	-0.39%	± 10.00%
4500 NH ₃ D	Ammonia	12/16/2022	101.00%	102.00%	-0.19%	± 10.00%
4500 NH ₃ D	Ammonia	12/21/2022	103.60%	104.88%	-0.99%	± 10.00%
4500 Cl D	Chlorine	12/20/2022	96.88%	100.00%	0.00%	± 5.00, ± 20.00%
2340 B	Hardness - Total	12/1/2022	104.39%	96.45%	1.88%	± 5.00%
2340 B	Hardness - Total	12/6/2022	95.60%	101.00%	0.68%	± 5.00%
2340 B	Hardness - Total	12/13/2022	102.00%	101.00%	0.00%	± 5.00%
2340 B	Hardness - Total	12/27/2022	104.39%	96.55%	0.87%	± 5.00%
			LCS (rec)	%REC M1	%REC M2	QC Limits
4500 O	DO - Winkler	12/5/2022	N/A	97.22%	98.59%	± 5.00%
4500 O	DO - Winkler	12/14/2022	N/A	98.55%	98.57%	± 5.00%
4500 O	DO - Winkler	12/20/2022	N/A	100.00%	97.06%	± 5.00%
4500 O	DO - Winkler	12/28/2022	N/A	100.00%	97.18%	± 5.00%
			Blank	%REC MR S	%RPD	QC Limits
2540 D	Suspended Solids (TTL)	12/29/2022	100.00%	100.09%	0.00%	± 15%
2540 C	Dissolved Solids (TTL)	12/29/2022	100.00%	110.60%	0.00%	± 15%

Signature: Kathy West
Date: January 2, 2023

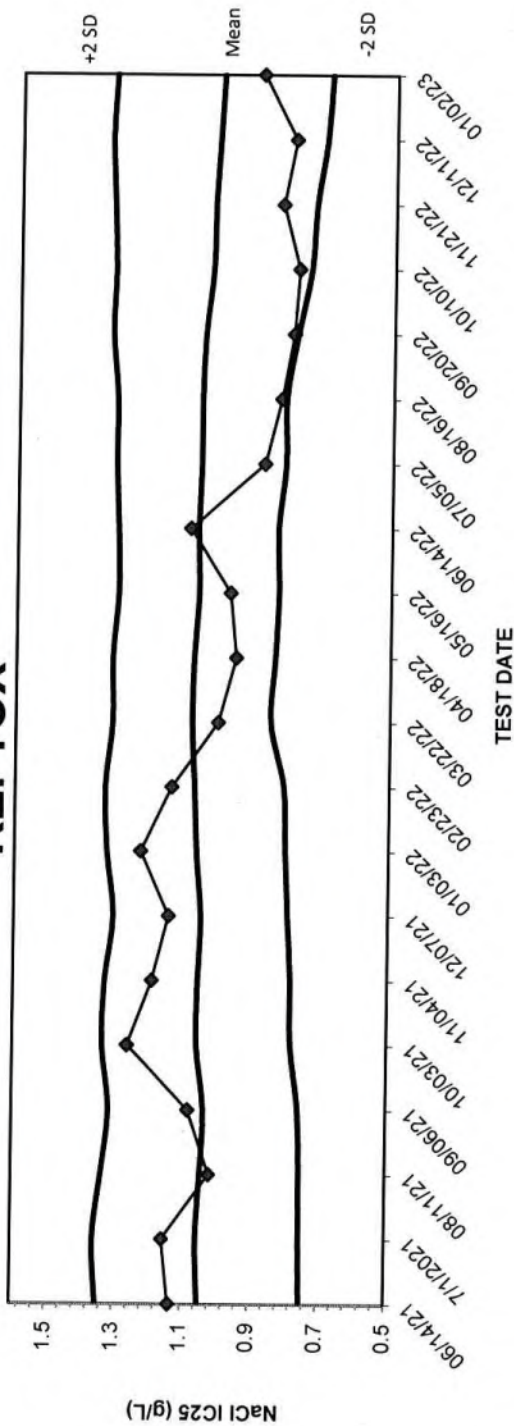
Signature: Pat MCP
Date: January 2, 2023

CERIODAPHNIA SURVIVAL LC25 NaCl REFTOX



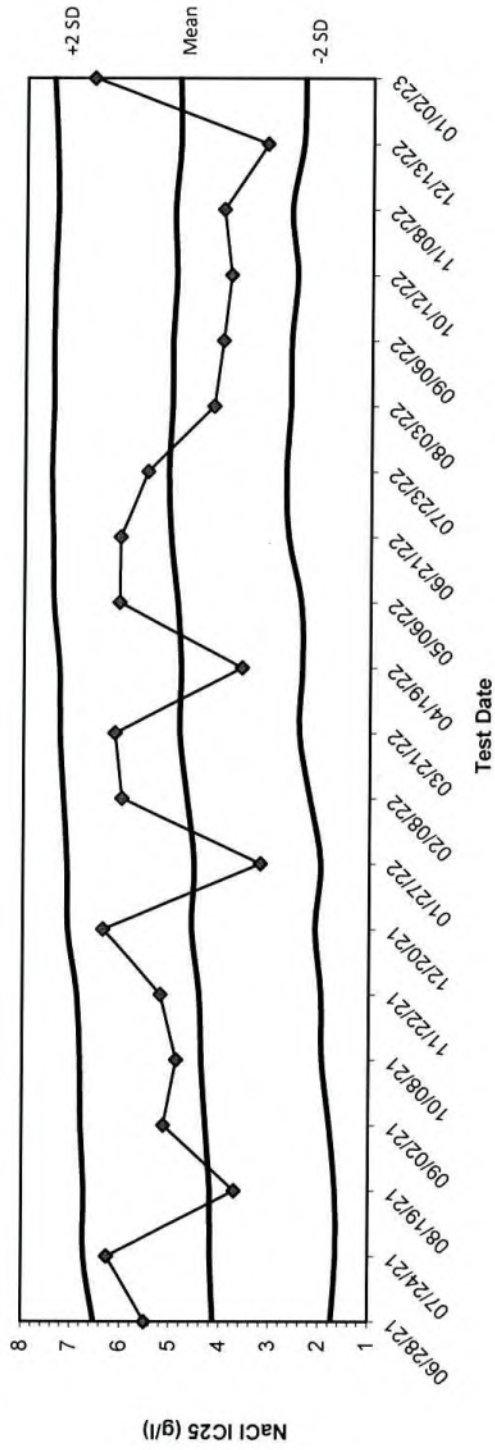
Date	IC25	Mean	-2 SD	+2 SD
06/14/21	2.5000	2.1661	1.5357	2.7966
07/01/21	1.5000	2.1319	1.4386	2.8252
08/11/21	2.3330	2.1101	1.4777	2.7425
09/06/21	2.5000	2.1429	1.5041	2.7816
10/03/21	2.5000	2.1746	1.5342	2.8150
11/04/21	2.1250	2.1568	1.5338	2.7797
12/07/21	2.5000	2.1592	1.5310	2.7874
01/03/22	2.3330	2.1656	1.5330	2.7982
02/23/22	1.8330	2.1656	1.5330	2.7982
03/22/22	2.1250	2.1982	1.6590	2.7374
04/18/22	2.4580	2.2200	1.6774	2.7626
05/16/22	2.1250	2.2355	1.7257	2.7453
06/14/22	1.8330	2.2267	1.6951	2.7582
07/05/22	1.6250	2.1930	1.6031	2.7828
08/16/22	1.5000	2.1506	1.4959	2.8054
09/20/22	2.4440	2.1658	1.4989	2.8328
10/10/22	1.5130	2.1268	1.4070	2.8465
11/21/22	1.6250	2.1055	1.3533	2.8578
12/11/22	2.3330	2.1154	1.3566	2.8742
1/2/2023	2.3330	2.1019	1.3622	2.8527

CERIODAPHNIA REPRODUCTION IC25 NaCl REFTOX



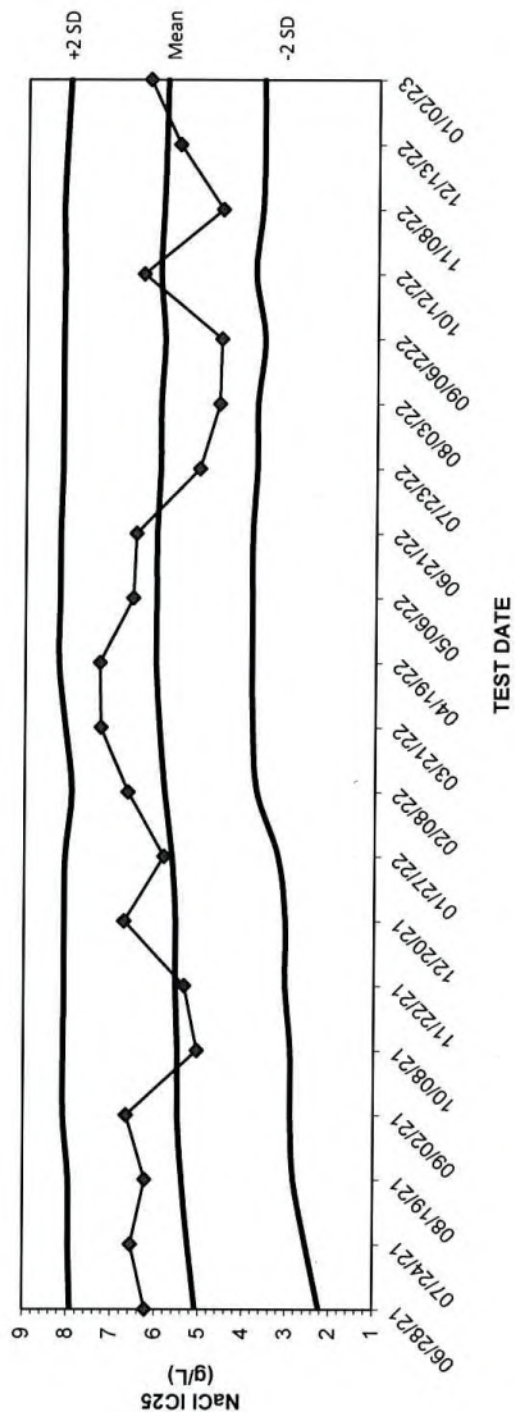
Date	IC25	Mean	-2 SD	+2 SD
06/14/21	1.1340	1.0487	0.7475	1.3499
7/1/2021	1.155	1.055345	0.750807107	1.359882893
08/11/21	1.0180	1.0445	0.7516	1.3375
09/06/21	1.0820	1.0368	0.7574	1.3162
10/03/21	1.2630	1.0587	0.7807	1.3367
11/04/21	1.1930	1.0570	0.7830	1.3311
12/07/21	1.1450	1.0503	0.7931	1.3076
01/03/22	1.2300	1.0650	0.8016	1.3284
02/23/22	1.1390	1.0719	0.8084	1.3354
03/22/22	1.0040	1.0821	0.8489	1.3154
04/18/22	0.9527	1.0775	0.8376	1.3174
05/16/22	0.9716	1.0659	0.8293	1.3025
06/14/22	1.0920	1.0691	0.8330	1.3053
07/05/22	0.8750	1.0628	0.8126	1.3129
08/16/22	0.8275	1.0630	0.8138	1.3123
09/20/22	0.7937	1.0554	0.7830	1.3279
10/10/22	0.7807	1.0340	0.7456	1.3223
11/21/22	0.8297	1.0301	0.7328	1.3275
12/11/22	0.7935	1.0197	0.7041	1.3353
01/02/23	0.8910	1.0085	0.6912	1.3258

FHM SURVIVAL LC25 NaCl REFTOX



Date	IC25	Mean	-2 SD	+2 SD
06/28/21	5.5000	4.1223	1.7345	6.5101
07/24/21	6.2580	4.1844	1.6465	6.7224
08/19/21	3.7000	4.1935	1.6644	6.7226
09/02/21	5.1250	4.2901	1.7899	6.7904
10/08/21	4.8750	4.3788	1.9442	6.8135
11/22/21	5.2000	4.4210	1.9620	6.8799
12/20/21	6.3570	4.5781	2.0849	7.0713
01/27/22	3.2000	4.5318	1.9736	7.0900
02/08/22	6.0000	4.6848	2.2009	7.1688
03/21/22	6.1400	4.8361	2.4258	7.2464
04/19/22	3.5870	4.8140	2.3657	7.2622
05/06/22	6.0670	4.8914	2.3955	7.3872
06/21/22	6.0500	5.0353	2.6626	7.4081
07/23/22	5.5000	5.0819	2.7150	7.4488
08/03/22	4.1820	5.0220	2.6328	7.4112
09/06/22	4.0000	5.0185	2.6233	7.4137
10/12/22	3.8420	4.9507	2.5089	7.3925
11/08/22	4.0000	4.9848	2.6228	7.3468
12/13/22	3.1230	4.8843	2.3996	7.3690
01/02/23	6.6150	4.9051	2.3687	7.4415

FHM GROWTH IC25 NaCl REFTOX



Date	IC25	Mean	-2 SD	+2 SD
06/28/21	6.2200	5.0690	2.2267	7.9113
07/24/21	6.5530	5.2483	2.5384	7.9582
08/19/21	6.2310	5.3933	2.8247	7.9619
09/02/21	6.6650	5.4939	2.8982	8.0895
10/08/21	5.0481	5.4990	2.9074	8.0905
11/22/21	5.3520	5.5543	3.0315	8.0771
12/20/21	6.7310	5.5549	3.0309	8.0788
01/27/22	5.8200	5.6387	3.2082	8.0692
02/08/22	6.6580	5.8193	3.7120	7.9266
03/21/22	7.2690	5.9425	3.8121	8.0729
04/19/22	7.2990	6.0314	3.8358	8.2271
05/06/22	6.5630	6.0225	3.8376	8.2074
06/21/22	6.5000	6.0225	3.8376	8.2074
07/23/22	5.0500	5.9498	3.7409	8.1587
08/03/22	4.6040	5.9482	3.7354	8.1611
09/06/22	4.5630	5.8716	3.5812	8.1620
10/12/22	6.3570	5.9716	3.7966	8.1465
11/08/22	4.5530	5.9137	3.6531	8.1744
12/13/22	5.5530	5.8673	3.6196	8.1150
01/02/23	6.2350	5.8373	3.6291	8.0455

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

July 26, 2023

Colorado Department of Public Health and Environment
Water Quality Control Division
Attn: WQDC-B2 – DMR Receipt
4300 Cherry Creek Drive
Denver, CO 80246-1530

Re: Battle Mountain Resources, Inc.
San Luis Project - San Luis, Colorado
Second Quarter 2023 – DMR's, BMP and WET Testing Reports
CDPHE CDPS Permit No. CO0045675

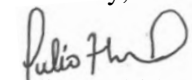
Dear Sir or Madame:

Please find the enclosed Battle Mountain Resources, Inc. "San Luis Project" (Permit No. CO0045675) Colorado Department of Public Health and Environment-Colorado Discharge Permit System (CDPS) Best Management Practices (BMP) report for permitted outfall 002 for the second quarter 2023. The quarterly BMP report provides the required data associated with groundwater well elevations, the quarterly potentiometric surface map and groundwater well chemistry.

In addition, the second quarter 2023 Discharge Monitoring Reports (DMRs) were submitted for each of the permitted water treatment plant discharges in the NetDMR System and the WET Testing Reports were attached to the appropriate DMR submittal in NetDMR. These permitted discharges consist of water treatment plant Discharge Numbers 001-A and 001-B. During the quarter, the maximum 30-day average flow was 0.30 million gallons of water discharged per day, therefore the applicable permit criteria for the reporting period is associated with discharge number 001-B.

Should any questions arise or if I can be of any assistance providing clarification, please call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics

Battle Mountain Resources, Inc.
San Luis Project
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San Luis, Colorado 81152-0310
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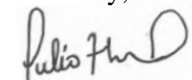
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San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
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July 26, 2023

Colorado Department of Public Health and Environment
Water Quality Control Division
Attn: WQDC-B2 – DMR Receipt
4300 Cherry Creek Drive
Denver, CO 80246-1530

Re: Battle Mountain Resources, Inc.
San Luis Project
Second Quarter 2023 BMP Report
CDPHE CDPS Permit No. CO0045675

Dear Sir or Madame:

In accordance with and compliance of the permit limitations and permit terms and conditions contained in Part I, Section 5 Discharge Point 002: (Permit Limitations, Best Management Practices, and Schedule of Compliance of the State of Colorado Authorization to Discharge Under the Colorado Discharge Permit System, Battle Mountain Resources, Inc. submits the following *Quarterly Best Management Practices Report*.

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Sections 61.8(2), 61.8(3)(n), and 61.8(3)(r), 5 C.C.R. 1002-61, the permittee shall continue to implement the following limitations, compliance schedules, and Best Management Practices (BMPs).

The attainment of applicable water quality standards will be implemented and evaluated through the application of the following limitations, compliance schedules, and BMPs that are designed to monitor and control the groundwater quality and quantity discharging from the West Pit to the Rito Seco alluvial aquifer.

Specifically, the limitations, compliance schedules, and BMPs are those activities that address contaminated groundwater that may flow into the Rito Seco. This includes: (1) the potential flow of the affected groundwater from the West Pit that, in the past, manifested itself in the formation of the surface seeps along the arroyo sidewall of the Rito Seco, and (2) the plume of affected groundwater within the Rito Seco alluvial aquifer downgradient of the West Pit that flows along the naturally occurring hydraulic gradient and that may flow into the Rito Seco. The activities will include the following specific requirements:

- 1) The elevation of the groundwater table in the vicinity of the West Pit shall be measured on a weekly basis at the following locations: (i) the West Pit backfill wells BF-4 and BF-5 and (ii) the Rito Seco alluvial wells M-16 and M-20, as shown in Figure 3 of the permit, for purposes of determining the performance of the “pump and treat” system that regulates the flow and quality of the groundwater in the seepage front. The permittee shall

also determine on a quarterly basis the elevations of the groundwater table at BF-3, BF-4, BF-5, BF-6, M-11R, M-16, M-17, M-18, M-19, M-20, M-21, M-22, M-23, M-24, M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-32, and M-33 for the purpose of developing a groundwater potentiometric map as monitoring confirmation of the groundwater flow direction. The quarterly data regarding depth to groundwater and groundwater potentiometric surface map will be submitted to the WQCD with the BMP report as described.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the weekly West Pit backfill and alluvial wells as required under Paragraph 1 of the specific requirements. Measurements obtained for the weekly West Pit backfill wells (BF-4 and BF-5R) and alluvial wells (M-16 and M-20) are shown in Table 1. The quarterly groundwater elevations required under Paragraph 1 were also measured and are shown in Table 2. A potentiometric surface map, developed by Engineering Analytics, is shown in Figure 1. The groundwater table elevations and potentiometric map confirm that the groundwater flow gradient during the second quarter of 2023 was from the Rito Seco to the West Pit. No corrective action is required under Paragraph 1 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 1 – Weekly Groundwater Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
BF-4	04/05/2023	8579.33
	04/12/2023	8579.36
	04/20/2023	8579.35
	04/26/2023	8579.37
	05/03/2023	8579.34
	05/10/2023	8579.40
	05/17/2023	8579.34
	05/24/2023	8579.43
	05/31/2023	8579.34
	06/07/2023	8579.40
	06/14/2023	8579.36
	06/21/2023	8579.35
	06/28/2023	8579.33
BF-5R	04/05/2023	8579.10
	04/12/2023	8579.12
	04/20/2023	8579.09
	04/26/2023	8579.11
	05/03/2023	8579.08
	05/10/2023	8579.10
	05/17/2023	8579.07
	05/24/2023	8579.12
	05/31/2023	8579.07
	06/07/2023	8579.09
	06/14/2023	8579.09
	06/21/2023	8579.05
	06/28/2023	8579.07

Table 1 – Weekly Groundwater Elevations (continued)

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
M-16	04/05/2023	8601.39
	04/12/2023	8601.47
	04/20/2023	8601.66
	04/26/2023	8601.81
	05/03/2023	8601.53
	05/10/2023	8602.26
	05/17/2023	8602.55
	05/24/2023	8602.86
	05/31/2023	8603.16
	06/07/2023	8603.38
	06/14/2023	8603.48
	06/21/2023	8603.43
	06/28/2023	8603.33
M-20	04/05/2023	8580.39
	04/12/2023	8580.57
	04/20/2023	8580.70
	04/26/2023	8580.69
	05/03/2023	8580.77
	05/10/2023	8580.89
	05/17/2023	8580.72
	05/24/2023	8581.10
	05/31/2023	8581.15
	06/07/2023	8581.04
	06/14/2023	8580.80
	06/21/2023	8580.72
	06/28/2023	8580.61

Table 2 – Quarterly Groundwater Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
BF-3	04/27/2023	8578.01
BF-4	04/27/2023	8579.37
BF-5R	04/27/2023	8579.1
BF-6	04/27/2023	8579.08
M-11R	04/27/2023	8549.6
M-16	04/27/2023	8601.81
M-17	04/27/2023	8587
M-18	04/27/2023	8580.76
M-19	04/27/2023	8581.64
M-20	04/27/2023	8580.69
M-21	04/27/2023	8577.71
M-22	04/27/2023	8573.03
M-23	04/27/2023	8555.4
M-24	04/27/2023	8559.12
M-25	04/27/2023	Dry
M-26	04/27/2023	8543.42
M-27	04/27/2023	Dry
M-28	04/27/2023	8580.49
M-29	04/27/2023	8581.1
M-30	04/27/2023	8610.85
M-31	04/27/2023	8549.26
M-32	04/27/2023	8531.27
M-33	04/27/2023	8527.78

- 2) The weekly groundwater table elevation data shall be tabulated and reported on the quarterly BMP reports, and the data will be used to evaluate compliance with the following permit limitations.

The groundwater table elevation, based on the average of all measured values for each calendar month in the West Pit backfill groundwater monitoring wells BF-4 and BF-5, must be equal to or lower than an elevation of 8582 feet above sea level (ft. amsl).

Compliance Action Taken: Battle Mountain Resources, Inc. measured the West Pit backfill monitoring wells (BF-4 and BF-5R) weekly and the measurements are shown in Table 1. The groundwater measurements for wells BF-4 and BF-5R were averaged by calendar month and the results are shown in Table 3. The April, May, June 2023 averages were below the 8582 ft. amsl required in Paragraph 2. No corrective action is required under the Paragraph 2 requirement and schedule compliance monitoring will continue unchanged next quarter.

Table 3 – Quarterly West Pit Backfill Monthly Average Groundwater Table Elevations

Monitoring Well Identification	Month (2023)	Number of Observations	Average Monthly Groundwater Elevation (ft amsl)
BF-4	April	4	8579.35
	May	5	8579.37
	June	4	8579.36
BF-5R	April	4	8579.11
	May	5	8579.09
	June	4	8579.08

- 3) If the average monthly groundwater table elevation in the West Pit backfill for any calendar month, measured as described in the above paragraph, is greater than 8582 ft. amsl or the quarterly determination of the groundwater potentiometric surface map indicates that the flow of the groundwater is from the West Pit to the Rito Seco alluvium, the permittee shall verbally communicate such condition to WQCD within 24 hours of the determination of the condition (elevated West Pit backfill table or groundwater flow from the West Pit as indicated by the quarterly groundwater potentiometric surface map) and initiate the following compliance schedule.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the West Pit backfill monitoring wells (BF-4 and BF-5R) weekly and the calendar month average groundwater measurement elevations (Table 3) were below the 8582 ft. amsl required in Paragraph 2. The April 27, 2023, potentiometric surface map (Figure 1) shows the groundwater flow gradient was from the Rito Seco alluvium to the West Pit backfill. Therefore, site operations demonstrated the West Pit backfill groundwater level was maintained at or below an elevation of 8582 ft. amsl through the quarter. Therefore, no requirement(s) to initiate actions contained within the schedule of compliance for Section 5.3 is required.

- 4) The quality of groundwater in the vicinity of the West Pit shall be monitored on a monthly basis in the Rito Seco alluvial groundwater monitoring wells M-19, M-21, M-24 and M-11R for the purposes of monitoring the changes in the quality of the plume or affected groundwater in the Rito Seco alluvial aquifer. Groundwater quality in these monitoring wells will be analyzed for pH, temperature, total dissolved solids, calcium, sulfate, manganese, fluoride, copper, and iron for the purpose of evaluating the status of the groundwater quality in the downgradient groundwater plume. The groundwater quality data will be summarized and transmitted to the WQCD in the quarterly BMP report required under Part I, Section E.1 of this permit.

Compliance Action Taken: Battle Mountain Resources, Inc. collected monthly groundwater samples in the vicinity of the West Pit backfill area from Rito Seco alluvial monitoring wells M-19, M-21, M-24 and M-11R. No corrective action is required under the Paragraph 4 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 4 – Rito Seco Alluvial Groundwater Quality Summary

Analyte	Reporting Units	Sample Date	Monitoring Well Identifier			
			M-11R	M-19	M-21	M-24
pH	SU	4/3/2023	7.03	6.61	6.72	6.83
		5/3/2023	7.10	6.47	6.70	6.83
		6/1/2023	7.16	6.46	6.77	6.95
Temperature	°C	4/3/2023	9.60	8.60	8.19	8.50
		5/3/2023	9.80	7.30	8.60	8.50
		6/1/2023	9.69	6.60	8.69	8.50
Calcium, Total	mg/L	4/3/2023	98.5	22.3	33.2	84.8
		5/3/2023	79.1	19.8	18.8	31.0
		6/1/2023	74.2	17.3	29.3	79.3
Copper, Dissolved	mg/L	4/3/2023	LT 0.05	LT 0.002	LT 0.002	LT 0.002
		5/3/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
		6/1/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
Fluoride	mg/L	4/3/2023	LT 1.25	0.90	1.46	LT 1.25
		5/3/2023	0.739	0.772	1.32	LT 1.25
		6/1/2023	0.738	0.761	1.20	0.714
Iron, Dissolved	mg/L	4/3/2023	LT 0.15	LT 0.15	LT 0.15	4.09
		5/3/2023	LT 0.15	0.215	LT 0.15	4.25
		6/1/2023	LT 0.15	0.201	LT 0.15	4.24
Manganese, Dissolved	mg/L	4/3/2023	0.244	0.165	0.364	0.840
		5/3/2023	0.238	0.094	0.357	0.853
		6/1/2023	0.150	LT 0.05	0.303	0.842
Sulfate	mg/L	4/3/2023	153	8.01	9.41	139
		5/3/2023	139	10.5	9.03	128
		6/1/2023	101	8.15	10.10	136
Total Dissolved Solids	mg/L	4/3/2023	434	102	140	400
		5/3/2023	384	90	130	384
		6/1/2023	328	82	126	398

- 5) The historical seeps were caused by the plume of affected groundwater and may, in the future, also be caused by natural variation in the flow of groundwater in the vicinity of the area where the past seeps occurred. The permittee shall conduct a monthly visual inspection of the area of historical seeps and the permittee shall report any seepage flow that is associated with the area historic seepage expression, as is identified in Figure 2 of the permit. Results of the seep monitoring shall be tabulated and summarized in the quarterly BMP report.

If these inspections identified the occurrence of seeps, the permittee will be required to communicate verbally to the WQCD within 24 hours of the seepage observation, followed by written notification within 7 calendar days of the seepage observation. Verbal updates will then be provided to the WQCD every second day thereafter until the WQCD has made a determination regarding the status of the West Pit groundwater control system through the implementation of the following compliance schedule.

Compliance Action Taken: Battle Mountain Resources, Inc. performed monthly visual seepage expression inspections in the historic seepage area identified in Figure 2 of the permit. Visual observations during these inspections are shown in Table 5. No seepage expressions were observed in the historic seepage area during the second quarter of 2023. Therefore, no verbal or written notifications were required and the implementation of the compliance schedule was not required. No corrective action is required under the Paragraph 5 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 5 – Monthly Seepage Expression Inspection Tabulation

Visual Inspection Date	Was Visual Observation of Seepage Determined in the Area of the Historic Seepage Expression	Comments
04/27/2023	No	All Dry
05/31/2023	No	All Dry
06/29/2023	No	All Dry

- 6) The BMP for the groundwater flow downgradient from the groundwater divide (see section VI.A.2 for the Rationale) that has been developed in the Rito Seco alluvial aquifer consists of a groundwater capture system in conjunction with groundwater table elevation control in the West Pit. The water management plan for the Rito Seco alluvial aquifer consists of pumping two groundwater capture wells (M-32 and M-33) located downgradient of the plume of affected groundwater. This action will allow flushing of constituents in the groundwater of the Rito Seco alluvial aquifer in that portion (plume) of the aquifer affected by previous flow of groundwater from the West Pit. Measurements of the groundwater table elevations will be taken on a weekly basis from M-32 and M-33. This data shall be tabulated and reported for outfall 002 on the quarterly BMP report, and the data will be used to evaluate compliance with the following permit limitation.

The groundwater table elevation, based on the average of all measured values for each calendar month at M-32 and M-33 in the Rito Seco alluvial aquifer, must be equal to or lower than an elevation of 8540 ft. amsl.

If the average monthly groundwater table elevations measured in the Rito Seco alluvial aquifer at M-32 and M-33 is greater than 8540 ft. amsl, the permittee shall initiate the following compliance schedule within 24 hours of the determination of groundwater table elevation exceedance.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the alluvial aquifer monitoring wells (M-32 and M-33) weekly and the resulting elevations are presented in Table 6. The groundwater elevations for wells M-32 and M-33 were averaged by calendar month and the results are shown in Table 6. The April, May, June 2023 averages were below the 8540 ft. amsl required under Paragraph 6. Therefore, site operations were in full compliance of Part I, Section 5.5 and there were no requirements(s) to initiate actions contained within the schedule of compliance for Section 5.5. No corrective action is required under Paragraph 6 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 6 – Weekly/Monthly Rito Seco Alluvial Aquifer Average Groundwater Table Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)	Month (2023)	Average Monthly Groundwater Elevation (ft amsl)
M-32	04/05/2023	8531.38	April	8531.26
	04/12/2023	8531.21		
	04/20/2023	8531.18		
	04/26/2023	8531.27		
	05/03/2023	8531.27	May	8531.80
	05/10/2023	8531.23		
	05/17/2023	8531.14		
	05/24/2023	8532.73		
	05/31/2023	8532.64		

Table 6 (Cont) – Weekly/Monthly Rito Seco Alluvial Aquifer Average Groundwater Table Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)	Month (2023)	Average Monthly Groundwater Elevation (ft amsl)
M-32	06/07/2023	8532.28	June	8530.59
	06/14/2023	8532.14		
	06/21/2023	8532.03		
	06/28/2023	8525.91		
M-33	04/05/2023	8528.41	April	8527.51
	04/12/2023	8526.66		
	04/20/2023	8526.82		
	04/26/2023	8528.16		
	05/03/2023	8528.22	May	8527.54
	05/10/2023	8527.32		
	05/17/2023	8528.14		
	05/24/2023	8527.12		
	05/31/2023	8526.90		
	06/07/2023	8526.50	June	8529.35
	06/14/2023	8528.02		
	06/21/2023	8529.53		
	06/28/2023	8533.33		

- 7) The water quality of the Rito Seco will be assessed using surface water quality collected at RS-2, as shown in Figure 3. Surface water monitoring in the Rito Seco shall be conducted at RS-2 on a monthly basis and the laboratory analytical results shall be submitted to the WQCD in the quarterly BMP report. Water quality samples collected at RS-2 shall be analyzed for the following constituents: calcium, magnesium, sodium, potassium, ammonia, total dissolved solids, total hardness, pH, total suspended solids, cyanide (WAD and total), bicarbonate, alkalinity, chloride, sulfate, nitrate-nitrite, fluoride and the total and dissolved concentrations of aluminum, arsenic, barium, boron, cadmium, copper, chromium, iron, lead, manganese, mercury, nickel, selenium, silica, silver and zinc. The following compliance schedule shall be implemented in the event that any constituent exceeds the applicable water quality standards for the Rito Seco.

Compliance Action Taken: Battle Mountain Resources, Inc. collected monthly surface water samples in April, May, June 2023 at location RS-2, as shown in Figure 3 of the permit. Results of analyses performed on these samples are shown in Table 7. The results of the laboratory analytical testing show that the applicable water quality standards were met for the Rito Seco during the months of April, May, June 2023. Site operations were in full compliance of Part I, Section 5.7 and there was no requirement(s) to initiate actions contained within the schedule of compliance for Section 5.7. Scheduled compliance monitoring will continue unchanged next quarter.

Table 7 – RS-2 Surface Water Quality Results

Analyte	Reporting Units	04/03/2023	05/03/2023	06/01/2023
Alkalinity	mg/L as CaCO ₃	62.9	56.5	42.5
Aluminum, Dissolved	mg/L	LT 0.25	LT 0.25	LT 0.25
Aluminum, Total	mg/L	1.44	0.785	0.767
Ammonia as N	mg/L	LT 0.2	LT 0.2	LT 0.2
Arsenic, Dissolved	mg/L	LT 0.001	LT 0.001	LT 0.001
Arsenic, Total	mg/L	LT 0.001	LT 0.001	LT 0.001
Barium, Dissolved	mg/L	LT 0.035	LT 0.035	LT 0.035
Barium, Total	mg/L	0.0355	LT 0.035	LT 0.035
Bicarbonate as CaCO ₃	mg/L	62.9	56.5	40.9
Boron, Dissolved	mg/L	LT 0.1	LT 0.1	LT 0.1
Boron, Total	mg/L	LT 0.1	LT 0.1	LT 0.1
Cadmium, Dissolved	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Cadmium, Total	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Calcium, Total	mg/L	16.8	15.7	10.4
Carbonate as CaCO ₃	mg/L	LT 20	LT 20	LT 20
Chloride	mg/L	LT 2	LT 2.0	LT 2
Chromium, Dissolved	mg/L	LT 0.002	LT 0.002	LT 0.002
Chromium, Total	mg/L	LT 0.002	LT 0.002	LT 0.002
Copper, Dissolved	mg/L	LT 0.002	LT 0.002	LT 0.002
Copper, Total	mg/L	LT 0.002	LT 0.002	LT 0.002
Cyanide, Total	mg/L	LT 0.01	LT 0.01	LT 0.1H
Cyanide, WAD	mg/L	LT 0.01	LT 0.01	LT 0.01
Fluoride	mg/L	0.54	0.56	LT 0.35
Hardness as CaCO ₃	mg/L	56	56	36
Iron, Dissolved	mg/L	0.153	LT 0.15	LT 0.15
Iron, Total	mg/L	1.82	1.06	0.921
Lead, Dissolved	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Lead, Total	mg/L	0.00094	0.00077	0.00063
Magnesium, Total	mg/L	4.80	4.21	2.93
Manganese, Dissolved	mg/L	LT 0.05	LT 0.05	LT 0.05
Manganese, Total	mg/L	0.108	0.064	LT 0.05
Mercury, Dissolved	mg/L	LT 0.001	LT 0.001	LT 0.001
Mercury, Total	mg/L	LT 0.001	LT 0.001	LT 0.001
Nickel, Dissolved	mg/L	LT 0.04	LT 0.04	LT 0.04
Nickel, Total	mg/L	LT 0.04	LT 0.04	LT 0.04
Nitrate+Nitrite as N	mg/L	LT 0.1	LT 0.1	LT 0.1
pH	SU	7.35	6.33	7.30
Potassium, Total	mg/L	1.36	1.21	LT 1
Selenium, Dissolved	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Selenium, Total	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Silica, Total	mg/L	15.8	13.5	11.8
Silver, Dissolved	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Silver, Total	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Sodium, Total	mg/L	4.27	4.43	2.54
Sulfate	mg/L	5.72	4.91	2.41
Total Dissolved Solids	mg/L	88	78	58
Total Suspended Solids	mg/L	33.0	25.0	LT 20
Zinc, Dissolved	mg/L	LT 0.05	LT 0.05	LT 0.05
Zinc, Total	mg/L	LT 0.05	LT 0.05	LT 0.05

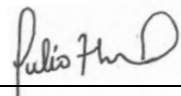
- 8) If any component of the groundwater control system is not performing within the limits set forth in this permit, the permittee will be required to initiate appropriate compliance schedule activities, including the preparation of a response plan, for any and all components of the groundwater control system that do not meet the applicable

requirements. The permittee shall also conduct weekly sampling at RS-2 until such time as the other compliance schedule activity(ies) have been completed.

Compliance Action Taken: *As demonstrated by the information and data presented in this report, all components of the groundwater control system performed within the limits set forth in the permit. Therefore, site operations were in full compliance of Part I, Section 8 and there was no requirement(s) to initiate actions contained within the schedule of compliance for Section 8.*

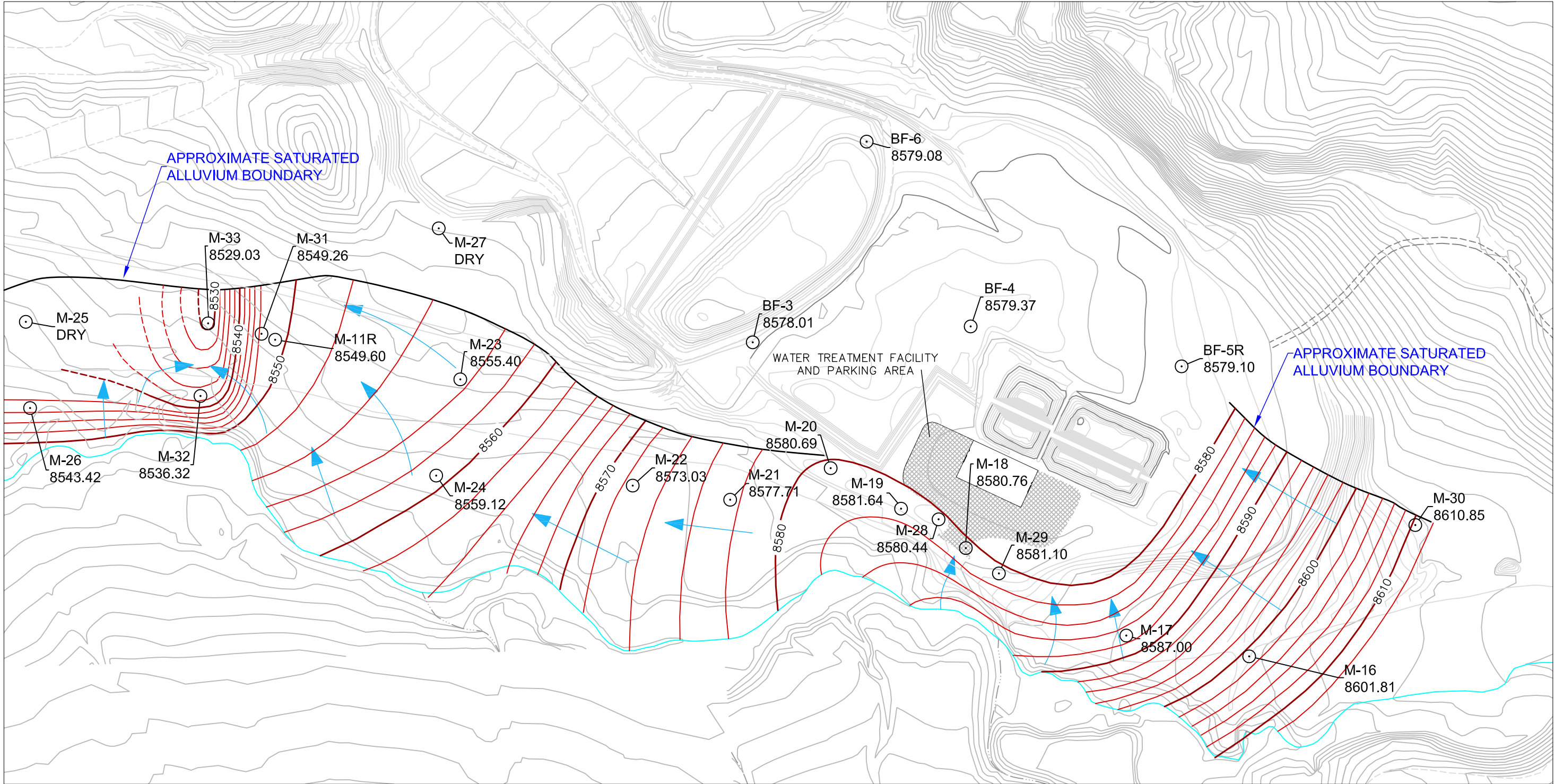
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Julio Madrid

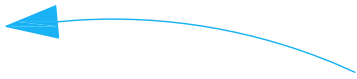
Signature: 

Date: July 26, 2023

O:\05 San Luis\POTENTIOMETRIC MAPS\GW Map 2023 2nd qtr\Groundwater 2023 2nd Qtr.dwg SAVED: 7/23/23 PRINTED: 7/24/23



KEY



GROUND WATER FLOW
DIRECTION

8560

LINE OF EQUIPOTENTIAL
HYDRAULIC HEAD



M-23
8555.72

WELL NAME

WATER LEVEL



SAN LUIS PROJECT

Engineering Analytics, Inc.

ISSUED BY

Drawn By: RDP
Designed By: AF
Approved By: AF
Date: 7/23/2023
Project: 21010506
Scale: 1" = 200'
Sheet Number:

1

ALLUVIAL GROUND WATER
POTENTIOMETRIC SURFACE MAP
SECOND QUARTER (APRIL 2023)

NO	REVISION DESCR.	DATE	BY
A			
B			
C			
1			
2			

THIS SHEET, INCLUDING ENGINEERING, SURVEYING AND INFORMATION IS PROVIDED SOLELY FOR THE PROJECT INTENDED IN THE TITLE BLOCK. IT MAY NOT BE SUITABLE OR SAFE FOR OTHER PURPOSES. ANY OTHER USE OF THE SHEET, WITHOUT THE WRITTEN CONSENT OF THE ENGINEER, IS PROHIBITED.



May 2, 2023

Julio Madrid
Battle Mountain Resources, Inc.
P.O. Box 310
San Luis, CO 81152

Dear Julio:

Enclosed is the report for chronic biomonitoring tests performed for Battle Mountain Resources, Inc. on effluent from the 001B outfall. There was statistically significant toxicity to the *Ceriodaphnia dubia* test species resulting in a single endpoint failure. However, the effluent passes WET (Whole Effluent Toxicity) testing requirements for this sampling period.

If you have any questions or concerns, please do not hesitate to contact me at (303) 661-9324.

Best regards,

Haley West
Laboratory Manager
Enclosure(s): Invoice
Report

**REPORT OF CHRONIC BIOMONITORING TESTS
CONDUCTED FOR
BATTLE MOUNTAIN RESOURCES, INC.
ON EFFLUENT FROM
THE 001B OUTFALL**

Prepared for:

Julio Madrid
Battle Mountain Resources, Inc.
P.O. box 310
San Luis, CO 81152

Prepared by:

Haley West
SeaCrest Group
500 S Arthur Ave. Suite 450
Louisville, Colorado 80027-3065
(303) 661-9324

May 2, 2023

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Chronic Toxicity Test Summary

Test:	7-day static renewal using <i>Ceriodaphnia dubia</i> 7-day static renewal using fathead minnow (<i>Pimephales promelas</i>)
Client:	Battle Mountain Resources, Inc.
Test Procedure Followed:	<i>Ceriodaphnia dubia</i> : EPA/821/R-02-013. Method 1002.0 (2002) fathead minnow: EPA/821/R-02-013. Method 1000.0 (2002)
Sample Number:	423188.B
Dilution Water:	moderately hard laboratory reconstituted water
Test Organism Source:	SeaCrest Group
Reference Toxicant:	Sodium Chloride

Sample	Time of Collection	Date of Collection	Time of Receipt	Date of Receipt
Effluent 1	0600	04-17-2023	1305	04-17-2023
Effluent 2	0600	04-19-2023	1040	04-19-2023
Effluent 3	0600	04-21-2023	1020	04-21-2023

	<i>Ceriodaphnia dubia</i>	fathead minnow
Test Initiation Time	1400	1400
Test Initiation Date	04-17-2023	04-17-2023
Test Completion Time	1405	1300
Test Completion Date	04-24-2023	04-24-2023

Abstract with Results

Test Concentrations:	Control (0%), 13%, 26%, 52%, 76%, 100%
Number of Organisms/Concentration:	10 for <i>Ceriodaphnia dubia</i> 40 for fathead minnow
Replicates at each Concentration:	10 for <i>Ceriodaphnia dubia</i> 4 for fathead minnow

	<i>Ceriodaphnia dubia</i>	fathead minnow
Test vessel size/Exposure volume	30ml/15ml	500ml/200ml
Sub-lethal NOEL/IC25	52%/7.7%	100%/>100%
Pass/Fail Status	PASS*	PASS
Temperature Range (°C)	24.1 – 25.7	24.1 – 25.3
Dissolved Oxygen Range (mg/L)	6.8 – 8.9	5.0 – 8.9
pH Range	7.7 – 8.1	6.9 – 8.2
*Single endpoint failure		
	Control (<i>Cerio</i>/FHM)	Effluent Sample
Hardness (mg/L as CaCO ₃)	80/87	45/37/29
Alkalinity (mg/L as CaCO ₃)	60/57	33/31/21
Total residual chlorine (mg/L)	<0.01	<0.01
Total ammonia (mg/L as NH ₃)	<0.03	0.05/<0.03/0.04

INTRODUCTION

Biomonitoring provides an effective means by which the toxicity of discharges from municipal, industrial, and mining operations can be tested. Among the advantages of biomonitoring is the ability to test complex effluents containing a broad range of contaminants. Biomonitoring, when used in conjunction with chemical analyses, can generate data capable of identifying a much wider range of contaminants.

The Colorado Water Quality Control Division requires certain NPDES permittees to perform acute and/or chronic biomonitoring tests. The chronic test measures significant differences in lethality and in reproduction (*Ceriodaphnia dubia*) or growth (fathead minnow – *Pimephales promelas*) between control and effluent-exposed organisms.

The present report discusses the results of chronic biomonitoring tests conducted on effluent from the Battle Mountain Resources, Inc. 001B discharge. These tests were conducted in accordance with EPA and State of Colorado procedures in April 2023.

MATERIALS AND METHODS

Sample Collection

Two gallons of the effluent were collected on three separate dates as specified in Permit CO-0045675. Samples were delivered chilled to the SeaCrest lab where they were held at 0-6°C. Chain of custody forms showing sample collection and laboratory arrival times are included (Appendix 1).

Dilution Water

Laboratory reconstituted water was used as both the dilution water source and the control for the tests. Reconstituted water for the *Ceriodaphnia dubia* test was produced by adding sodium bicarbonate, calcium sulfate, magnesium sulfate, potassium chloride, and sodium selenate to deionized water. Reconstituted water for the fathead minnow test was produced by adding sodium bicarbonate, calcium sulfate, magnesium sulfate, and potassium chloride to deionized water.

Test Organisms

The biomonitoring test used *Ceriodaphnia dubia*, cultured in the SeaCrest laboratory. The organisms are cultured in brood culture boards from which individual females are monitored for survival and reproduction for periods of up to two weeks. Neonates less than 24-hours old, released from third or subsequent broods of eight or more within an 8-hour period, are collected from the brood chambers and used in tests. The animals are fed daily with a mixture of Yeast, Cereal Leaves, and Trout Chow (YCT), produced in-house. This is supplemented with cultured green algae (*Selenastrum capricornutum*) provided by Aquatic Biosystems.

Less than one-day-old fathead minnow, cultured in the laboratory, were also used in the test. Adult fish are maintained in 10-gallon aquaria where females deposit their eggs on the under-surface of split PVC pipe sections. The eggs are collected daily and transferred to aerated containers where they hatch after three to four days. The larval fish are fed newly hatched brine shrimp (*Artemia* sp.) at least twice per day.

In-house organisms are tested monthly in a reference toxicant test using sodium chloride to monitor overall health and test reproducibility (Appendix 4).

Test Procedures

Upon receipt at the lab, samples were analyzed for alkalinity, ammonia, chlorine, conductivity, dissolved oxygen, hardness, and pH.

Methods used in chemical analysis

Alkalinity	EPA 310.2	Hach 8203	I-2030-85.2
Ammonia	SM4500-NH ₃ , C-E1997	ASTM D1426-08	
Chlorine	SM4500-Cl D	Hach 10026	
Conductivity	SM2510		
Dissolved Oxygen	SM4500-O	Electrode: G-2001	Winkler (QC): B-F-2001
Hardness	SM2340 B or C	Hach 8213	
pH	SM4500-H+ B-2000		

The test followed procedures in EPA³ and CDPHE⁴ guidelines. Exposure concentrations included control (0%), 13%, 26%, 52%, 76%, and 100% mixtures, diluted with moderately hard laboratory reconstituted water.

Individual *Ceriodaphnia dubia* were placed in 30ml plastic containers containing approximately 15ml of exposure medium. Ten replicates at each concentration were used. The animals were fed daily with the YCT mixture and an equal volume of the green algae (*Selenastrum capricornutum*). The exposure medium was changed daily in each container and the number of young released overnight were counted and recorded. Young were removed from the containers daily and discarded. Routine measurements were made each day of temperature, dissolved oxygen, and pH before and after the water changes.

Fathead minnow were exposed in 500ml plastic cups to which 250ml of media was replaced daily. Four replicates were used at each concentration. Ten fish, less than 24-hours old, were placed in each cup. The fish were monitored daily for survival and fed live brine shrimp at least twice per day. After seven days, the fish were removed from the cups, euthanized with isopropyl alcohol, and then placed in aluminum pans and dried in an oven for a minimum of six hours at 100°C. The pans were then weighed on a five-place analytical balance to determine the average dry weight of the fish from each replicate.

Data Analysis

Data from the tests were analyzed on a personal computer using the CETIS program (developed by Tidepool Scientific Software). Statistical tests used in the analyses are shown in Table 1. Test acceptability was determined using control survival and reproduction/growth criteria, concentration-response relationships, and percent minimum significant differences (USEPA^{5,6}).

Table 1. Statistical methods used in testing for significant differences in test parameters.

Variance		Distribution		
Bartlett Equality of Variance Test		Shapiro-Wilk W Normality Test		
Statistical Difference				
Species	Survival	Growth	Reproduction	IC ₂₅
<i>Ceriodaphnia dubia</i>	Fisher Exact/Bonferroni-Holm Test	N/A	Dunnett Multiple Comparison Test	ICp
fathead minnow	Steel Many-One Rank Sum Test	Dunnett Multiple Comparison Test	N/A	ICp

RESULTS

Ceriodaphnia dubia Test Results

Test results for the *Ceriodaphnia dubia* are summarized in Table 2 and provided on the data sheets located in Appendix 2. Survival was 20% in the 100% effluent and ranged from 40% - 60% in the remaining effluent concentrations. Control survival was 90%. Statistically significant lethality was measured in the 100% effluent concentration when compared to the control. The NOEL (No Observed Effect Level) for lethality was 76% and the LC₂₅ (Lethal Concentration 25) for lethality was 7.3%.

Average number of neonates was 3.2 in the 100% effluent concentration and ranged from 6.2 – 10.5 in the remaining effluent concentrations. Average number of neonates in the control was 16.1 for statistical analyses and test acceptability criteria. Statistically significant differences in the number of neonates were found between the control and the 76% and 100% effluent concentrations. The NOEL for reproduction was 52% and the IC₂₅ (Inhibition Concentration 25) for reproduction was 7.7%.

Table 2. Summary of *Ceriodaphnia dubia* test results. An asterisk (*) denotes a statistically significant difference from the control.

Concentration	Percent Survival	Mean Neonates	Min.	Max.	Significant Difference	
					Lethality	Reprod.
Control (0%)	90	16.1	0	24		
13%	40	7.1	0	22		
26%	60	10.5	0	23		
52%	50	10.3	0	29		
76%	50	6.2	0	18		*
100%	20	3.2	0	21	*	*

Fathead Minnow Test Results

Fathead minnow results are summarized in Table 3 and are provided on data sheets in Appendix 3. Survival was 100% in the 100% effluent concentration and ranged from 98% - 100% in the remaining effluent concentrations. Control survival was 100%. No statistically significant lethality was measured in any effluent concentration when compared to the control. The NOEL for lethality was 100% and the LC₂₅ for lethality was >100%.

Average weight in the 100% effluent concentration was 0.457mg and ranged from 0.410mg - 0.458mg per individual in the remaining effluent concentrations. Average weight for the control fish was 0.447mg for statistical analyses and test acceptability criteria. No statistically significant differences for growth were measured in any effluent concentration when compared to the control. The NOEL for growth was 100% and the IC₂₅ for growth was >100%.

Table 3. Summary of fathead minnow test results. An asterisk (*) denotes a statistically significant difference from the control.

Concentration	Percent Survival	Average Weight (mg)	Min.	Max.	Significant Difference	
					Lethality	Growth
Control (0%)	100	0.447	0.394	0.477		
13%	98	0.410	0.291	0.473		
26%	98	0.435	0.300	0.540		
52%	100	0.453	0.403	0.494		
76%	100	0.458	0.405	0.479		
100%	100	0.457	0.438	0.488		

Test Acceptability

Acceptable control survival (80%) was achieved in both tests. Similarly, *Ceriodaphnia dubia* reproduction (average 15 neonates/organism) and fathead minnow growth (average 0.250mg/test container) in control organisms met required levels. PMSD for *Ceriodaphnia dubia* reproduction in effluent concentrations was not within the required limits for an acceptable test due to the presence of statistically significant toxicity in the 76% and 100% effluent dilutions (Table 4).

Table 4. PMSD for chronic test parameters.

PMSD (% Minimum significant difference)	fathead minnow growth		<i>C. dubia</i> reproduction	
	Lower bound	Upper bound	Lower bound	Upper bound
	12	30	13	47
	22.8		57.1	

DISCUSSION

A failed test for this discharge occurs when there is an NOEL or IC₂₅ less than the IWC (Instream Waste Concentration) of 52%. The NOEL represents the highest effluent concentration at which no statistically significant effect is observed. The IC₂₅ represents an estimate of the effluent concentration that would cause a 25 percent reduction of a non-quantal biological measurement. A violation for this discharge occurs when both the NOEL and the IC₂₅ are less than the IWC. Since neither test species demonstrated statistically significant differences meeting these criteria, the discharge passes WET testing requirements for this sampling period.

REFERENCES

1. **Hach Chemical Company.** 2008. *Hach's Water Analysis Handbook*. Fifth Edition. Hach Chemical Company, Loveland, Colorado. Digital Medium.
2. **APHA/AWWA/WEF.** 1998. *Standard Methods for the Examination of Water and Wastewater*. 20th Edition. American Public Health Association, Washington, D.C.
3. **USEPA.** 2002. *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*. EPA-821-R-02-013. 335 pp.
4. **CDPHE (Colorado Department of Public Health and Environment).** 1998. *Laboratory Guidelines for Conducting Whole Effluent Toxicity Tests*. Water Quality Control Division.
5. **USEPA.** 2000. *Method of Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR Part 136). EPA/821/B-00/004.
6. **USEPA.** 2000. *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the National Pollutant Discharge Elimination System Program*. EPA/833/R-00/003.

Appendix 1 – Chain of Custody with Sample Receipt Forms

Client/Project Name: BMRI

P. O./Project Number: San Luis

Contact: Tulio Madrid

Address: P.O. Box 310 San Luis, CO 81152

Phone #	719-379-0827	E-Mail:	David@Carino@Newmont.
---------	--------------	---------	-----------------------

Fax #	N/A	Sampler: David S. Curino
-------	-----	--------------------------

Report By: ☒ Mail ☐ PDF ☐ FAX

Sample Location or ID	Date	Time
-----------------------	------	------

Sample Location or ID	Date	Time	Grab/ Comm	Lab ID (LAB Use Only)
-----------------------	------	------	---------------	--------------------------

WET Test	4/17/73	0600	1000
			12385.6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Turnaround Requirements					

(Analytical Testing Only)	test Species: <input checked="" type="checkbox"/> Fathead <input type="checkbox"/>
---------------------------	--

_____ Standard (10 days) _____ 6-9 Day _____ Special Instructions/Comments

_____ 3-5 Day _____ 1-2 Day *outfall-0*

Requested Report Date:

Relinquished By (1)	Received By (1)
---------------------	-----------------

Signature	Date/Time	Signature	Date/Time
	11/17/23		11/17/23

David & Carmel	411112	Holly West	Call 12
	Also		1205

2				
---	--	--	--	--

Sample Receipt Form

Project # 423 188.B

Date: 04/12/23

Samples Were:

1. FedEx UPS Courier

Notes:

2. Chilled to Ship

3. Cooler Received Broken or Leaking

Notes:

4. Sample Received Broken or Leaking

Notes:

5. Received Within 36hr Holding Time

Notes:

6. Aeration necessary

7. pH adjustment necessary

8. Sample Received at Temperature between 0-6° C .

Notes: same day sample

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: clear, no pm

Receiving: N/A

Presence of native species:

Sample #: 1

Initials: JW

Hand Delivery (circle one)

Ambient Chilled

Y N NA

Y N

Y N

Y N

Y N

Y N NA

Y N

Lab #	Temp	D.O.	pH	Cond
188#1	4.5°C	7.9	8.0	298

Custody Seals:

1. Present on Outer Package

Y N

2. Unbroken on Outer Package

Y N NA

3. Present on Sample

Y N

4. Unbroken on Sample

Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y N

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 545 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 4/17/23 Circle One M W F

Sampling Personnel: A. Taylor, R. Lucero, S. Maestas, D. Carino
 ~3 Hour Time 0900 Observation good water flow, power on to sampler, sample container on ice
 ~6 Hour Time 1200 Observation good water flow, power on to sampler, sample container on ice
 ~9 Hour Time 1500 Observation good water flow, power on to sampler, sample container on ice
 ~12 Hour Time 1800 Observation good water flow, power on to sampler, sample container on ice
 ~15 Hour Time 2100 Observation good water flow, power on to sampler, sample container on ice
 ~18 Hour Time 2400 Observation good water flow, power on to sampler, sample container on ice
 ~21 Hour Time 0300 Observation good water flow, power on to sampler, sample container on ice
 ~24 Hour Time 0600 Observation good water flow, power on to sampler, sample container on ice

Volume sent to lab 2 gallons

Total Volume Collected 4 gallons
 Samples packed on ice ☐
 Completed COC ☐
 Cooler Sealed ☐
~~UPS pick up on time~~ ☐

BmRJ Delivered ☒

Sample Receipt Form

Project # 423 188.B

Date: 04/19/23

Samples Were:

1. FedEx UPS Courier

Notes:

2. Chilled to Ship

3. Cooler Received Broken or Leaking

Notes:

4. Sample Received Broken or Leaking

Notes:

5. Received Within 36hr Holding Time

Notes:

6. Aeration necessary

7. pH adjustment necessary

8. Sample Received at Temperature between 0-6° C .

Notes: *same day sample*

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: *no pm, clear*

Receiving: *N/A*

Presence of native species:

Sample #: 2

Initials: DT

Hand Delivery (circle one)

Ambient Chilled

Y N NA

Y N

Y N

Y N

Y N

Y N NA

Y N

Lab #	Temp	D.O.	pH	Cond
<i>188.B#2</i>	<i>6.5</i>	<i>7.9</i>	<i>8.0</i>	<i>311</i>

Custody Seals:

1. Present on Outer Package

2. Unbroken on Outer Package

3. Present on Sample

4. Unbroken on Sample

Y

N

Y

N

NA

Y

N

Y

N

NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y

N

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 550 GPM

ISCO Sampling Schedule 100 ml per 10 minutes

Start Sample Program: Time 0600

End Sample Program: Time 0600 Date 4/19/23 Circle One: M ☒ W ☐ F ☐

Sampling Personnel: A. Taylor, D. Carino, R. Lucero, S. Maestas

~3 Hour Time 0900 Observation good water flow, power on to sampler, sample container on ice

~6 Hour Time 1200 Observation good water flow, power on to sampler, sample container on ice

~9 Hour Time 1500 Observation good water flow, power on to sampler, sample container on ice

~12 Hour Time 1800 Observation good water flow, power on to sampler, sample container on ice

~15 Hour Time 2100 Observation good water flow, power on to sampler, sample container on ice

~18 Hour Time 2400 Observation good water flow, power on to sampler, sample container on ice

~21 Hour Time 0300 Observation good water flow, power on to sampler, sample container on ice

~24 Hour Time 0600 Observation good water flow, power on to sampler, sample container on ice

Volume sent to lab 2 gallons

Total Volume Collected 4 gallons

Samples packed on ice ☐

Completed COC ☐

Cooler Sealed ☐

UPS ~~pick up on time~~ ☐

BML Delivered ☒

Sample Receipt Form

Project # 423 188.B

Date: 04/21/23

Samples Were:

1. FedEx UPS Courier

Notes:

2. Chilled to Ship

Ambient Chilled

3. Cooler Received Broken or Leaking

Y N NA

Notes:

4. Sample Received Broken or Leaking

Y N

Notes:

5. Received Within 36hr Holding Time

Y N

Notes:

6. Aeration necessary

Y N

7. pH adjustment necessary

Y N

8. Sample Received at Temperature between 0-6°C .

Y N NA

Notes: *same day sample*

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: *no visible pm*

Receiving: *N/A*

Presence of native species:

Y N

Lab #	Temp	D.O.	pH	Cond
188.B #3	6.0	7.9	8.1	326

Custody Seals:

1. Present on Outer Package

Y N

2. Unbroken on Outer Package

Y N NA

3. Present on Sample

Y N

4. Unbroken on Sample

Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y N

Y

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 540 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 4/21/23 Circle One: M W F

Sampling Personnel: S. Maestas, D Carino, A. Taylor, Randy Lucero

~3 Hour Time 0900 Observation good water flow, Power on to Sampler, Sample Container on ice

~6 Hour Time 1200 Observation good water flow, Power on to Sampler, Sample Container on ice

~9 Hour Time 1500 Observation good water flow, Power on to Sampler, Sample Container on ice

~12 Hour Time 1800 Observation good water flow, Power on to Sampler, Sample Container on ice

~15 Hour Time 2100 Observation good water flow, Power on to Sampler, Sample Container on ice

~18 Hour Time 2400 Observation good water flow, Power on to Sampler, Sample Container on ice

~21 Hour Time 0300 Observation good water flow, Power on to Sampler, Sample Container on ice

~24 Hour Time 0600 Observation good water flow, Power on to Sampler, Sample Container on ice

Total Volume Collected 4 gallons
 Samples packed on ice ☒
 Completed COC ☒
 Cooler Sealed ☒
 UPS pick up on time ☒

Volume sent to lab 2 gallons
~~Good water flow, Power on to Sampler, Sample Container on ice~~

Appendix 2 – Data Sheets for the *Ceriodaphnia dubia* Test

WET TEST REPORT FORM – CHRONIC

Permittee: Battle Mountain Resources, Inc.
Permit No.: CO-0045675
Outfall: 001B – IWC: 52%
Test Type: Routine ☒ Accelerated ☐ Screen ☐
Test Species: *Ceriodaphnia dubia*

Test Start Time	Test Start Date	Test End Time	Test End Date
1400	04-17-2023	1405	04-24-2023

Test Results	Lethality/TCP3B	Reproduction/TKP3B
S code: NOEL	76%	52%
	PASS	PASS
P code: LC ₂₅ /IC ₂₅	7.3%	7.7%
	FAIL	FAIL
T code:	76%	52%

Test Summary

Measurements	Control (0%)	13%	26%	52%	76%	100%
Exposed organisms	10	10	10	10	10	10
Survival for day 1	10	10	10	10	10	10
Survival for day 2	9	7	9	8	9	6
Survival for day 3	9	5	6	5	6	2
Survival for day 4	9	4	6	5	5	2
Survival for day 5	9	4	6	5	5	2
Survival for day 6	9	4	6	5	5	2
Survival for day 7	9	4	6	5	5	2
Mean 3 Brood Total	16.1	7.1	10.5	10.3	6.2	3.2

Hardness (mg/L) – Receiving Water: N/A Effluent: 45/37/29 Recon Water: 80
Alkalinity (mg/L) – Receiving Water: N/A Effluent: 33/31/21 Recon Water: 60
Chlorine (mg/L) – Effluent: <0.01 pH (initial/final) – Control: 8.1/8.0 100%: 8.0/8.0
Total Ammonia as NH₃ (mg/L) - Effluent: 0.05/<0.03/0.04

Were all Test Conditions in Conformance with Division Guidelines? YES ☒ NO ☐

If **NO**, list deviations from test specifications: N/A

Laboratory: SeaCrest Group

Comments:

Analyst's Name: Olivia Montoya, Daniela Thornton, and Julie McKenney

Signature Kalyn Hunt Date May 2, 2023

Permittee: BMRI Lab #: 423188.0 Site: 001B
IWC %: 52 Template #: 5 Dilution Water: MH23-008 Sample Date: 041723
Age & Source: 041723 1140 Test Start: 041723 1400 Test End: 042423 1405

Test Conditions:

	0	1	2	3	4	5	6	7	Total						
(C)	0	0	0	0	5	5	0	10	20						
0	0	0	0	0	3	8	10	0	21						
	0	0	0	0	6	8	10	12	24						
	0	0	0	0	4	0	4	8	16						
	0	0	0	0					0						
	0	0	0	0	5	8	6	10	19						
	0	0	0	0	2+2	0	4	0	8						
	0	0	0	0	4	0	4	4	12						
	0	0	0	5	0	2	5	12	24						
	0	0	0	0	3+2	0	0	12	17						
DO	7.8	7.4	7.0	7.2	7.0	7.8	6.8	7.7	6.8	7.3	6.9	7.8	7.4	16.1	
Temp	24.1	24.5	24.1	24.7	24.1	24.4	24.1	24.4	24.1	24.7	24.1	24.7	24.1		24.5
pH	8.1	8.0	8.0	7.9	8.1	8.0	8.0	7.9	8.1	8.0	8.1	8.0	8.1		8.0
Cond	330	336		357		324		328		313		335			
(1)	0	0	0	0					0						
13	0	0	0	0	5	7	0	10	22						
	0	0	0	0	5	6	8	12	19						
	0	0	0	0					0						
	0	0	0	0					0						
	0	0	0	0	0				0						
	0	0	0	0	3	5	6	0	14						
	0	0	0	0					0						
	0	0	0	0	0	0			0						
	0	0	0	0	0	0	6	10	16						
DO	7.0	7.5	7.2	7.2	7.1	7.8	7.0	7.7	6.9	7.3	7.0	7.8	8.0	7.4	7.1
Temp	24.1	24.5	24.1	24.7	24.3	24.4	24.2	24.4	24.1	24.7	24.1	24.7	24.1	24.5	
pH	8.1	8.0	8.0	7.9	8.1	8.0	8.1	7.9	8.1	8.0	8.1	8.0	8.0	8.0	
Cond	326	334		343		326		324		306		314			
(2)	0	0	0	0					0						
26	0	0	0	0	2	8	0	10	20						
	0	0	0	0					0						
	0	0	0	0	2	4	6	0	12						
	0	0	0	0					0						
	0	0	0	0	5	10	8	12	23						
	0	0	0	0	1+3	0	0	5	9						
	0	0	0	0	4	6	8	0	18						
	0	0	0	0					0						
	0	0	0	0	4	9	10	0	23						
DO	7.2	7.5	7.6	7.2	7.2	7.7	7.2	7.6	7.0	7.3	7.0	7.9	8.1	7.4	10.5
Temp	24.1	24.5	24.1	24.7	24.5	24.4	24.3	24.4	24.2	24.7	24.1	24.7	24.1	24.5	
pH	8.1	8.0	8.0	7.8	8.1	8.0	8.1	7.9	8.1	7.9	8.1	8.0	8.0	8.0	
Cond	331	330		337		324		319		297		309			
(3)	0	0	0	0	5	7	12	0	24						
52	0	0	0	0	4	6	0	10	20						
	0	0	0	0	7	10	12	14	29						
	0	0	0	0	0	0	0	10	10						
	0	0	0	0					0						
	0	0	0	0					0						
	0	0	0	0					0						
	0	0	0	0	4+1	0	5	10	20						
	0	0	0	0	0	0			0						
	0	0	0	0	0	0			0						
DO	7.4	7.6	8.0	7.2	7.5	7.6	7.4	7.6	7.1	7.4	7.1	7.9	8.3	7.5	10.3
Temp	24.1	24.5	24.1	24.7	24.9	24.4	24.4	24.4	24.3	24.9	24.1	24.7	24.1	24.5	
pH	8.1	8.0	8.0	7.8	8.1	7.9	8.1	7.9	8.1	7.9	8.0	7.9	8.0	8.0	
Cond	320	320		330		315		305		283		299			

HW

	0	1	2	3	4	5	6	7	Total	
(4)	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0
	0	0	0	2	0	6	10	14	18	0
	0	0	0	0	3+1	0	6	0	16	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	4+3	0	0	4	11	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	4+2	0	4	0	10	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	5+2	0	0	6	13	0
DO	7.4	7.7	7.4	7.2	7.5	7.6	7.5	7.2	8.0	8.4
Temp	24.1	24.5	24.1	24.7	25.3	24.4	24.5	24.7	24.1	24.5
pH	8.0	8.0	8.0	7.7	8.0	7.9	8.1	7.9	7.9	8.0
Cond	303	311	320	307	292	267	289			
(5)	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
DO	7.9	7.8	7.9	7.2	7.9	7.4	7.8	7.5	7.3	7.4
Temp	24.1	24.5	24.1	24.7	25.7	24.4	24.6	24.4	24.4	24.7
pH	8.0	8.0	7.9	7.7	8.0	7.9	8.1	7.9	8.0	7.8
Cond	298	301	311	300	278	253	277			
Algae	ABS	ABS	ABS	ABS	ABS	ABS	ABS			
YCT	2302	2302	2302	2302	2302	2302	2302			
H ₂ O	1	1	2	2	3	3	2			
Initials	om	om	DT	JM	JM	DT	om	om		
	Eff #1		Eff #2		Eff #3		Recon			
Hardness	45		37		29		80			
Alkalinity	33		31		21		60			
Chlorine	10.01		10.01		10.01		10.01			
Ammonia	0.05		10.03		0.04		10.03			

Exposure Chamber:
Total Capacity: 30mL
Total Solution Volume: 15mL

Feeding Schedule:
Fed daily
Food used: YCT, Algae

Units:
DO: mg/L
Temp: °C
pH: N/A
Cond: µS/cm³
Hardness: mg/L
Alkalinity: mg/L
Chlorine: mg/L
Ammonia: mg/L

Comments: active

x:y:z = board #:row:column

1	2	3	4	5	6	7	8	9	10
A1	A3	A7	A8	A9	B2	B7	B8	C9	C10

CETIS Analytical Report

Report Date: 25 Apr-23 13:55 (p 1 of 1)
 Test Code/ID: 423188CD / 12-4685-5554

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 05-9405-6854	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 25 Apr-23 13:55	Analysis: STP 2xK Contingency Tables	Status Level: 1
Batch ID: 20-2296-4822	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 17 Apr-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 24 Apr-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 14-5145-3006	Code: 423188.B	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 17 Apr-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 17 Apr-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	76	100	87.18	1.316

Fisher Exact/Bonferroni-Holm Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	0.0286	Exact	0.1146	Non-Significant Effect
		26	0.1517	Exact	0.1517	Non-Significant Effect
		52	0.0704	Exact	0.2113	Non-Significant Effect
		76	0.0704	Exact	0.2113	Non-Significant Effect
		100*	0.0027	Exact	0.0137	Significant Effect

Data Summary

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	9	1	10	0.9	0.1	0.0%
13		4	6	10	0.4	0.6	55.56%
26		6	4	10	0.6	0.4	33.33%
52		5	5	10	0.5	0.5	44.44%
76		5	5	10	0.5	0.5	44.44%
100		2	8	10	0.2	0.8	77.78%

CETIS Analytical Report

Report Date: 25 Apr-23 13:55 (p 1 of 1)
Test Code/ID: 423188CD / 12-4685-5554

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 10-3366-6213	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 25 Apr-23 13:55	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 20-2296-4822	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 17 Apr-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 24 Apr-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 14-5145-3006	Code: 423188.B	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 17 Apr-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 17 Apr-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	795886	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC5	1.462	1.083	5.85	68.38	17.09	92.31
LC10	2.925	2.167	11.7	34.19	8.547	46.15
LC15	4.387	3.25	32.72	22.79	3.057	30.77
LC20	5.85	4.333	42.34	17.09	2.362	23.08
LC25	7.312	5.417	77	13.68	1.299	18.46
LC40	11.7	8.667	87.2	8.547	1.147	11.54
LC50	80	10.83	n/a	1.25	n/a	9.231

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	D	10	0.9000	0.0000	1.0000	0.3162	35.14%	0.0%	9/10	0.9	0.0%
13		10	0.4000	0.0000	1.0000	0.5164	129.10%	55.56%	4/10	0.5	44.44%
26		10	0.6000	0.0000	1.0000	0.5164	86.07%	33.33%	6/10	0.5	44.44%
52		10	0.5000	0.0000	1.0000	0.5270	105.40%	44.44%	5/10	0.5	44.44%
76		10	0.5000	0.0000	1.0000	0.5270	105.40%	44.44%	5/10	0.5	44.44%
100		10	0.2000	0.0000	1.0000	0.4216	210.80%	77.78%	2/10	0.2	77.78%

CETIS Analytical Report

Report Date: 26 Apr-23 09:59 (p 1 of 1)
Test Code/ID: 423188CD / 12-4685-5554

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 20-3649-4811	Endpoint: Reproduction	CETIS Version: CETISv1.9.6
Analyzed: 26 Apr-23 9:58	Analysis: Parametric-Control vs Treatments	Status Level: 1
Batch ID: 20-2296-4822	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 17 Apr-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 24 Apr-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 14-5145-3006	Code: 423188.B	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 17 Apr-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 17 Apr-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	52	76	62.86	1.923	57.12%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	2.24	2.289	9.197	18	CDF	0.0556	Non-Significant Effect
		26	1.394	2.289	9.197	18	CDF	0.2540	Non-Significant Effect
		52	1.444	2.289	9.197	18	CDF	0.2363	Non-Significant Effect
		76*	2.464	2.289	9.197	18	CDF	0.0337	Significant Effect
		100*	3.211	2.289	9.197	18	CDF	0.0049	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	993.8	198.76	5	2.463	0.0441	Significant Effect
Error	4357.6	80.6963	54			
Total	5351.4		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.068	15.09	0.5397	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9461	0.9459	0.0102	Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	16.1	10.69	21.51	18	0	24	2.392	46.98%	0.00%
13		10	7.1	0.3855	13.81	0	0	22	2.968	132.20%	55.90%
26		10	10.5	3.329	17.67	10.5	0	23	3.17	95.48%	34.78%
52		10	10.3	1.849	18.75	5	0	29	3.736	114.70%	36.02%
76		10	6.2	1.258	11.14	5	0	18	2.185	111.43%	61.49%
100		10	3.2	-1.912	8.312	0	0	21	2.26	223.32%	80.12%

CETIS Analytical Report

Report Date: 26 Apr-23 09:59 (p 1 of 1)
Test Code/ID: 423188CD / 12-4685-5554

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 01-9341-8659	Endpoint: Reproduction	CETIS Version: CETISv1.9.6
Analyzed: 26 Apr-23 9:58	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 20-2296-4822	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 17 Apr-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 24 Apr-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 14-5145-3006	Code: 423188.B	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 17 Apr-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 17 Apr-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2065562	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	1.539	1.032	31.06	64.98	3.22	96.87
IC10	3.078	2.065	54.28	32.49	1.842	48.43
IC15	4.617	3.097	57.26	21.66	1.746	32.29
IC20	6.156	4.129	60.02	16.24	1.666	24.22
IC25	7.695	5.162	64.6	13	1.548	19.37
IC40	12.31	8.259	80.43	8.122	1.243	12.11
IC50	61.68	10.32	89.76	1.621	1.114	9.687

Reproduction Summary

Reproduction Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	Mean	%Effect
0	D	10	16.1	0	24	7.564	46.98%	0.0%	16.1	0.0%
13		10	7.1	0	22	9.386	132.20%	55.9%	9.3	42.24%
26		10	10.5	0	23	10.02	95.48%	34.78%	9.3	42.24%
52		10	10.3	0	29	11.81	114.70%	36.02%	9.3	42.24%
76		10	6.2	0	18	6.909	111.40%	61.49%	6.2	61.49%
100		10	3.2	0	21	7.146	223.30%	80.12%	3.2	80.12%

Appendix 3 – Data Sheets for the Fathead Minnow Test

WET TEST REPORT FORM – CHRONIC

Permittee: Battle Mountain Resources, Inc.
Permit No.: CO-0045675
Outfall: 001B – IWC: 52%
Test Type: Routine ☒ Accelerated ☐ Screen ☐
Test Species: fathead minnow

Test Start Time	Test Start Date	Test End Time	Test End Date
1400	04-17-2023	1300	04-24-2023

Test Results	Lethality/TCP6C	Growth/TKP6C
S code: NOEL	100%	100%
	PASS	PASS
P code: LC ₂₅ /IC ₂₅	>100%	>100%
	PASS	PASS
T code:	>100%	>100%

Test Summary

Measurements	Control (0%)	13%	26%	52%	76%	100%
Exposed organisms	40	40	40	40	40	40
Survival for day 1	40	40	40	40	40	40
Survival for day 2	40	39	39	40	40	40
Survival for day 3	40	39	39	40	40	40
Survival for day 4	40	39	39	40	40	40
Survival for day 5	40	39	39	40	40	40
Survival for day 6	40	39	39	40	40	40
Survival for day 7	40	39	39	40	40	40
Mean Dry Wt. (mg)	0.447	0.410	0.435	0.453	0.458	0.457

Hardness (mg/L) – Receiving Water: N/A Effluent: 45/37/29 Recon Water: 87
Alkalinity (mg/L) – Receiving Water: N/A Effluent: 33/31/21 Recon Water: 57
Chlorine (mg/L) – Effluent: <0.01 pH (initial/final) – Control: 8.1/7.6 100%: 7.8/7.2
Total Ammonia as NH₃ (mg/L) - Effluent: 0.05/<0.03/0.04

Were all Test Conditions in Conformance with Division Guidelines? YES ☒ NO ☐

If **NO**, list deviations from test specifications: N/A

Laboratory: SeaCrest Group

Comments:

Analyst's Name: Haley West, Catherine McDonald, Olivia Montoya, Julie McKenney, and Lindsay Rutherford

Signature

Haley West

Date

May 2, 2023

Fathead Minnow Chronic Benchsheet

Client: BMRISite: 001BLab #: 423188.BSample Date: 04/23/2000 IWC: 52Dilution H₂O: MAR23-014

Conc	Read	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	#	Fish & Tare	Tare	Fish Wt. mg	Ave wt				
0	DO	12.9	7.3	7.1	7.8	10.7	6.4	10.7	6.4	10.7	6.4	10.7	6.4	10.7	6.4	10.7	6.4	#1	1.2846	1.2456	0.440					
	Temp	24.1	25.1	25.1	24.2	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	#2	1.5822	1.5347	0.473	0.447				
	pH	8.1	7.7	8.1	7.7	8.2	7.6	8.1	7.6	8.1	7.6	8.1	7.6	8.1	7.6	8.1	7.6	#3	1.5080	1.4680	0.394					
	Cond	347	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	#4	1.5178	1.4701	0.477					
13	DO	1.3	7.3	7.4	7.8	10.9	5.5	7.1	5.4	7.1	5.4	7.1	5.4	7.1	5.4	7.1	5.4	#5	1.3768	1.3311	0.457					
	Temp	24.1	25.1	24.9	24.2	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	#6	1.5962	1.5489	0.473	0.410				
	pH	8.1	7.7	8.1	7.7	8.2	7.6	8.1	7.6	8.1	7.6	8.1	7.6	8.1	7.6	8.1	7.6	#7	1.5255	1.4838	0.417					
	Cond	353	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	#8	1.3939	1.3448	0.291					
26	DO	1.1	7.3	7.7	7.7	7.1	5.6	7.1	5.5	7.1	5.5	7.1	5.5	7.1	5.5	7.1	5.5	#9	1.4909	1.4471	0.432					
	Temp	24.1	24.9	24.7	24.2	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	#10	1.5025	1.4559	0.404	0.435				
	pH	8.0	7.6	8.0	7.6	8.2	7.4	8.1	7.5	8.1	7.5	8.1	7.5	8.1	7.5	8.1	7.5	#11	1.6290	1.5750	0.540					
	Cond	358	341	358	341	341	341	341	341	341	341	341	341	341	341	341	341	#12	1.6707	1.6107	0.300					
52	DO	8.1	7.3	8.0	7.7	7.2	5.7	7.4	5.5	7.1	5.5	7.1	5.5	7.1	5.5	7.1	5.5	#13	1.5242	1.4783	0.459					
	Temp	24.1	24.9	24.5	24.2	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	#14	1.4752	1.4349	0.403	0.453				
	pH	8.0	7.5	8.0	7.1	8.1	7.0	8.1	7.5	8.0	7.5	8.0	7.5	8.0	7.5	8.0	7.5	#15	1.6101	1.5644	0.457					
	Cond	344	348	348	348	348	348	348	348	348	348	348	348	348	348	348	348	#16	1.1189	1.1695	0.494					
76	DO	8.5	7.3	8.4	7.6	7.4	5.2	7.7	5.6	7.8	5.4	7.5	5.1	5.1	5.1	5.1	5.1	#17	1.1531	1.1054	0.477					
	Temp	24.1	24.8	24.3	24.2	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	#18	1.5357	1.4878	0.479	0.458				
	pH	7.9	7.4	7.9	7.1	8.1	7.5	8.1	7.4	8.0	7.6	7.9	7.2	7.2	7.2	7.2	7.2	#19	1.5716	1.5311	0.405					
	Cond	333	330	349	349	349	349	349	349	349	349	349	349	349	349	349	349	#20	1.6123	1.5655	0.470					
100	DO	8.9	7.3	8.7	7.6	7.5	5.9	7.9	5.6	7.9	5.4	7.7	5.1	5.1	5.1	5.1	5.1	#21	1.6208	1.5760	0.446					
	Temp	24.1	24.8	24.1	24.2	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	#22	1.4034	1.3546	0.438	0.457				
	pH	7.8	7.4	7.9	7.2	8.0	7.5	8.0	7.4	7.9	7.6	7.8	7.2	7.2	7.2	7.2	7.2	#23	1.5816	1.5338	0.468					
	Cond	322	324	345	345	345	345	345	345	345	345	345	345	345	345	345	345	#24	1.4971	1.4519	0.452					
	DO																	#								
	Temp																	#								
	pH																	#								
	Cond																	#								
Initials	HW	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	pretest	#	1.1757	1.1332					
Water #	Eff 1	Eff 2	Eff 3	Recon	Rev 1	Rev 2	Rev 3	MR	Exposure Chamber										Units:							
Hard	45	37	29	87	Total Capacity:										DO: mg/L				Hard: mg/L							
Alk	33	31	21	57	Test Solution Volume:										Temp: °C				Alk: mg/L							
Chlor	20.01	20.01	20.01	<0.01	Test Solution Surface Area:										pH: N/A				Chlor: mg/L							
NH ₃	0.05	0.03	0.04	<0.03	Water Depth (constant):										Cond: µS/cm ³				NH ₃ : mg/L							
Feeding	0	1	2	3	4	5	6	7	Feeding Schedule										2x per day							
AM									Fed:										<24hr artemia							
Initials									Food Used:																	
PM																										
Initials																										

Comments:

04/23/2000

CETIS Analytical Report

Report Date: 26 Apr-23 10:49 (p 1 of 3)
Test Code/ID: 423188FHM / 09-0870-1247

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 18-6736-9261	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 26 Apr-23 10:49	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Batch ID: 07-2130-5624	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 17 Apr-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 24 Apr-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 13-3359-5231	Code: 423188.B	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 17 Apr-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 17 Apr-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	>100	n/a	1	5.60%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	16	10	1	6	CDF	0.6105	Non-Significant Effect
		26	16	10	1	6	CDF	0.6105	Non-Significant Effect
		52	18	10	1	6	CDF	0.8333	Non-Significant Effect
		76	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	18	10	1	6	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0088531	0.0017706	5	0.8	0.5640	Non-Significant Effect
Error	0.039839	0.0022133	18			
Total	0.0486921		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.6154	0.884	9.2E-07	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
13		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%
26		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%
52		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
76		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
13		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	2.89%
26		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	2.89%
52		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
76		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
100		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%

CETIS Analytical Report

Report Date: 26 Apr-23 10:49 (p 1 of 2)
Test Code/ID: 423188FHM / 09-0870-1247

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 15-6677-6320	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 26 Apr-23 10:49	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 07-2130-5624	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 17 Apr-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 24 Apr-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 13-3359-5231	Code: 423188.B	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 17 Apr-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 17 Apr-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	984870	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC5	>100	n/a	n/a	<1	n/a	n/a
LC10	>100	n/a	n/a	<1	n/a	n/a
LC15	>100	n/a	n/a	<1	n/a	n/a
LC20	>100	n/a	n/a	<1	n/a	n/a
LC25	>100	n/a	n/a	<1	n/a	n/a
LC40	>100	n/a	n/a	<1	n/a	n/a
LC50	>100	n/a	n/a	<1	n/a	n/a

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	D	4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
13		4	0.9750	0.9000	1.0000	0.0500	5.13%	2.5%	39/40	0.99	1.0%
26		4	0.9750	0.9000	1.0000	0.0500	5.13%	2.5%	39/40	0.99	1.0%
52		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	0.99	1.0%
76		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	0.99	1.0%
100		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	0.99	1.0%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
13		1.0000	1.0000	1.0000	0.9000
26		1.0000	1.0000	1.0000	0.9000
52		1.0000	1.0000	1.0000	1.0000
76		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

CETIS Analytical Report

Report Date: 26 Apr-23 10:49 (p 3 of 3)
Test Code/ID: 423188FHM / 09-0870-1247

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 12-7646-6764	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.6
Analyzed: 26 Apr-23 10:49	Analysis: Parametric-Control vs Treatments	Status Level: 1
Batch ID: 07-2130-5624	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 17 Apr-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 24 Apr-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 13-3359-5231	Code: 423188.B	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 17 Apr-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 17 Apr-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	100	>100	n/a	1	22.83%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	0.8736	2.407	0.102	6	CDF	0.4786	Non-Significant Effect
		26	0.2834	2.407	0.102	6	CDF	0.7367	Non-Significant Effect
		52	-0.1595	2.407	0.102	6	CDF	0.8760	Non-Significant Effect
		76	-0.2656	2.407	0.102	6	CDF	0.8996	Non-Significant Effect
		100	-0.2362	2.407	0.102	6	CDF	0.8934	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.006846	0.0013692	5	0.3817	0.8547	Non-Significant Effect
Error	0.064561	0.0035867	18			
Total	0.071407		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	8.491	15.09	0.1312	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9223	0.884	0.0658	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.4465	0.3846	0.5084	0.4575	0.394	0.477	0.01945	8.71%	0.00%
13		4	0.4095	0.2783	0.5407	0.437	0.291	0.473	0.04122	20.13%	8.29%
26		4	0.4345	0.2748	0.5942	0.449	0.3	0.54	0.05018	23.10%	2.69%
52		4	0.4533	0.3935	0.513	0.458	0.403	0.494	0.01878	8.29%	-1.51%
76		4	0.4577	0.4015	0.514	0.4735	0.405	0.479	0.01769	7.73%	-2.52%
100		4	0.4565	0.4218	0.4912	0.45	0.438	0.488	0.0109	4.78%	-2.24%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.44	0.475	0.394	0.477
13		0.457	0.473	0.417	0.291
26		0.432	0.466	0.54	0.3
52		0.459	0.403	0.457	0.494
76		0.477	0.479	0.405	0.47
100		0.448	0.438	0.488	0.452

CETIS Analytical Report

Report Date: 26 Apr-23 10:49 (p 2 of 2)
Test Code/ID: 423188FHM / 09-0870-1247

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 01-0035-9332	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.6
Analyzed: 26 Apr-23 10:49	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 07-2130-5624	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 17 Apr-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 24 Apr-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 13-3359-5231	Code: 423188.B	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 17 Apr-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 17 Apr-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1335525	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	>100	n/a	n/a	<1	n/a	n/a
IC10	>100	n/a	n/a	<1	n/a	n/a
IC15	>100	n/a	n/a	<1	n/a	n/a
IC20	>100	n/a	n/a	<1	n/a	n/a
IC25	>100	n/a	n/a	<1	n/a	n/a
IC40	>100	n/a	n/a	<1	n/a	n/a
IC50	>100	n/a	n/a	<1	n/a	n/a

Mean Dry Biomass-mg Summary

			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	Mean	%Effect
0	D	4	0.4465	0.394	0.477	0.0389	8.71%	0.0%	0.4465	0.0%
13		4	0.4095	0.291	0.473	0.08244	20.13%	8.29%	0.4423	0.94%
26		4	0.4345	0.3	0.54	0.1004	23.10%	2.69%	0.4423	0.94%
52		4	0.4533	0.403	0.494	0.03756	8.29%	-1.51%	0.4423	0.94%
76		4	0.4577	0.405	0.479	0.03537	7.73%	-2.52%	0.4423	0.94%
100		4	0.4565	0.438	0.488	0.02181	4.78%	-2.24%	0.4423	0.94%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.44	0.475	0.394	0.477
13		0.457	0.473	0.417	0.291
26		0.432	0.466	0.54	0.3
52		0.459	0.403	0.457	0.494
76		0.477	0.479	0.405	0.47
100		0.448	0.438	0.488	0.452

HW

CM

Appendix 4 – QA/QC and Reference Toxicant Test Chart

Quality Assurance Check List – Chronic Whole Effluent Toxicity Test

Client: Battle Mountain Resources, Inc.
SeaCrest Sample No: 423188.B
Species Tested: *Ceriodaphnia dubia* and fathead minnow

Sample Dates	Start Date of Test (<i>Ceriodaphnia dubia</i>)	Start Date of Test (fathead minnow)
04-17-2023		
04-19-2023		
04-21-2023	04-17-2023	04-17-2023

Sample received in lab properly preserved (0-6°C)? N*

Sample received at laboratory within 36 hours of collection? Y

Sample delivered on ice or equivalent? Y

Test initiated within 36-hours of collection? Y

Test protocol conforms to CDPHE guidelines (*Ceriodaphnia dubia*)? Y

Test protocol conforms to CDPHE guidelines (fathead minnow)? Y

Average test temp. $\pm 1^{\circ}\text{C}$ (*Ceriodaphnia dubia*)? Y

Average test temp. $\pm 1^{\circ}\text{C}$ (fathead minnow)? Y

DO level $\geq 4.0\text{mg/L}$; no super-saturation (*Ceriodaphnia dubia*)? Y

DO level $\geq 4.0\text{mg/L}$; no super-saturation (fathead minnow)? Y

Survival in control $\geq 80\%$ (*Ceriodaphnia dubia*)? Y

Survival in control $\geq 80\%$ (fathead minnow)? Y

Ceriodaphnia dubia neonates <24-hours old? Y

Fathead minnow larvae <24-hours old? Y

Appropriate reference toxicity test conducted? Y

Reference toxicity test results within the confidence limits for the lab? Y

* Sample #2 was received at 6.5°C on the same day as sampling.

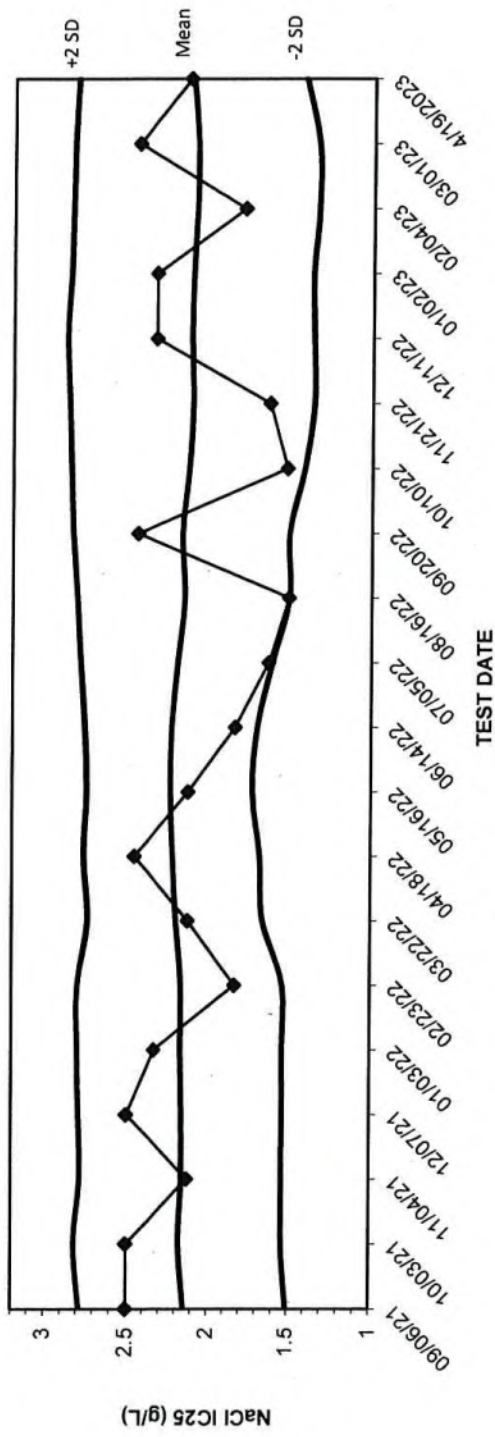
Author Halley Went Date May 2, 2023
Position: Laboratory Manager
Quality Control Catrina D. Ed Date May 2, 2023

Method	Analyte	Date	LCS (rec)	%REC	%RPD	QC LIMITS
2320 B	Alkalinity - Total	3/2/2023	100.80%	100.14%	0.54%	± 5.00%
2320 B	Alkalinity - Total	3/9/2023	103.20%	99.09%	0.85%	± 5.00%
2320 B	Alkalinity - Total	3/15/2023	101.60%	100.61%	1.95%	± 5.00%
2320 B	Alkalinity - Total	3/24/2023	100.00%	99.71%	-0.67%	± 5.00%
4500 NH ₃ D	Ammonia	3/6/2023	104.00%	95.89%	0.79%	± 10.00%
4500 NH ₃ D	Ammonia	3/13/2023	102.00%	100.58%	-2.47%	± 10.00%
4500 NH ₃ D	Ammonia	3/20/2023	104.40%	95.45%	-1.33%	± 10.00%
4500 NH ₃ D	Ammonia	3/28/2023	98.60%	96.47%	-4.72%	± 10.00%
4500 Cl D	Chlorine	3/21/2023	100.00%	87.50%	0.00%	± 5.00, ± 20.00%
2340 B	Hardness - Total	3/2/2023	100.00%	99.83%	0.65%	± 5.00%
2340 B	Hardness - Total	3/9/2023	104.00%	99.50%	-1.48%	± 5.00%
2340 B	Hardness - Total	3/15/2023	100.00%	102.00%	0.59%	± 5.00%
2340 B	Hardness - Total	3/24/2023	101.75%	100.60%	-0.52%	± 5.00%
			LCS (rec)	%REC M1	%REC M2	QC Limits
4500 O	DO - Winkler	3/1/2023	N/A	100.00%	102.90%	± 5.00%
4500 O	DO - Winkler	3/7/2023	N/A	101.42%	98.57%	± 5.00%
4500 O	DO - Winkler	3/14/2023	N/A	100.00%	97.06%	± 5.00%
4500 O	DO - Winkler	3/21/2023	N/A	98.51%	98.57%	± 5.00%
			Blank	%REC MR S	%RPD	QC Limits
2540 D	Suspended Solids (TTL)	3/15/2023	100.00%	100.79%	0.00%	± 15%
2540 C	Dissolved Solids (TTL)	3/15/2023	100.00%	95.70%	0.03%	± 15%

Signature: Kalyn West
Date: April 1, 2023

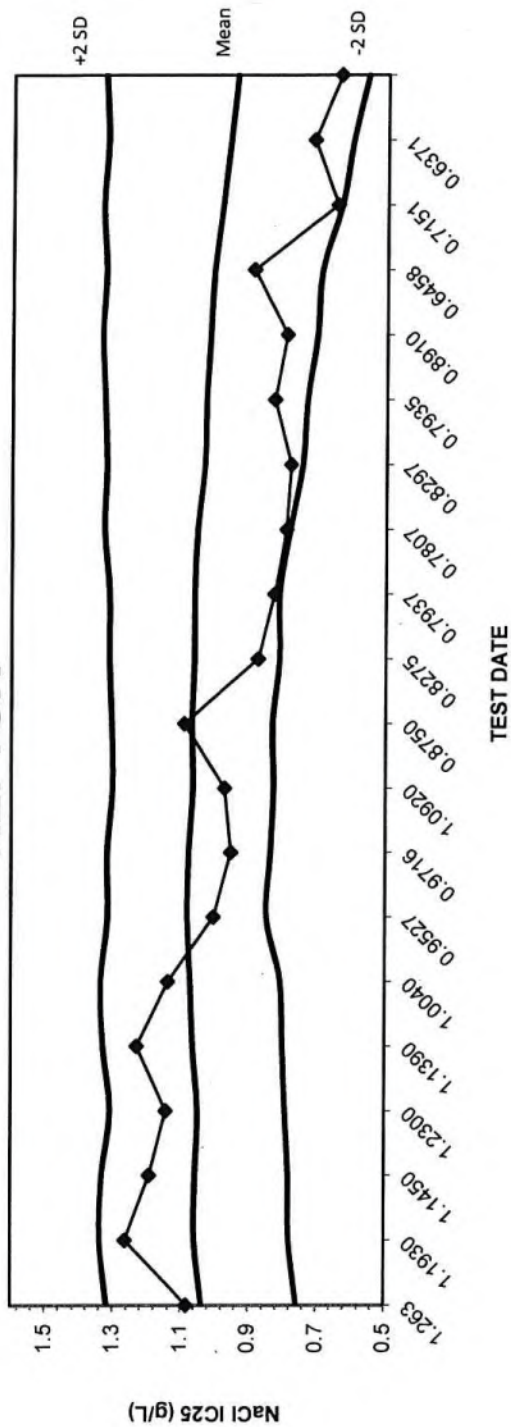
Signature: Catman
Date: April 1, 2023

CERIODAPHNIA SURVIVAL LC25 NaCl REFTOX



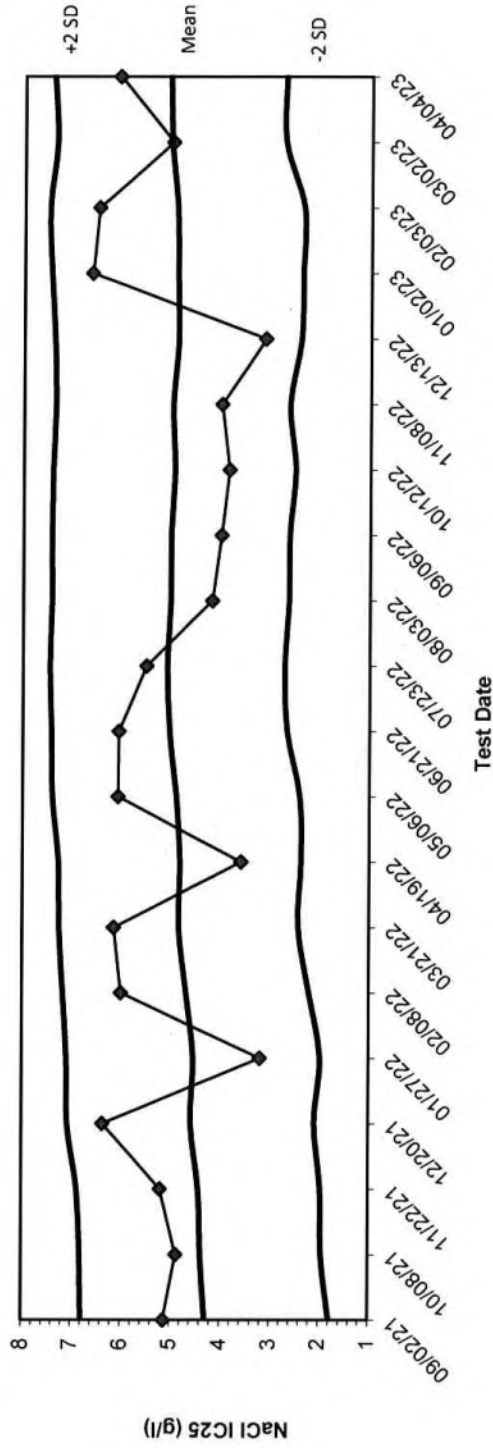
Date	IC25	Mean	-2 SD	+2 SD
09/06/21	2.5000	2.1429	1.5041	2.7816
10/03/21	2.5000	2.1746	1.5342	2.8150
11/04/21	2.1250	2.1568	1.5338	2.7797
12/07/21	2.5000	2.1592	1.5310	2.7874
01/03/22	2.3330	2.1656	1.5330	2.7982
02/23/22	1.8330	2.1656	1.5330	2.7982
03/22/22	2.1250	2.1982	1.6590	2.7374
04/18/22	2.4580	2.2200	1.6774	2.7626
05/16/22	2.1250	2.2355	1.7257	2.7453
06/14/22	1.8330	2.2267	1.6951	2.7582
07/05/22	1.6250	2.1930	1.6031	2.7828
08/16/22	1.5000	2.1506	1.4959	2.8054
09/20/22	2.4440	2.1658	1.4989	2.8328
10/10/22	1.5130	2.1268	1.4070	2.8465
11/21/22	1.6250	2.1055	1.3533	2.8578
12/11/22	2.3330	2.1154	1.3566	2.8742
01/02/23	2.3330	2.1075	1.3622	2.8527
02/04/23	1.7860	2.0869	1.3307	2.8430
03/01/23	2.4480	2.0844	1.3336	2.8352
4/19/2023	2.1300	2.1144	1.4129	2.8158

CERIODAPHNIA REPRODUCTION IC25 NaCl REFTOX



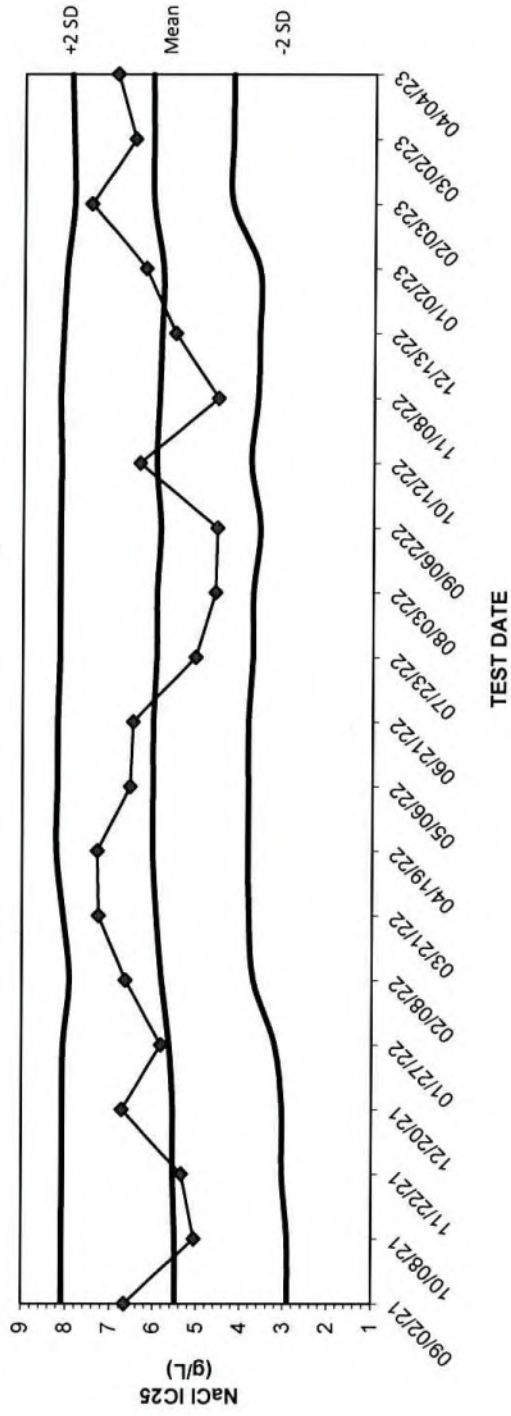
Date	IC25	Mean	-2 SD	+2 SD
09/06/21	1.0820	1.0368	0.7574	1.3162
10/3/2021	1.263	1.058745	0.780748904	1.336741096
11/04/21	1.1930	1.0570	0.7830	1.3311
12/07/21	1.1450	1.0503	0.7931	1.3076
01/03/22	1.2300	1.0650	0.8016	1.3284
02/23/22	1.1390	1.0719	0.8084	1.3354
03/22/22	1.0040	1.0821	0.8489	1.3154
04/18/22	0.9527	1.0775	0.8376	1.3174
05/16/22	0.9716	1.0659	0.8293	1.3025
06/14/22	1.0920	1.0691	0.8330	1.3053
07/05/22	0.8750	1.0628	0.8126	1.3129
08/16/22	0.8275	1.0630	0.8138	1.3123
09/20/22	0.7937	1.0554	0.7830	1.3279
10/10/22	0.7807	1.0340	0.7456	1.3223
11/21/22	0.8297	1.0301	0.7328	1.3275
12/11/22	0.7935	1.0197	0.7041	1.3353
01/02/23	0.8910	1.0085	0.6912	1.3258
02/04/23	0.6458	0.9841	0.6340	1.3342
03/01/23	0.7151	0.9621	0.6021	1.3221
04/19/23	0.6371	0.9431	0.5562	1.3300

FHM SURVIVAL LC25 NaCl REFTOX



Date	IC25	Mean	-2 SD	+2 SD
09/02/21	5.1250	4.2901	1.7899	6.7904
10/08/21	4.8750	4.3788	1.9442	6.8135
11/22/21	5.2000	4.4210	1.9620	6.8799
12/20/21	6.3570	4.5781	2.0849	7.0713
01/27/22	3.2000	4.5318	1.9736	7.0900
02/08/22	6.0000	4.6848	2.2009	7.1688
03/21/22	6.1400	4.8361	2.4258	7.2464
04/19/22	3.5870	4.8140	2.3657	7.2622
05/06/22	6.0670	4.8914	2.3955	7.3872
06/21/22	6.0500	5.0353	2.6626	7.4081
07/23/22	5.5000	5.0819	2.7150	7.4488
08/03/22	4.1820	5.0220	2.6328	7.4112
09/06/22	4.0000	5.0185	2.6233	7.4137
10/12/22	3.8420	4.9507	2.5089	7.3925
11/08/22	4.0000	4.9848	2.6228	7.3468
12/13/22	3.1230	4.8843	2.3996	7.3690
01/02/23	6.6150	4.9051	2.3687	7.4415
02/03/23	6.4800	4.9171	2.3524	7.4818
03/02/23	5.0000	5.0364	2.7367	7.3361
04/04/23	6.0800	5.0628	2.7278	7.3978

FHM GROWTH IC25 NaCl REFTOX



Date	IC25	Mean	-2 SD	+2 SD
09/02/21	6.6650	5.4939	2.8982	8.0895
10/08/21	5.0481	5.4990	2.9074	8.0905
11/22/21	5.3520	5.5543	3.0315	8.0771
12/20/21	6.7310	5.5549	3.0309	8.0788
01/27/22	5.8200	5.6387	3.2082	8.0692
02/08/22	6.6580	5.8193	3.7120	7.9266
03/21/22	7.2690	5.9425	3.8121	8.0729
04/19/22	7.2990	6.0314	3.8358	8.2271
05/06/22	6.5630	6.0225	3.8376	8.2074
06/21/22	6.5000	6.0225	3.8376	8.2074
07/23/22	5.0500	5.9498	3.7409	8.1587
08/03/22	4.6040	5.9482	3.7354	8.1611
09/06/22	4.5630	5.8716	3.5812	8.1620
10/12/22	6.3570	5.9716	3.7966	8.1465
11/08/22	4.5530	5.9137	3.6531	8.1744
12/13/22	5.5530	5.8673	3.6196	8.1150
01/02/23	6.2350	5.8373	3.6291	8.0455
02/03/23	7.4870	6.0624	4.2424	7.8824
03/02/23	6.5000	6.0758	4.2468	7.9047
04/04/23	6.9180	6.0931	4.2384	7.9479

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

October 17, 2023

Colorado Department of Public Health and Environment
Water Quality Control Division
Attn: WQDC-B2 – DMR Receipt
4300 Cherry Creek Drive
Denver, CO 80246-1530

Re: Battle Mountain Resources, Inc.
San Luis Project - San Luis, Colorado
Third Quarter 2023 – DMR's, BMP and WET Testing Reports
CDPHE CDPS Permit No. CO0045675

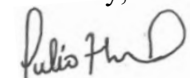
Dear Sir or Madame:

Please find the enclosed Battle Mountain Resources, Inc. "San Luis Project" (Permit No. CO0045675) Colorado Department of Public Health and Environment-Colorado Discharge Permit System (CDPS) Best Management Practices (BMP) report for permitted outfall 002 for the third quarter 2023. The quarterly BMP report provides the required data associated with groundwater well elevations, the quarterly potentiometric surface map and groundwater well chemistry.

In addition, the third quarter 2023 Discharge Monitoring Reports (DMRs) were submitted for each of the permitted water treatment plant discharges in the NetDMR System and the WET Testing Reports were attached to the appropriate DMR submittal in NetDMR. These permitted discharges consist of water treatment plant Discharge Numbers 001-A and 001-B. During the quarter, the maximum 30-day average flow was 0.26 million gallons of water discharged per day, therefore the applicable permit criteria for the reporting period is associated with discharge number 001-B.

Should any questions arise or if I can be of any assistance providing clarification, please call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

October 17, 2023

Colorado Department of Public Health and Environment
Water Quality Control Division
Attn: WQDC-B2 – DMR Receipt
4300 Cherry Creek Drive
Denver, CO 80246-1530

Re: Battle Mountain Resources, Inc.
San Luis Project
Third Quarter 2023 BMP Report
CDPHE CDPS Permit No. CO0045675

Dear Sir or Madame:

In accordance with and compliance of the permit limitations and permit terms and conditions contained in Part I, Section 5 Discharge Point 002: (Permit Limitations, Best Management Practices, and Schedule of Compliance of the State of Colorado Authorization to Discharge Under the Colorado Discharge Permit System, Battle Mountain Resources, Inc. submits the following *Quarterly Best Management Practices Report*.

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Sections 61.8(2), 61.8(3)(n), and 61.8(3)(r), 5 C.C.R. 1002-61, the permittee shall continue to implement the following limitations, compliance schedules, and Best Management Practices (BMPs).

The attainment of applicable water quality standards will be implemented and evaluated through the application of the following limitations, compliance schedules, and BMPs that are designed to monitor and control the groundwater quality and quantity discharging from the West Pit to the Rito Seco alluvial aquifer.

Specifically, the limitations, compliance schedules, and BMPs are those activities that address contaminated groundwater that may flow into the Rito Seco. This includes: (1) the potential flow of the affected groundwater from the West Pit that, in the past, manifested itself in the formation of the surface seeps along the arroyo sidewall of the Rito Seco, and (2) the plume of affected groundwater within the Rito Seco alluvial aquifer downgradient of the West Pit that flows along the naturally occurring hydraulic gradient and that may flow into the Rito Seco. The activities will include the following specific requirements:

- 1) The elevation of the groundwater table in the vicinity of the West Pit shall be measured on a weekly basis at the following locations: (i) the West Pit backfill wells BF-4 and BF-5 and (ii) the Rito Seco alluvial wells M-16 and M-20, as shown in Figure 3 of the permit, for purposes of determining the performance of the “pump and treat” system that regulates the flow and quality of the groundwater in the seepage front. The permittee shall

also determine on a quarterly basis the elevations of the groundwater table at BF-3, BF-4, BF-5, BF-6, M-11R, M-16, M-17, M-18, M-19, M-20, M-21, M-22, M-23, M-24, M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-32, and M-33 for the purpose of developing a groundwater potentiometric map as monitoring confirmation of the groundwater flow direction. The quarterly data regarding depth to groundwater and groundwater potentiometric surface map will be submitted to the WQCD with the BMP report as described.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the weekly West Pit backfill and alluvial wells as required under Paragraph 1 of the specific requirements. Measurements obtained for the weekly West Pit backfill wells (BF-4 and BF-5R) and alluvial wells (M-16 and M-20) are shown in Table 1. The quarterly groundwater elevations required under Paragraph 1 were also measured and are shown in Table 2. A potentiometric surface map, developed by Engineering Analytics, is shown in Figure 1. The groundwater table elevations and potentiometric map confirm that the groundwater flow gradient during the third quarter of 2023 was from the Rito Seco to the West Pit. No corrective action is required under Paragraph 1 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 1 – Weekly Groundwater Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
BF-4	07/5/2023	8579.36
	07/12/2023	8579.30
	07/19/2023	8579.32
	07/26/2023	8579.29
	08/02/2023	8579.34
	08/09/2023	8579.30
	08/16/2023	8579.29
	08/23/2023	8579.29
	08/30/2023	8579.28
	09/06/2023	8579.31
	09/13/2023	8579.29
	09/20/2023	8579.29
	09/27/2023	8579.26
BF-5R	07/5/2023	8579.06
	07/12/2023	8579.06
	07/19/2023	8579.04
	07/26/2023	8579.05
	08/02/2023	8579.05
	08/09/2023	8579.06
	08/16/2023	8579.07
	08/23/2023	8579.03
	08/30/2023	8579.06
	09/06/2023	8579.08
	09/13/2023	8579.06
	09/20/2023	8579.08
	09/27/2023	8579.06

Table 1 – Weekly Groundwater Elevations (continued)

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
M-16	07/5/2023	8603.16
	07/12/2023	8602.98
	07/19/2023	8602.74
	07/26/2023	8602.48
	08/02/2023	8602.25
	08/09/2023	8602.00
	08/16/2023	8601.83
	08/23/2023	8601.65
	08/30/2023	8601.59
	09/06/2023	8601.54
	09/13/2023	8601.50
	09/20/2023	8601.47
M-20	09/27/2023	8601.44
	07/5/2023	8580.44
	07/12/2023	8580.33
	07/19/2023	8580.34
	07/26/2023	8579.84
	08/02/2023	8580.33
	08/09/2023	8579.81
	08/16/2023	8580.31
	08/23/2023	8580.20
	08/30/2023	8580.27
	09/06/2023	8580.15
	09/13/2023	8580.21
	09/20/2023	8580.16
	09/27/2023	8580.14

Table 2 – Quarterly Groundwater Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
BF-3	7/31/2023	8577.97
BF-4	7/31/2023	8579.29
BF-5R	7/31/2023	8579.05
BF-6	7/31/2023	8579.02
M-11R	7/31/2023	8549.88
M-16	7/31/2023	8602.33
M-17	7/31/2023	8586.97
M-18	7/31/2023	8580.06
M-19	7/31/2023	8581.19
M-20	7/31/2023	8580.33
M-21	7/31/2023	8577.28
M-22	7/31/2023	8572.60
M-23	7/31/2023	8555.53
M-24	7/31/2023	8559.10
M-25	7/31/2023	DRY
M-26	7/31/2023	8543.10
M-27	7/31/2023	DRY
M-28	7/31/2023	8580.33
M-29	7/31/2023	8580.63
M-30	7/31/2023	8611.69
M-31	7/31/2023	8549.49
M-32	7/31/2023	8533.71
M-33	7/31/2023	8535.75

- 2) The weekly groundwater table elevation data shall be tabulated and reported on the quarterly BMP reports, and the data will be used to evaluate compliance with the following permit limitations.

The groundwater table elevation, based on the average of all measured values for each calendar month in the West Pit backfill groundwater monitoring wells BF-4 and BF-5, must be equal to or lower than an elevation of 8582 feet above sea level (ft. amsl).

Compliance Action Taken: Battle Mountain Resources, Inc. measured the West Pit backfill monitoring wells (BF-4 and BF-5R) weekly and the measurements are shown in Table 1. The groundwater measurements for wells BF-4 and BF-5R were averaged by calendar month and the results are shown in Table 3. The July, August, and September 2023 averages were below the 8582 ft. amsl required in Paragraph 2. No corrective action is required under the Paragraph 2 requirement and schedule compliance monitoring will continue unchanged next quarter.

Table 3 – Quarterly West Pit Backfill Monthly Average Groundwater Table Elevations

Monitoring Well Identification	Month (2023)	Number of Observations	Average Monthly Groundwater Elevation (ft amsl)
BF-4	July	4	8579.32
	August	5	8579.30
	September	4	8579.29
BF-5R	July	4	8579.05
	August	5	8579.05
	September	4	8579.07

- 3) If the average monthly groundwater table elevation in the West Pit backfill for any calendar month, measured as described in the above paragraph, is greater than 8582 ft. amsl or the quarterly determination of the groundwater potentiometric surface map indicates that the flow of the groundwater is from the West Pit to the Rito Seco alluvium, the permittee shall verbally communicate such condition to WQCD within 24 hours of the determination of the condition (elevated West Pit backfill table or groundwater flow from the West Pit as indicated by the quarterly groundwater potentiometric surface map) and initiate the following compliance schedule.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the West Pit backfill monitoring wells (BF-4 and BF-5R) weekly and the calendar month average groundwater measurement elevations (Table 3) were below the 8582 ft. amsl required in Paragraph 2. The July 31, 2023, potentiometric surface map (Figure 1) shows the groundwater flow gradient was from the Rito Seco alluvium to the West Pit backfill. Therefore, site operations demonstrated the West Pit backfill groundwater level was maintained at or below an elevation of 8582 ft. amsl through the quarter. Therefore, no requirement(s) to initiate actions contained within the schedule of compliance for Section 5.3 is required.

- 4) The quality of groundwater in the vicinity of the West Pit shall be monitored on a monthly basis in the Rito Seco alluvial groundwater monitoring wells M-19, M-21, M-24 and M-11R for the purposes of monitoring the changes in the quality of the plume or affected groundwater in the Rito Seco alluvial aquifer. Groundwater quality in these monitoring wells will be analyzed for pH, temperature, total dissolved solids, calcium, sulfate, manganese, fluoride, copper, and iron for the purpose of evaluating the status of the groundwater quality in the downgradient groundwater plume. The groundwater quality data will be summarized and transmitted to the WQCD in the quarterly BMP report required under Part I, Section E.1 of this permit.

Compliance Action Taken: Battle Mountain Resources, Inc. collected monthly groundwater samples in the vicinity of the West Pit backfill area from Rito Seco alluvial monitoring wells M-19, M-21, M-24 and M-11R. No corrective action is required under the Paragraph 4 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 4 – Rito Seco Alluvial Groundwater Quality Summary

Analyte	Reporting Units	Sample Date	Monitoring Well Identifier			
			M-11R	M-19	M-21	M-24
pH	SU	07/10/2023	7.45	6.94	7.28	7.48
		08/01/2023	7.29	6.79	7.14	7.25
		9/11/2023	7.37	6.79	7.22	7.33
Temperature	°C	7/10/2023	10.9	7.4	9.1	9.3
		08/01/2023	10.5	7.9	10.5	10.1
		9/11/2023	10.1	8.6	8.6	8.8
Calcium, Total	mg/L	07/10/2023	77.5	30.4	30.6	77.7
		08/01/2023	78	17	30.6	77.1
		9/11/2023	83.7	18	29.7	74.6
Copper, Dissolved	mg/L	07/10/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
		08/01/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
		9/11/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
Fluoride	mg/L	07/10/2023	0.823	0.868	1.48	LT 1.25
		08/01/2023	0.72	0.745	1.31	LT 1.25
		9/11/2023	0.852	0.853	1.46	0.847
Iron, Dissolved	mg/L	07/10/2023	LT 0.15	LT 0.15	LT 0.15	4.08
		08/01/2023	LT 0.15	LT 0.15	LT 0.15	4.23
		9/11/2023	LT 0.15	0.181	LT 0.15	4.14
Manganese, Dissolved	mg/L	07/10/2023	0.168	LT 0.05	0.350	0.826
		08/01/2023	0.151	LT 0.05	0.359	0.835
		9/11/2023	0.164	LT 0.05	0.370	0.831
Sulfate	mg/L	07/10/2023	119	5.24	8.36	142
		08/01/2023	107	6.66	8.18	127
		9/11/2023	119	7.34	8.99	124
Total Dissolved Solids	mg/L	07/10/2023	352	86	142	388
		08/01/2023	352	100	LT 40	406
		9/11/2023	384	104	142	394

- 5) The historical seeps were caused by the plume of affected groundwater and may, in the future, also be caused by natural variation in the flow of groundwater in the vicinity of the area where the past seeps occurred. The permittee shall conduct a monthly visual inspection of the area of historical seeps and the permittee shall report any seepage flow that is associated with the area historic seepage expression, as is identified in Figure 2 of the permit. Results of the seep monitoring shall be tabulated and summarized in the quarterly BMP report.

If these inspections identified the occurrence of seeps, the permittee will be required to communicate verbally to the WQCD within 24 hours of the seepage observation, followed by written notification within 7 calendar days of the seepage observation. Verbal updates will then be provided to the WQCD every second day thereafter until the WQCD has made a determination regarding the status of the West Pit groundwater control system through the implementation of the following compliance schedule.

Compliance Action Taken: Battle Mountain Resources, Inc. performed monthly visual seepage expression inspections in the historic seepage area identified in Figure 2 of the permit. Visual observations during these inspections are shown in Table 5. No seepage expressions were observed in the historic seepage area during the third quarter of 2023. Therefore, no verbal or written notifications were required and the implementation of the compliance schedule was not required. No corrective action is required under the Paragraph 5 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 5 – Monthly Seepage Expression Inspection Tabulation

Visual Inspection Date	Was Visual Observation of Seepage Determined in the Area of the Historic Seepage Expression	Comments
07/31/2023	No	All Dry
08/31/2023	No	All Dry
09/28/2023	No	All Dry

- 6) The BMP for the groundwater flow downgradient from the groundwater divide (see section VI.A.2 for the Rationale) that has been developed in the Rito Seco alluvial aquifer consists of a groundwater capture system in conjunction with groundwater table elevation control in the West Pit. The water management plan for the Rito Seco alluvial aquifer consists of pumping two groundwater capture wells (M-32 and M-33) located downgradient of the plume of affected groundwater. This action will allow flushing of constituents in the groundwater of the Rito Seco alluvial aquifer in that portion (plume) of the aquifer affected by previous flow of groundwater from the West Pit. Measurements of the groundwater table elevations will be taken on a weekly basis from M-32 and M-33. This data shall be tabulated and reported for outfall 002 on the quarterly BMP report, and the data will be used to evaluate compliance with the following permit limitation.

The groundwater table elevation, based on the average of all measured values for each calendar month at M-32 and M-33 in the Rito Seco alluvial aquifer, must be equal to or lower than an elevation of 8540 ft. amsl.

If the average monthly groundwater table elevations measured in the Rito Seco alluvial aquifer at M-32 and M-33 is greater than 8540 ft. amsl, the permittee shall initiate the following compliance schedule within 24 hours of the determination of groundwater table elevation exceedance.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the alluvial aquifer monitoring wells (M-32 and M-33) weekly and the resulting elevations are presented in Table 6. The groundwater elevations for wells M-32 and M-33 were averaged by calendar month and the results are shown in Table 6. The July, August, and September 2023 averages were below the 8540 ft. amsl required under Paragraph 6. Therefore, site operations were in full compliance of Part I, Section 5.5 and there were no requirements(s) to initiate actions contained within the schedule of compliance for Section 5.5. No corrective action is required under Paragraph 6 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 6 – Weekly/Monthly Rito Seco Alluvial Aquifer Average Groundwater Table Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)	Month (2023)	Average Monthly Groundwater Elevation (ft amsl)
M-32	07/5/2023	8526.32	July	8526.73
	07/12/2023	8526.43		
	07/19/2023	8526.15		
	07/26/2023	8528.02		
	08/02/2023	8528.12	August	8527.07
	08/09/2023	8527.52		
	08/16/2023	8526.85		
	08/23/2023	8526.79		
	08/30/2023	8526.07		

Table 6 (Cont) – Weekly/Monthly Rito Seco Alluvial Aquifer Average Groundwater Table Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)	Month (2023)	Average Monthly Groundwater Elevation (ft amsl)
M-32	09/06/2023	8528.59	September	8528.09
	09/13/2023	8528.37		
	09/20/2023	8527.70		
	09/27/2023	8527.69		
M-33	07/5/2023	8534.63	July	8534.85
	07/12/2023	8534.68		
	07/19/2023	8534.74		
	07/26/2023	8535.35		
	08/02/2023	8534.99	August	8535.33
	08/09/2023	8535.12		
	08/16/2023	8536.12		
	08/23/2023	8536.24		
	08/30/2023	8534.18	September	8531.29
	09/06/2023	8526.35		
	09/13/2023	8535.52		
	09/20/2023	8526.99		
	09/27/2023	8536.29		

- 7) The water quality of the Rito Seco will be assessed using surface water quality collected at RS-2, as shown in Figure 3. Surface water monitoring in the Rito Seco shall be conducted at RS-2 on a monthly basis and the laboratory analytical results shall be submitted to the WQCD in the quarterly BMP report. Water quality samples collected at RS-2 shall be analyzed for the following constituents: calcium, magnesium, sodium, potassium, ammonia, total dissolved solids, total hardness, pH, total suspended solids, cyanide (WAD and total), bicarbonate, alkalinity, chloride, sulfate, nitrate-nitrite, fluoride and the total and dissolved concentrations of aluminum, arsenic, barium, boron, cadmium, copper, chromium, iron, lead, manganese, mercury, nickel, selenium, silica, silver and zinc. The following compliance schedule shall be implemented in the event that any constituent exceeds the applicable water quality standards for the Rito Seco.

Compliance Action Taken: Battle Mountain Resources, Inc. collected monthly surface water samples in July, August, and September 2023 at location RS-2, as shown in Figure 3 of the permit. Results of analyses performed on these samples are shown in Table 7. The results of the laboratory analytical testing show that the applicable water quality standards were met for the Rito Seco during the months of July, August, and September 2023. Site operations were in full compliance of Part I, Section 5.7 and there was no requirement(s) to initiate actions contained within the schedule of compliance for Section 5.7. Scheduled compliance monitoring will continue unchanged next quarter.

Table 7 – RS-2 Surface Water Quality Results

Analyte	Reporting Units	07/10/2023	08/01/2023	09/11/2023
Alkalinity	mg/L as CaCO ₃	50.4	61.7	69.8
Aluminum, Dissolved	mg/L	LT 0.25	LT 0.25	LT 0.25
Aluminum, Total	mg/L	0.676	0.427	1.11
Ammonia as N	mg/L	LT 0.2	LT 0.2	LT 0.2
Arsenic, Dissolved	mg/L	LT 0.001	LT 0.001	LT 0.001
Arsenic, Total	mg/L	LT 0.001	LT 0.001	LT 0.001
Barium, Dissolved	mg/L	LT 0.035	LT 0.035	LT 0.035
Barium, Total	mg/L	LT 0.035	LT 0.035	0.0429
Bicarbonate as CaCO ₃	mg/L	50.4	61.7	69.8
Boron, Dissolved	mg/L	LT 0.1	LT 0.1	LT 0.1
Boron, Total	mg/L	LT 0.1	LT 0.1	LT 0.1
Cadmium, Dissolved	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Cadmium, Total	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Calcium, Total	mg/L	14.6	14.8	17.0
Carbonate as CaCO ₃	mg/L	LT 20	LT 20	LT 20
Chloride	mg/L	LT 2	LT 2	LT 2
Chromium, Dissolved	mg/L	LT 0.002	LT 0.002	LT 0.002
Chromium, Total	mg/L	LT 0.002	LT 0.002	LT 0.002
Copper, Dissolved	mg/L	LT 0.002	LT 0.002	LT 0.002
Copper, Total	mg/L	LT 0.002	LT 0.002	0.00272
Cyanide, Total	mg/L	LT 0.01	LT 0.01	LT 0.01
Cyanide, WAD	mg/L	LT 0.01H	LT 0.01	LT 0.01
Fluoride	mg/L	0.41	0.72	0.52
Hardness as CaCO ₃	mg/L	49	54	60
Iron, Dissolved	mg/L	0.207	0.314	0.432
Iron, Total	mg/L	0.978	0.815	2.20
Lead, Dissolved	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Lead, Total	mg/L	0.00062	LT 0.0005	0.00216
Magnesium, Total	mg/L	3.87	4.07	4.66
Manganese, Dissolved	mg/L	LT 0.05	LT 0.05	LT 0.05
Manganese, Total	mg/L	0.071	0.059	0.214
Mercury, Dissolved	mg/L	LT 0.001	LT 0.001	LT 0.001
Mercury, Total	mg/L	LT 0.001	LT 0.001	LT 0.001
Nickel, Dissolved	mg/L	LT 0.04	LT 0.04	LT 0.04
Nickel, Total	mg/L	LT 0.04	LT 0.04	LT 0.04
Nitrate+Nitrite as N	mg/L	LT 0.1	LT 0.1	LT 0.1
pH	SU	8.01	7.86	7.90
Potassium, Total	mg/L	LT 1	LT 1	1.42
Selenium, Dissolved	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Selenium, Total	mg/L	LT 0.00025	LT 0.00025	0.00031
Silica, Total	mg/L	13.5	12.5	14.8
Silver, Dissolved	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Silver, Total	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Sodium, Total	mg/L	3.37	4.47	4.26
Sulfate	mg/L	2.13	3.38	4.36
Total Dissolved Solids	mg/L	72	94	96
Total Suspended Solids	mg/L	21.0	LT 20	45.0
Zinc, Dissolved	mg/L	LT 0.05	LT 0.05	LT 0.05
Zinc, Total	mg/L	LT 0.05	LT 0.05	LT 0.05

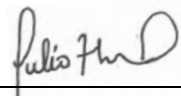
- 8) If any component of the groundwater control system is not performing within the limits set forth in this permit, the permittee will be required to initiate appropriate compliance schedule activities, including the preparation of a response plan, for any and all components of the groundwater control system that do not meet the applicable

requirements. The permittee shall also conduct weekly sampling at RS-2 until such time as the other compliance schedule activity(ies) have been completed.

Compliance Action Taken: *As demonstrated by the information and data presented in this report, all components of the groundwater control system performed within the limits set forth in the permit. Therefore, site operations were in full compliance of Part I, Section 8 and there was no requirement(s) to initiate actions contained within the schedule of compliance for Section 8.*

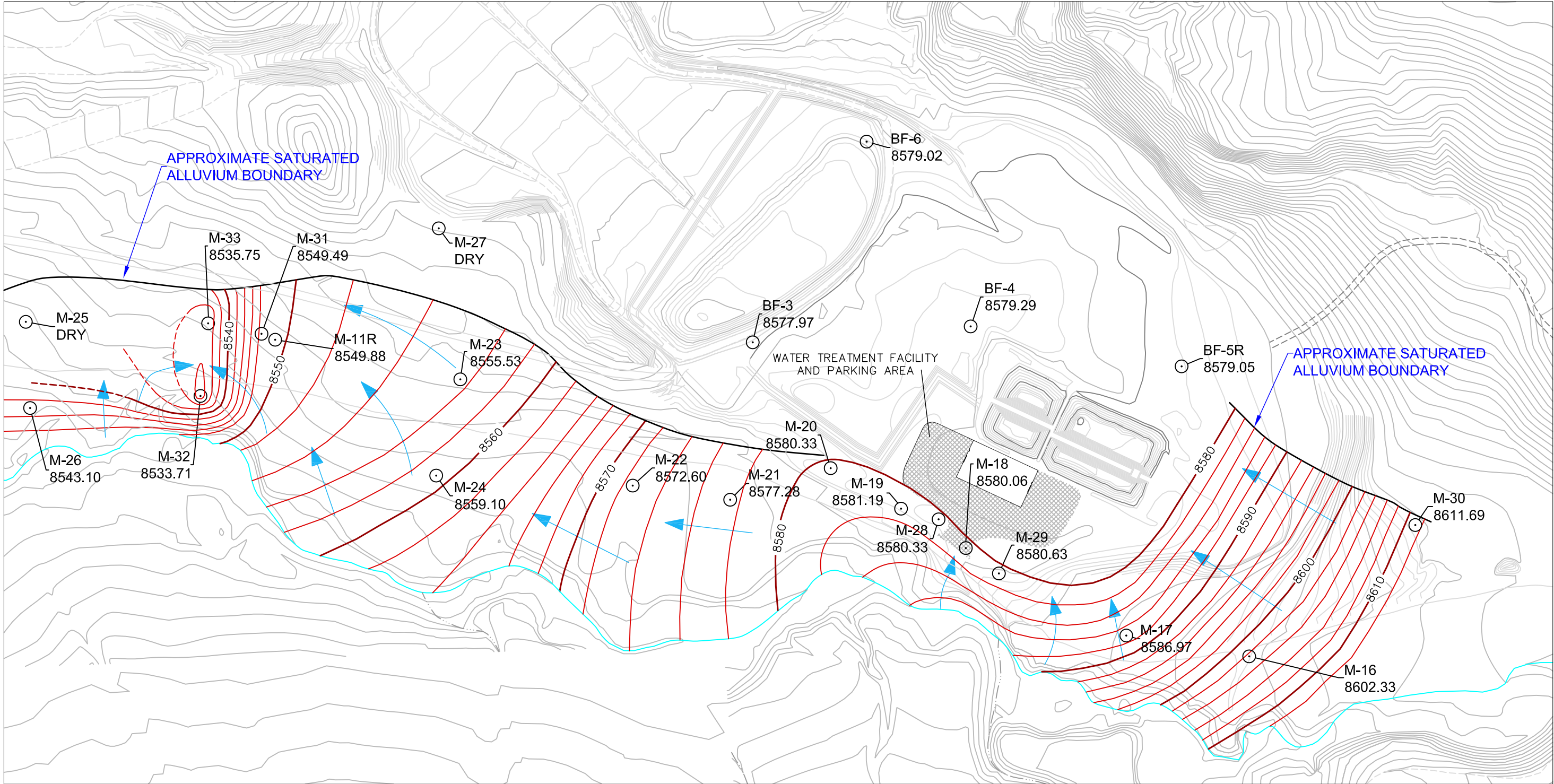
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Julio Madrid

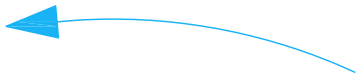
Signature: 

Date: October 17, 2023

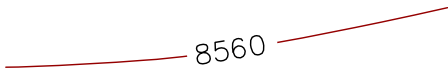
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KEY



GROUND WATER FLOW
DIRECTION





LINE OF EQUIPOTENTIAL
HYDRAULIC HEAD



M-23
8555.72

WELL NAME

WATER LEVEL

Engineering Analytics, Inc.				 Bottle Mountain San Luis, Colorado		SAN LUIS PROJECT					
ISSUED BY											
Drawn By: RDP											
Designed By: TRR											
Approved By: TRR											
Date: 8/25/2023											
Project: 21010506											
Scale: 1" = 200'											
Sheet Number:											
1											
		</									



August 17, 2023

Julio Madrid
Battle Mountain Resources, Inc.
P.O. Box 310
San Luis, CO 81152

Dear Julio:

Enclosed is the report for chronic biomonitoring tests performed for Battle Mountain Resources, Inc. on effluent from the 001B outfall. There was no statistically significant toxicity to either test species at any effluent concentration. The effluent passes WET (Whole Effluent Toxicity) testing requirements for this sampling period.

If you have any questions or concerns, please do not hesitate to contact me at (303) 661-9324.

Best regards,

Daniela Thornton
Laboratory Supervisor
Enclosure(s): Invoice
Report

**REPORT OF CHRONIC BIOMONITORING TESTS
CONDUCTED FOR
BATTLE MOUNTAIN RESOURCES, INC.
ON EFFLUENT FROM
THE 001B OUTFALL**

Prepared for:

Julio Madrid
Battle Mountain Resources, Inc.
P.O. box 310
San Luis, CO 81152

Prepared by:

Daniela Thornton
SeaCrest Group
500 S Arthur Ave. Suite 450
Louisville, Colorado 80027-3065
(303) 661-9324

August 17, 2023

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Chronic Toxicity Test Summary

Test:	7-day static renewal using <i>Ceriodaphnia dubia</i> 7-day static renewal using fathead minnow (<i>Pimephales promelas</i>)
Client:	Battle Mountain Resources, Inc.
Test Procedure Followed:	<i>Ceriodaphnia dubia</i> : EPA/821/R-02-013. Method 1002.0 (2002) fathead minnow: EPA/821/R-02-013. Method 1000.0 (2002)
Sample Number:	423379.B
Dilution Water:	moderately hard laboratory reconstituted water
Test Organism Source:	SeaCrest Group
Reference Toxicant:	Sodium Chloride

Sample	Time of Collection	Date of Collection	Time of Receipt	Date of Receipt
Effluent 1	0600	08-07-2023	1100	08-07-2023
Effluent 2	0600	08-09-2023	1120	08-09-2023
Effluent 3	0600	08-11-2023	1017	08-11-2023

	<i>Ceriodaphnia dubia</i>	fathead minnow
Test Initiation Time	1300	1430
Test Initiation Date	08-07-2023	08-07-2023
Test Completion Time	1400	1330
Test Completion Date	08-13-2023	08-14-2023

Abstract with Results

Test Concentrations: Control (0%), 13%, 26%, 52%, 76%, 100%

Number of Organisms/Concentration: 10 for *Ceriodaphnia dubia*
40 for fathead minnow

Replicates at each Concentration: 10 for *Ceriodaphnia dubia*
4 for fathead minnow

	<i>Ceriodaphnia dubia</i>	fathead minnow
Test vessel size/Exposure volume	30ml/15ml	500ml/200ml
Sub-lethal NOEL/IC25	100%/>100%	100%/>100%
Pass/Fail Status	PASS	PASS
Temperature Range (°C)	24.2 – 25.9	24.1 – 25.9
Dissolved Oxygen Range (mg/L)	6.5 – 7.5	5.3 – 7.9
pH Range	7.6 – 8.3	7.1 – 8.3
*Single endpoint failure		
	Control (<i>Cerio</i>/FHM)	Effluent Sample
Hardness (mg/L as CaCO ₃)	84/95	44/36/37
Alkalinity (mg/L as CaCO ₃)	60/60	6/4/24
Total residual chlorine (mg/L)	<0.01	<0.01
Total ammonia (mg/L as NH ₃)	<0.03	<0.03

INTRODUCTION

Biomonitoring provides an effective means by which the toxicity of discharges from municipal, industrial, and mining operations can be tested. Among the advantages of biomonitoring is the ability to test complex effluents containing a broad range of contaminants. Biomonitoring, when used in conjunction with chemical analyses, can generate data capable of identifying a much wider range of contaminants.

The Colorado Water Quality Control Division requires certain NPDES permittees to perform acute and/or chronic biomonitoring tests. The chronic test measures significant differences in lethality and in reproduction (*Ceriodaphnia dubia*) or growth (fathead minnow – *Pimephales promelas*) between control and effluent-exposed organisms.

The present report discusses the results of chronic biomonitoring tests conducted on effluent from the Battle Mountain Resources, Inc. 001B discharge. These tests were conducted in accordance with EPA and State of Colorado procedures in August 2023.

MATERIALS AND METHODS

Sample Collection

Two gallons of the effluent were collected on three separate dates as specified in Permit CO-0045675. Samples were delivered chilled to the SeaCrest lab where they were held at 0-6°C. Chain of custody forms showing sample collection and laboratory arrival times are included (Appendix 1).

Dilution Water

Laboratory reconstituted water was used as both the dilution water source and the control for the tests. Reconstituted water for the *Ceriodaphnia dubia* test was produced by adding sodium bicarbonate, calcium sulfate, magnesium sulfate, potassium chloride, and sodium selenate to deionized water. Reconstituted water for the fathead minnow test was produced by adding sodium bicarbonate, calcium sulfate, magnesium sulfate, and potassium chloride to deionized water.

Test Organisms

The biomonitoring test used *Ceriodaphnia dubia*, cultured in the SeaCrest laboratory. The organisms are cultured in brood culture boards from which individual females are monitored for survival and reproduction for periods of up to two weeks. Neonates less than 24-hours old, released from third or subsequent broods of eight or more within an 8-hour period, are collected from the brood chambers and used in tests. The animals are fed daily with a mixture of Yeast, Cereal Leaves, and Trout Chow (YCT), produced in-house. This is supplemented with cultured green algae (*Selenastrum capricornutum*) provided by Aquatic Biosystems.

Less than one-day-old fathead minnow, cultured in the laboratory, were also used in the test. Adult fish are maintained in 10-gallon aquaria where females deposit their eggs on the under-surface of split PVC pipe sections. The eggs are collected daily and transferred to aerated containers where they hatch after three to four days. The larval fish are fed newly hatched brine shrimp (*Artemia* sp.) at least twice per day.

In-house organisms are tested monthly in a reference toxicant test using sodium chloride to monitor overall health and test reproducibility (Appendix 4).

Test Procedures

Upon receipt at the lab, samples were analyzed for alkalinity, ammonia, chlorine, conductivity, dissolved oxygen, hardness, and pH.

Methods used in chemical analysis

Alkalinity	EPA 310.2	Hach 8203	I-2030-85.2
Ammonia	SM4500-NH ₃ , C-E1997	ASTM D1426-08	
Chlorine	SM4500-Cl D	Hach 10026	
Conductivity	SM2510		
Dissolved Oxygen	SM4500-O	Electrode: G-2001	Winkler (QC): B-F-2001
Hardness	SM2340 B or C	Hach 8213	
pH	SM4500-H+ B-2000		

The test followed procedures in EPA³ and CDPHE⁴ guidelines. Exposure concentrations included control (0%), 13%, 26%, 52%, 76%, and 100% mixtures, diluted with moderately hard laboratory reconstituted water.

Individual *Ceriodaphnia dubia* were placed in 30ml plastic containers containing approximately 15ml of exposure medium. Ten replicates at each concentration were used. The animals were fed daily with the YCT mixture and an equal volume of the green algae (*Selenastrum capricornutum*). The exposure medium was changed daily in each container and the number of young released overnight were counted and recorded. Young were removed from the containers daily and discarded. Routine measurements were made each day of temperature, dissolved oxygen, and pH before and after the water changes.

Fathead minnow were exposed in 500ml plastic cups to which 250ml of media was replaced daily. Four replicates were used at each concentration. Ten fish, less than 24-hours old, were placed in each cup. The fish were monitored daily for survival and fed live brine shrimp at least twice per day. After seven days, the fish were removed from the cups, euthanized with isopropyl alcohol, and then placed in aluminum pans and dried in an oven for a minimum of six hours at 100°C. The pans were then weighed on a five-place analytical balance to determine the average dry weight of the fish from each replicate.

Data Analysis

Data from the tests were analyzed on a personal computer using the CETIS program (developed by Tidepool Scientific Software). Statistical tests used in the analyses are shown in Table 1. Test acceptability was determined using control survival and reproduction/growth criteria, concentration-response relationships, and percent minimum significant differences (USEPA ^{5,6}).

Table 1. Statistical methods used in testing for significant differences in test parameters.

Variance		Distribution		
Bartlett Equality of Variance Test		Shapiro-Wilk W Normality Test		
Statistical Difference				
Species	Survival	Growth	Reproduction	IC ₂₅
<i>Ceriodaphnia dubia</i>	Fisher Exact/Bonferroni-Holm Test	N/A	Dunnett Multiple Comparison Test	IC _p
fathead minnow	Steel Many-One Rank Sum Test	Dunnett Multiple Comparison Test	N/A	IC _p

RESULTS

Ceriodaphnia dubia Test Results

Test results for the *Ceriodaphnia dubia* are summarized in Table 2 and provided on the data sheets located in Appendix 2. Survival was 90% in the 100% effluent and ranged from 90% - 100% in the remaining effluent concentrations. Control survival was 100%. No statistically significant lethality was measured in any effluent concentration when compared to the control. The NOEL (No Observed Effect Level) for lethality was 100% and the LC₂₅ (Lethal Concentration 25) for lethality was >100%.

Average number of neonates was 15.4 in the 100% effluent concentration and ranged from 17.6 – 21.3 in the remaining effluent concentrations. Average number of neonates in the control was 20.0 for statistical analyses and test acceptability criteria. No statistically significant differences in the number of neonates were found between the control and any effluent concentrations. The NOEL for reproduction was 100% and the IC₂₅ (Inhibition Concentration 25) for reproduction was >100%.

Table 2. Summary of *Ceriodaphnia dubia* test results. An asterisk (*) denotes a statistically significant difference from the control.

Concentration	Percent Survival	Mean Neonates	Min.	Max.	Significant Difference	
					Lethality	Reprod.
Control (0%)	100	20.0	18	26		
13%	100	19.8	15	24		
26%	90	17.6	4	25		
52%	100	21.3	11	27		
76%	100	19.5	11	27		
100%	90	15.4	4	24		

Fathead Minnow Test Results

Fathead minnow results are summarized in Table 3 and are provided on data sheets in Appendix 3. Survival was 100% in the 100% effluent concentration and ranged from 95% - 100% in the remaining effluent concentrations. Control survival was 98%. No statistically significant lethality was measured in any effluent concentration when compared to the control. The NOEL for lethality was 100% and the LC₂₅ for lethality was >100%.

Average weight in the 100% effluent concentration was 0.486mg and ranged from 0.445mg - 0.466mg per individual in the remaining effluent concentrations. Average weight for the control fish was 0.424mg for statistical analyses and test acceptability criteria. No statistically significant differences for growth were measured in any effluent concentration when compared to the control. The NOEL for growth was 100% and the IC₂₅ for growth was >100%.

Table 3. Summary of fathead minnow test results. An asterisk (*) denotes a statistically significant difference from the control.

Concentration	Percent Survival	Average Weight (mg)	Min.	Max.	Significant Difference	
					Lethality	Growth
Control (0%)	98	0.424	0.356	0.490		
13%	100	0.456	0.321	0.589		
26%	100	0.457	0.369	0.527		
52%	100	0.445	0.392	0.496		
76%	95	0.466	0.409	0.521		
100%	100	0.486	0.462	0.499		

Test Acceptability

Acceptable control survival (80%) was achieved in both tests. Similarly, *Ceriodaphnia dubia* reproduction (average 15 neonates/organism) and fathead minnow growth (average 0.250mg/test container) in control organisms met required levels. PMSD for *Ceriodaphnia dubia* reproduction in effluent concentrations was not within the required limits for an acceptable test due to the presence of statistically significant toxicity in the 76% and 100% effluent dilutions (Table 4).

Table 4. PMSD for chronic test parameters.

PMSD (% Minimum significant difference)	fathead minnow growth		<i>C. dubia</i> reproduction	
	Lower bound	Upper bound	Lower bound	Upper bound
	12	30	13	47
	27.6		25.2	

DISCUSSION

A failed test for this discharge occurs when there is an NOEL or IC₂₅ less than the IWC (Instream Waste Concentration) of 52%. The NOEL represents the highest effluent concentration at which no statistically significant effect is observed. The IC₂₅ represents an estimate of the effluent concentration that would cause a 25 percent reduction of a non-quantal biological measurement. A violation for this discharge occurs when both the NOEL and the IC₂₅ are less than the IWC. Since neither test species demonstrated statistically significant differences meeting these criteria, the discharge passes WET testing requirements for this sampling period.

REFERENCES

1. **Hach Chemical Company.** 2008. *Hach's Water Analysis Handbook*. Fifth Edition. Hach Chemical Company, Loveland, Colorado. Digital Medium.
2. **APHA/AWWA/WEF.** 1998. *Standard Methods for the Examination of Water and Wastewater*. 20th Edition. American Public Health Association, Washington, D.C.
3. **USEPA.** 2002. *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*. EPA-821-R-02-013. 335 pp.
4. **CDPHE (Colorado Department of Public Health and Environment).** 1998. *Laboratory Guidelines for Conducting Whole Effluent Toxicity Tests*. Water Quality Control Division.
5. **USEPA.** 2000. *Method of Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR Part 136). EPA/821/B-00/004.
6. **USEPA.** 2000. *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the National Pollutant Discharge Elimination System Program*. EPA/833/R-00/003.

Appendix 1 – Chain of Custody with Sample Receipt Forms

[illegible]

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 540 GPM
ISCO Sampling Schedule 100 ml per 10 minutes

Start Sample Program: Time 0600
End Sample Program: Time 0600 Date 8/7/23 Circle One M W F

Sampling Personnel: A. Taylor, S. Maestas, R. Lucero, D. Cartho

~3 Hour Time 0900 Observation good water flow, power on to sampler, sample container on ice

~6 Hour Time 1200 Observation good water flow, power on to sampler, sample container on ice

~9 Hour Time 1500 Observation good water flow, power on to sampler, sample container on ice

~12 Hour Time 1800 Observation good water flow, power on to sampler, sample container on ice

~15 Hour Time 2100 Observation good water flow, power on to sampler, sample container on ice

~18 Hour Time 2400 Observation good water flow, power on to sampler, sample container on ice

~21 Hour Time 0300 Observation good water flow, power on to sampler, sample container on ice

~24 Hour Time 0600 Observation good water flow, power on to sampler, sample container on ice

Volume sent to lab 2 gallons

Total Volume Collected 4 gallons

Samples packed on ice ☒

Completed COC ☒

Cooler Sealed ☒

~~ISCO Sampling on time~~

BMRI Delivered ☒

Sample Receipt Form

Project # 423 379.B

Date: 080723

Samples Were:

1. FedEx UPS Courier

Notes:

Sample #: 1

Initials: Um

Hand Delivery (circle one)

2. Chilled to Ship

Ambient Chilled

3. Cooler Received Broken or Leaking

Y N NA

Notes:

4. Sample Received Broken or Leaking

Y N

Notes:

5. Received Within 36hr Holding Time

Y N

Notes:

6. Aeration necessary

Y N

7. pH adjustment necessary

Y N

8. Sample Received at Temperature between 0-6° C .

Y N NA

Notes: Same Day

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: no visible p.m.

Receiving: N/A

Presence of native species:

Y N

Lab #	Temp	D.O.	pH	Cond
423379.B#1	13.0	7.2	7.8	199

Custody Seals:

1. Present on Outer Package

Y N

2. Unbroken on Outer Package

Y N NA

3. Present on Sample

Y N

4. Unbroken on Sample

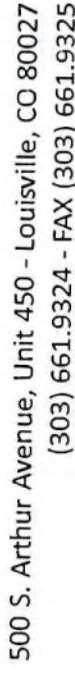
Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y N

Um



Analysis (Check all applicable)

Test Species: ☒ Fathead Minnow ☐ Cerio daphnia ☐ Daphnia magna ☐ Daphnia pulex ☐ Other (List Below)

Outfall-001B

Requested Report Date:

Relinquished By (1)		Received By (1)		Relinquished By (2)		Received By (2)	
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
David L. Brown	8/9/23 0600	←				jc	080923 1120

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 570 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 8-9-23 Circle One: M (W) F

Sampling Personnel: R. Lucero, D. Carino, A. Taylor, S. Maestas

~3 Hour Time 0900 Observation good water flow, power onto sampler, sample container on ice
 ~6 Hour Time 1200 Observation good water flow, power onto sampler, sample container on ice
 ~9 Hour Time 1500 Observation good water flow, power onto sampler, sample container on ice
 ~12 Hour Time 1800 Observation good water flow, power onto sampler, sample container on ice
 ~15 Hour Time 2100 Observation good water flow, power onto sampler, sample container on ice
 ~18 Hour Time 2400 Observation good water flow, power onto sampler, sample container on ice
 ~21 Hour Time 0300 Observation good water flow, power onto sampler, sample container on ice
 ~24 Hour Time 0600 Observation good water flow, power onto sampler, sample container on ice

Volume sent to lab 2 gallons
 Contacts Lab: 303-794-8976 (Henry Latimer)

Total Volume Collected 4 gallons
 Samples packed on ice ☒
 Completed COC ☒
 Cooler Sealed ☒
 UPS pick up on time ☒

BMRI Delivered x

Sample Receipt Form

Project # 423379

Date: 080923

Samples Were:

1. FedEx UPS Courier

Notes:

Sample #: 2

Initials: Jc

Hand Delivery (circle one)

2. Chilled to Ship

Ambient Chilled

3. Cooler Received Broken or Leaking

Y N NA

Notes:

4. Sample Received Broken or Leaking

Y N

Notes:

5. Received Within 36hr Holding Time

Y N

Notes:

6. Aeration necessary

Y N

7. pH adjustment necessary

Y N

8. Sample Received at Temperature between 0-6° C .

Y N NA

Notes: Same day

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: no visible P.M.

Receiving: N/A

Presence of native species:

Y N

Lab #	Temp	D.O.	pH	Cond
<u>379.6 #2</u>	<u>12.09</u>	<u>7.1</u>	<u>8.0</u>	<u>215</u>

Custody Seals:

1. Present on Outer Package

Y N

2. Unbroken on Outer Package

Y N NA

3. Present on Sample

Y N

4. Unbroken on Sample

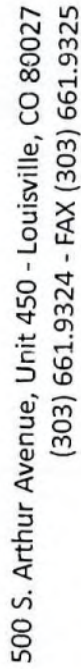
Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y N

cm



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Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 525 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 8/11/23 Circle One: M W

Sampling Personnel: A. Taylor, D. Carino, R. Lucero, S. Maestas

~3 Hour Time 0900 Observation good water flow, Power on to Sampler, Sample Container on ice

~6 Hour Time 1200 Observation good water flow, Power on to Sampler, Sample Container on ice

~9 Hour Time 1500 Observation good water flow, Power on to Sampler, Sample Container on ice

~12 Hour Time 1800 Observation good water flow, Power on to Sampler, Sample Container on ice

~15 Hour Time 2100 Observation good water flow, power on to Sampler, Sample container on ice

~18 Hour Time 2400 Observation good water flow, power on to Sampler, Sample container on ice

~21 Hour Time 0300 Observation good water flow, power on to Sampler, sample container on ice

~24 Hour Time 0600 Observation good water flow, power on to Sampler, Sample container on ice

Volume sent to lab 2 gallons

Total Volume Collected 4 gallons
 Samples packed on ice ☒
 Completed COC ☒
 Cooler Sealed ☒
 Line on time

BMRI Delivered ☒

Sample Receipt Form

Project # 423 379.B

Date: 081123

Samples Were:

1. FedEx UPS Courier

Notes:

2. Chilled to Ship

3. Cooler Received Broken or Leaking

Notes:

4. Sample Received Broken or Leaking

Notes:

5. Received Within 36hr Holding Time

Notes:

6. Aeration necessary

7. pH adjustment necessary

8. Sample Received at Temperature between 0-6° C .

Notes: *same day sample*

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: *clear, no visible pm*

Receiving: *N/A*

Presence of native species:

Sample #: 3

Initials: DT

Hand Delivery (circle one)

Ambient Chilled

Y N NA

Y N

Y N

Y N

Y N

Y N NA

Y N

Lab #	Temp	D.O.	pH	Cond
379.B#3	10.5	7.3	7.8	223

Custody Seals:

1. Present on Outer Package

Y N

2. Unbroken on Outer Package

Y N NA

3. Present on Sample

Y N

4. Unbroken on Sample

Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y N

cm

Appendix 2 – Data Sheets for the *Ceriodaphnia dubia* Test

WET TEST REPORT FORM – CHRONIC

Permittee: Battle Mountain Resources, Inc.
Permit No.: CO-0045675
Outfall: 001B – IWC: 52%
Test Type: Routine ☒ Accelerated ☐ Screen ☐
Test Species: *Ceriodaphnia dubia*

Test Start Time	Test Start Date	Test End Time	Test End Date
1300	08-07-2023	1400	08-13-2023

Test Results	Lethality/TCP3B	Reproduction/TKP3B
S code: NOEL	100%	100%
	PASS	PASS
P code: LC ₂₅ /IC ₂₅	>100%	>100%
	PASS	PASS
T code:	>100%	>100%

Test Summary

Measurements	Control (0%)	13%	26%	52%	76%	100%
Exposed organisms	10	10	10	10	10	10
Survival for day 1	10	10	10	10	10	10
Survival for day 2	10	10	10	10	10	10
Survival for day 3	10	10	10	10	10	10
Survival for day 4	10	10	9	10	10	9
Survival for day 5	10	10	9	10	10	9
Survival for day 6	10	10	9	10	10	9
Mean 3 Brood Total	20.0	19.8	17.6	21.3	19.5	15.4

Hardness (mg/L) – Receiving Water: N/A Effluent: 44/36/37 Recon Water: 84
Alkalinity (mg/L) – Receiving Water: N/A Effluent: 6/4/24 Recon Water: 60
Chlorine (mg/L) – Effluent: <0.01 pH (initial/final) – Control: 8.3/8.1 100%: 8.0/8.1
Total Ammonia as NH₃ (mg/L) - Effluent: <0.03

Were all Test Conditions in Conformance with Division Guidelines? YES ☒ NO ☐

If **NO**, list deviations from test specifications: N/A

Laboratory: SeaCrest Group

Comments:

Analyst's Name: Mia Kohler, Jordan Cashman, and Daniela Thornton

Signature D. Thornton Date August 17, 2023

Permittee: BMRI Lab #: 473 379.8 Site: 001 B
IWC %: 52 Template #: 5 Dilution Water: MH23-016 Sample Date: 080723
Age & Source: 080723 2148 Test Start: 080723 1300 Test End: 081323 1400

Test Conditions:

	0	1	2	3	4	5	6	7	Total
(C)	0	0	0	4	0	6	12		22
0	0	0	0	0	4	6	9		19
	0	0	0	3	5	0	11		19
	0	0	0	0	5	6	7		18
	0	0	0	3	8	7	0		18
	0	0	0	4	8	7	0		19
	0	0	0	4	6	0	12		22
	0	0	0	3	0	5	10		18
	0	0	0	3	6	0	10		19
	0	0	0	0	5	8	13		26
DO	7.0	7.0	6.9	7.2	6.9	7.0	6.8	6.8	20.0
Temp	25.3	25.5	24.2	25.6	25.5	24.9	25.1	25.6	
pH	8.5	7.9	8.0	8.1	8.2	8.0	8.1	7.8	
Cond	295	295	295	288	291	299			
(1)	0	0	0	2	6	0	11		19
13	0	0	0	0	5	7	12		24
	0	0	0	4	7	4	0		15
	0	0	0	0	5	5	11		21
	0	0	0	4	7	0	7		18
	0	0	0	5	7 + 2	0	10		24
	0	0	0	3	7	0	11		21
	0	0	0	3	0	6	9		18
	0	0	0	2	6	0	8		16
	0	0	0	0	5	5	12		22
DO	7.0	7.0	6.9	7.2	7.0	7.0	6.5	6.9	19.8
Temp	25.2	25.5	24.5	25.6	25.5	24.9	25.2	25.6	
pH	8.2	7.9	8.0	8.0	8.1	8.1	7.9	8.1	
Cond	258	259	276	276	281	288			
(2)	0	0	0	3	0	5	12		20
26	0	0	0	0	6	7	11		24
	0	0	0	5	4	0	2		11
	0	0	0	0	5	4	7		16
	0	0	0	3 + 1	0 ①				4
	0	0	0	4	8	5	0		17
	0	0	0	3	7	0	11		21
	0	0	0	0	0	4	13		17
	0	0	0	3	6	0	12		21
	0	0	0	4	6.9	0	7		25
DO	7.1	7.0	7.0	7.2	7.1	7.0	6.6	7.0	17.0
Temp	25.1	25.5	24.8	25.6	25.5	24.9	25.3	25.6	
pH	8.2	7.9	8.0	7.9	8.1	8.1	7.9	8.1	
Cond	251	249	268	269	273	280			
(3)	0	0	0	3	6	0	11		20
52	0	0	0	0	3	4	12		19
	0	0	0	4	7	0	0		11
	0	0	0	0	5	8	14		27
	0	0	0	3	7	0	15		25
	0	0	0	6	6	0	8		20
	0	0	0	5	8	0	13		26
	0	0	0	1	0	5	10		16
	0	0	0	3	8	0	13		24
	0	0	0	5	7.0	0	6		25
DO	7.2	7.0	7.0	7.3	7.2	7.1	7.1	6.6	21.3
Temp	25.0	25.5	25.1	25.6	25.5	24.9	25.3	25.6	
pH	8.1	7.8	8.0	7.8	7.9	8.0	8.1	7.7	
Cond	230	231	250	249	255	260			

CM

	0	1	2	3	4	5	6	7	Total
(4)	0	0	0	3	0	3	12		18
76	0	0	0	0	5	4	8		17
	0	0	0	5	8	0	14		27
	0	0	0	0	4	7	14		25
	0	0	0	5	8	5	0		18
	0	0	0	5	6	4	0		15
	0	0	0	3	0.5	0	3		11
	0	0	0	5	0	8	11		24
	0	0	0	4	7	0	5		16
	0	0	0	0	4	5	15		24
DO	7.3	7.0	7.1	7.3	7.3	7.1	7.2	6.7	
Temp	24.9	25.5	25.4	25.6	25.5	24.9	25.4	25.8	
pH	8.1	7.8	7.9	7.7	7.8	8.0	7.8	8.0	
Cond	211	213	231	233	239	243			
(5)	0	0	0	4	4	0	12		20
100	0	0	0	0	4	0			4
	0	0	0	5	6	2	0		13
	0	0	0	0	6	7	6		19
	0	0	0	6	7	0	5		18
	0	0	0	3	7	2	1		13
	0	0	0	4	0	5	12		21
	0	0	0	4	0	6	3		13
	0	0	0	5	5	0	14		24
	0	0	0	2	0	4	3		9
DO	7.3	7.0	7.1	7.3	7.4	7.1	7.1	6.7	
Temp	24.8	25.5	25.8	25.6	25.5	24.9	25.5	25.4	
pH	8.0	7.8	7.8	7.6	7.6	8.0	8.0	7.6	
Cond	189.6	194.2	214	215	223	227			
Algae	ABS	ABS	ABS	ABS	ABS	ABS			
YCT	2305	2305	2305	2305	2305	2305			
H ₂ O	1	1	2	2	3	3			
Initials	MX	MX	JL	MX	DT	JL	HK		
	Eff #1	Eff #2	Eff #3	Recon					
Hardness	44	36	37	84					
Alkalinity	6	4	24	60					
Chlorine	<0.01	<0.01	<0.01	<0.01					
Ammonia	<0.03	<0.03	<0.03	<0.03					

Exposure Chamber:
Total Capacity: 30mL
Total Solution Volume: 15ml

Feeding Schedule:
Fed daily
Food used: YCT, Algae

Units:
DO: mg/L
Temp: °C
pH: N/A
Cond: µS/cm³
Hardness: mg/L
Alkalinity: mg/L
Chlorine: mg/L
Ammonia: mg/L

Comments:

x:y:z = board #:row:column

1	2	3	4	5	6	7	8	9	10
C1	C3	C6	C7	C9	D1	D2	D4	D5	D6

CM

CETIS Analytical Report

Report Date: 14 Aug-23 10:23 (p 1 of 1)
Test Code/ID: 423379cd / 11-2432-8584

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 21-2440-6650	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 14 Aug-23 10:23	Analysis: STP 2xK Contingency Tables	Status Level: 1
Batch ID: 00-0844-0264	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 07 Aug-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 13 Aug-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 15-6143-6749	Code: 423379.B	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 07 Aug-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 07 Aug-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	100	>100	n/a	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	1.0000	Exact	1.0000	Non-Significant Effect
		26	0.5000	Exact	1.0000	Non-Significant Effect
		52	1.0000	Exact	1.0000	Non-Significant Effect
		76	1.0000	Exact	1.0000	Non-Significant Effect
		100	0.5000	Exact	1.0000	Non-Significant Effect

Data Summary

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	10	0	10	1	0	0.0%
13		10	0	10	1	0	0.0%
26		9	1	10	0.9	0.1	10.0%
52		10	0	10	1	0	0.0%
76		10	0	10	1	0	0.0%
100		9	1	10	0.9	0.1	10.0%

CETIS Analytical Report

Report Date: 14 Aug-23 10:23 (p 1 of 2)
 Test Code/ID: 423379cd / 11-2432-8584

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 02-3912-9351	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 14 Aug-23 10:23	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 00-0844-0264	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 07 Aug-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 13 Aug-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 15-6143-6749	Code: 423379.B	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 07 Aug-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 07 Aug-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	267241	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC5	82	19.5	n/a	1.22	n/a	5.128
LC10	100	79.43	n/a	1	n/a	1.259
LC15	>100	n/a	n/a	<1	n/a	n/a
LC20	>100	n/a	n/a	<1	n/a	n/a
LC25	>100	n/a	n/a	<1	n/a	n/a
LC40	>100	n/a	n/a	<1	n/a	n/a
LC50	>100	n/a	n/a	<1	n/a	n/a

7d Survival Rate Summary

7d Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	D	10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	10/10	1	0.0%
13		10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	10/10	1	0.0%
26		10	0.9000	0.0000	1.0000	0.3162	35.14%	10.0%	9/10	0.9667	3.33%
52		10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	10/10	0.9667	3.33%
76		10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	10/10	0.9667	3.33%
100		10	0.9000	0.0000	1.0000	0.3162	35.14%	10.0%	9/10	0.9	10.0%

CETIS Analytical Report

Report Date: 14 Aug-23 10:23 (p 1 of 1)
Test Code/ID: 423379cd / 11-2432-8584

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 17-2347-5087	Endpoint: Reproduction	CETIS Version: CETISv1.9.6
Analyzed: 14 Aug-23 10:22	Analysis: Parametric-Control vs Treatments	Status Level: 1
Batch ID: 00-0844-0264	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 07 Aug-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 13 Aug-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 15-6143-6749	Code: 423379.B	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 07 Aug-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 07 Aug-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	100	>100	n/a	1	25.24%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	0.09069	2.289	5.048	18	CDF	0.8050	Non-Significant Effect
		26	1.088	2.289	5.048	18	CDF	0.3773	Non-Significant Effect
		52	-0.5895	2.289	5.048	18	CDF	0.9524	Non-Significant Effect
		76	0.2267	2.289	5.048	18	CDF	0.7574	Non-Significant Effect
		100	2.086	2.289	5.048	18	CDF	0.0767	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	220.733	44.1467	5	1.816	0.1253	Non-Significant Effect
Error	1313	24.3148	54			
Total	1533.73		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	9.802	15.09	0.0810	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9601	0.9459	0.0474	Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	20	18.15	21.85	19	18	26	0.8165	12.91%	0.00%
13		10	19.8	17.57	22.03	20	15	24	0.9866	15.76%	1.00%
26		10	17.6	13.1	22.1	18.5	4	25	1.99	35.75%	12.00%
52		10	21.3	17.67	24.93	22	11	27	1.606	23.84%	-6.50%
76		10	19.5	15.79	23.21	18	11	27	1.641	26.62%	2.50%
100		10	15.4	11.04	19.76	15.5	4	24	1.928	39.58%	23.00%

CETIS Analytical Report

Report Date: 14 Aug-23 10:23 (p 2 of 2)
Test Code/ID: 423379cd / 11-2432-8584

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 09-3696-7572	Endpoint: Reproduction	CETIS Version: CETISv1.9.6
Analyzed: 14 Aug-23 10:23	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 00-0844-0264	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 07 Aug-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 13 Aug-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 15-6143-6749	Code: 423379.B	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 07 Aug-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 07 Aug-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	288194	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	78.75	6.441	88.63	1.27	1.128	15.53
IC10	84.66	12.88	n/a	1.181	n/a	7.763
IC15	90.56	63.85	n/a	1.104	n/a	1.566
IC20	96.46	78.84	n/a	1.037	n/a	1.268
IC25	>100	n/a	n/a	<1	n/a	n/a
IC40	>100	n/a	n/a	<1	n/a	n/a
IC50	>100	n/a	n/a	<1	n/a	n/a

Reproduction Summary

Reproduction Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	Mean	%Effect
0	D	10	20	18	26	2.582	12.91%	0.0%	20	0.0%
13		10	19.8	15	24	3.12	15.76%	1.0%	19.8	1.0%
26		10	17.6	4	25	6.293	35.75%	12.0%	19.47	2.67%
52		10	21.3	11	27	5.078	23.84%	-6.5%	19.47	2.67%
76		10	19.5	11	27	5.191	26.62%	2.5%	19.47	2.67%
100		10	15.4	4	24	6.096	39.58%	23.0%	15.4	23.0%

Appendix 3 – Data Sheets for the Fathead Minnow Test

WET TEST REPORT FORM – CHRONIC

Permittee: Battle Mountain Resources, Inc.
Permit No.: CO-0045675
Outfall: 001B – IWC: 52%
Test Type: Routine ☒ Accelerated ☐ Screen ☐
Test Species: fathead minnow

Test Start Time	Test Start Date	Test End Time	Test End Date
1430	08-07-2023	1330	08-14-2023

Test Results	Lethality/TCP6C	Growth/TKP6C
S code: NOEL	100%	100%
	PASS	PASS
P code: LC ₂₅ /IC ₂₅	>100%	>100%
	PASS	PASS
T code:	>100%	>100%

Test Summary

Measurements	Control (0%)	13%	26%	52%	76%	100%
Exposed organisms	40	40	40	40	40	40
Survival for day 1	40	40	40	40	40	40
Survival for day 2	40	40	40	40	40	40
Survival for day 3	40	40	40	40	40	40
Survival for day 4	39	40	40	40	39	40
Survival for day 5	39	40	40	40	39	40
Survival for day 6	39	40	40	40	38	40
Survival for day 7	39	40	40	40	38	40
Mean Dry Wt. (mg)	0.424	0.456	0.457	0.445	0.466	0.486

Hardness (mg/L) – Receiving Water: N/A Effluent: 44/36/37 Recon Water: 95
Alkalinity (mg/L) – Receiving Water: N/A Effluent: 6/4/24 Recon Water: 60
Chlorine (mg/L) – Effluent: <0.01 pH (initial/final) – Control: 8.2/7.8 100%: 7.8/7.6
Total Ammonia as NH₃ (mg/L) - Effluent: <0.03

Were all Test Conditions in Conformance with Division Guidelines? YES ☒ NO ☐

If **NO**, list deviations from test specifications: N/A

Laboratory: SeaCrest Group

Comments:

Analyst's Name: Lindsey Muniz, Aurora Nelson, and Daniela Thornton

Signature D. Thornton Date August 17, 2023

Fathead Minnow Chronic Benchsheet

Client: BMRI Site: 001B Lab #: 423379.B Sample Date: 080723 IWC: 52 Dilution H₂O: MH23-030
 Test Start: 080723 1430 Test End: 081423 1330 Species Info: 14080623 Template: FHM Test Conditions:

Conc	Read	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	#	Fish & Tare	Tare	Fish Wt mg	Ave wt
DO	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	#1	1.16000	1.15704	0.350	
Temp	24.9	24.1	24.4	25.7	24.9	25.9	24.8	25.4	24.6	24.5	24.9	24.3	10	10	10	10	10	#2	1.14079	1.14308	0.371	0.424
pH	8.2	8.1	8.3	7.9	8.3	7.8	8.3	7.8	8.2	7.9	8.3	7.8	10	10	10	10	10	#3	1.14254	1.13775	0.479	
Cond	311	302	304	305	308	320	336	320	320	336	336	336	10	10	10	10	10	#4	1.17069	1.16579	0.490	
DO	16.9	16.6	16.7	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	10	10	10	10	10	#5	1.15174	1.14853	0.321	
Temp	24.9	24.1	24.7	25.5	24.3	25.4	24.7	25.4	24.7	24.6	24.8	24.4	10	10	10	10	10	#6	1.14076	1.14193	0.483	
pH	8.2	8.0	8.3	7.7	8.3	7.6	8.3	7.7	8.2	7.9	8.3	7.8	10	10	10	10	10	#7	1.15590	1.15001	0.589	0.480
Cond	293	292	295	299	300	308	327	308	308	327	327	327	10	10	10	10	10	#8	1.16826	1.16397	0.429	
DO	7.0	16.4	16.7	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	10	10	10	10	10	#9	1.14337	1.13968	0.349	
Temp	24.9	24.1	25.0	25.4	24.3	25.1	25.0	25.4	25.1	24.7	24.6	24.5	10	10	10	10	10	#10	1.14950	1.14511	0.451	0.451
pH	8.2	8.0	8.3	7.7	8.2	7.5	8.2	7.6	8.2	7.8	8.3	7.7	10	10	10	10	10	#11	1.15761	1.15270	0.491	
Cond	284	283	282	287	288	288	314	298	298	314	314	314	10	10	10	10	10	#12	1.17832	1.17305	0.527	
DO	7.0	16.2	16.6	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	10	10	10	10	10	#13	1.13993	1.13601	0.392	
Temp	25.0	24.1	25.3	25.2	25.3	25.2	25.3	25.4	25.0	24.7	24.4	24.5	10	10	10	10	10	#14	1.15204	1.14785	0.419	
pH	8.2	7.9	8.2	7.6	8.1	7.5	8.1	7.5	8.1	7.8	8.2	7.7	10	10	10	10	10	#15	1.14535	1.14111	0.474	0.445
Cond	258	260	254	266	266	266	284	275	275	284	284	284	10	10	10	10	10	#16	1.13744	1.13243	0.496	
DO	7.1	16.0	16.6	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	10	10	10	10	10	#17	1.16049	1.16240	0.409	
Temp	25.0	24.1	25.6	25.1	25.5	25.0	25.5	25.4	25.1	24.8	24.2	24.6	10	10	10	10	10	#18	1.17008	1.16590	0.418	0.466
pH	8.1	7.9	8.1	7.5	7.7	7.4	7.9	7.4	8.0	7.7	8.1	7.6	10	10	10	10	10	#19	1.17546	1.17030	0.516	
Cond	236	240	217	245	243	252	263	252	252	263	263	263	10	10	10	10	10	#20	1.16224	1.15703	0.521	
DO	7.2	5.8	16.5	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	10	10	10	10	10	#21	1.15041	1.14579	0.402	
Temp	25.0	24.1	25.8	24.9	24.1	24.7	25.6	25.4	25.2	24.9	24.1	24.7	10	10	10	10	10	#22	1.15831	1.15332	0.409	0.486
pH	7.8	7.8	7.9	7.4	7.7	7.1	7.8	7.3	7.9	7.7	7.9	7.6	10	10	10	10	10	#23	1.16443	1.15938	0.483	
Cond	199	204	192	213	211	229	206	229	229	206	206	206	10	10	10	10	10	#24	1.17132	1.16600	0.496	
DO													10	10	10	10	10	#				
Temp													10	10	10	10	10	#				
pH													10	10	10	10	10	#				
Cond													10	10	10	10	10	#				
Initials	LM	LM	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN	pretest	1.14514	1.14505		
Water #	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
Hard	44	36	37	45																		
Alk	4	24	24	60																		
Chlor	6001	6001	6001	6001																		
NH ₃	6003	6003	6003	6003																		
Feeding	0	1	2	3	4	5	6	7														
AM																						
Initials		LM	AN	LM	AN	AN	DT	LM														
PM																						
Initials	LM	LM	LM	LM	AN	AN	DT	LM														

Comments: ACTIVE & MOBILE

Units:
 DO: mg/L
 Temp: °C
 pH: N/A
 Cond: µS/cm³

Exposure Chamber
 Total Capacity: 500 mL
 Test Solution Volume: 250 mL
 Test Solution Surface Area: 50.2 cm
 Water Depth (constant): 6.5 cm

Feeding Schedule
 2x per day
 <24hr Artemia

CETIS Analytical Report

Report Date: 15 Aug-23 12:52 (p 1 of 3)
Test Code/ID: 423379FHM / 18-0189-9410

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 11-3184-3233	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 15 Aug-23 12:52	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Batch ID: 09-2056-0436	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 07 Aug-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 14 Aug-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 04-8512-4181	Code: 423379.B	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 07 Aug-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 07 Aug-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	100	>100	n/a	1	5.60%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	20	10	1	6	CDF	0.9516	Non-Significant Effect
		26	20	10	1	6	CDF	0.9516	Non-Significant Effect
		52	20	10	1	6	CDF	0.9516	Non-Significant Effect
		76	16	10	2	6	CDF	0.6105	Non-Significant Effect
		100	20	10	1	6	CDF	0.9516	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0232394	0.0046479	5	1.8	0.1637	Non-Significant Effect
Error	0.0464788	0.0025822	18			
Total	0.0697182		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.7721	0.884	1.1E-04	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%
13		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
26		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
52		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
76		4	0.9500	0.8581	1.0000	0.9500	0.9000	1.0000	0.0289	6.08%	2.56%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	0.00%
13		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	-2.97%
26		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	-2.97%
52		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	-2.97%
76		4	1.331	1.181	1.48	1.331	1.249	1.412	0.04705	7.07%	2.97%
100		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	-2.97%

CETIS Analytical Report

Report Date: 15 Aug-23 12:53 (p 1 of 2)
Test Code/ID: 423379FHM / 18-0189-9410

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 09-0095-8818	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 15 Aug-23 12:52	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 09-2056-0436	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 07 Aug-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 14 Aug-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 04-8512-4181	Code: 423379.B	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 07 Aug-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 07 Aug-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	950095	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC5	>100	n/a	n/a	<1	n/a	n/a
LC10	>100	n/a	n/a	<1	n/a	n/a
LC15	>100	n/a	n/a	<1	n/a	n/a
LC20	>100	n/a	n/a	<1	n/a	n/a
LC25	>100	n/a	n/a	<1	n/a	n/a
LC40	>100	n/a	n/a	<1	n/a	n/a
LC50	>100	n/a	n/a	<1	n/a	n/a

7d Survival Rate Summary

Calculated Variate(A/B)

Isotonic Variate

Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	D	4	0.9750	0.9000	1.0000	0.0500	5.13%	0.0%	39/40	0.9937	0.0%
13		4	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%	40/40	0.9937	0.0%
26		4	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%	40/40	0.9937	0.0%
52		4	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%	40/40	0.9937	0.0%
76		4	0.9500	0.9000	1.0000	0.0577	6.08%	2.56%	38/40	0.975	1.89%
100		4	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%	40/40	0.975	1.89%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	0.9000
13		1.0000	1.0000	1.0000	1.0000
26		1.0000	1.0000	1.0000	1.0000
52		1.0000	1.0000	1.0000	1.0000
76		1.0000	0.9000	0.9000	1.0000
100		1.0000	1.0000	1.0000	1.0000

CETIS Analytical Report

Report Date: 15 Aug-23 12:52 (p 3 of 3)
Test Code/ID: 423379FHM / 18-0189-9410

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 11-6634-9594	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.6
Analyzed: 15 Aug-23 12:52	Analysis: Parametric-Control vs Treatments	Status Level: 1
Batch ID: 09-2056-0436	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 07 Aug-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 14 Aug-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 04-8512-4181	Code: 423379.B	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 07 Aug-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 07 Aug-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	100	>100	n/a	1	27.61%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	-0.6477	2.407	0.117	6	CDF	0.9573	Non-Significant Effect
		26	-0.6682	2.407	0.117	6	CDF	0.9594	Non-Significant Effect
		52	-0.437	2.407	0.117	6	CDF	0.9304	Non-Significant Effect
		76	-0.8635	2.407	0.117	6	CDF	0.9752	Non-Significant Effect
		100	-1.265	2.407	0.117	6	CDF	0.9918	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0084348	0.001687	5	0.3566	0.8713	Non-Significant Effect
Error	0.0851564	0.0047309	18			
Total	0.0935912		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	7.383	15.09	0.1937	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9817	0.884	0.9257	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.424	0.3122	0.5358	0.425	0.356	0.49	0.03513	16.57%	0.00%
13		4	0.4555	0.2779	0.6331	0.456	0.321	0.589	0.05581	24.50%	-7.43%
26		4	0.4565	0.3473	0.5657	0.465	0.369	0.527	0.03431	15.03%	-7.66%
52		4	0.4453	0.3688	0.5217	0.4465	0.392	0.496	0.02402	10.79%	-5.01%
76		4	0.466	0.3693	0.5627	0.467	0.409	0.521	0.03038	13.04%	-9.90%
100		4	0.4855	0.4588	0.5122	0.4905	0.462	0.499	0.008393	3.46%	-14.51%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.356	0.371	0.479	0.49
13		0.321	0.483	0.589	0.429
26		0.369	0.439	0.491	0.527
52		0.392	0.419	0.474	0.496
76		0.409	0.418	0.516	0.521
100		0.462	0.499	0.485	0.496

CETIS Analytical Report

Report Date: 15 Aug-23 12:53 (p 2 of 2)
Test Code/ID: 423379FHM / 18-0189-9410

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 01-3675-4743	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.6
Analyzed: 15 Aug-23 12:52	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 09-2056-0436	Test Type: Growth-Survival (7d)	Analyst: Lab Tech
Start Date: 07 Aug-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 14 Aug-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 04-8512-4181	Code: 423379.B	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 07 Aug-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 07 Aug-23	CAS (PC):	Station: 001B
Sample Age: n/a	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1658385	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	>100	n/a	n/a	<1	n/a	n/a
IC10	>100	n/a	n/a	<1	n/a	n/a
IC15	>100	n/a	n/a	<1	n/a	n/a
IC20	>100	n/a	n/a	<1	n/a	n/a
IC25	>100	n/a	n/a	<1	n/a	n/a
IC40	>100	n/a	n/a	<1	n/a	n/a
IC50	>100	n/a	n/a	<1	n/a	n/a

Mean Dry Biomass-mg Summary

Calculated Variate

Isotonic Variate

Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	Mean	%Effect
0	D	4	0.424	0.356	0.49	0.07027	16.57%	0.0%	0.4555	0.0%
13		4	0.4555	0.321	0.589	0.1116	24.50%	-7.43%	0.4555	0.0%
26		4	0.4565	0.369	0.527	0.06861	15.03%	-7.67%	0.4555	0.0%
52		4	0.4453	0.392	0.496	0.04805	10.79%	-5.01%	0.4555	0.0%
76		4	0.466	0.409	0.521	0.06077	13.04%	-9.91%	0.4555	0.0%
100		4	0.4855	0.462	0.499	0.01679	3.46%	-14.51%	0.4555	0.0%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.356	0.371	0.479	0.49
13		0.321	0.483	0.589	0.429
26		0.369	0.439	0.491	0.527
52		0.392	0.419	0.474	0.496
76		0.409	0.418	0.516	0.521
100		0.462	0.499	0.485	0.496

Appendix 4 – QA/QC and Reference Toxicant Test Chart

Quality Assurance Check List – Chronic Whole Effluent Toxicity Test

Client: Battle Mountain Resources, Inc.
SeaCrest Sample No: 423379.B
Species Tested: *Ceriodaphnia dubia* and fathead minnow

Sample Dates	Start Date of Test (<i>Ceriodaphnia dubia</i>)	Start Date of Test (fathead minnow)
08-07-2023		
08-09-2023		
08-11-2023	08-07-2023	08-07-2023

Sample received in lab properly preserved (0-6°C)?	N*
Sample received at laboratory within 36 hours of collection?	Y
Sample delivered on ice or equivalent?	Y
Test initiated within 36-hours of collection?	Y
Test protocol conforms to CDPHE guidelines (<i>Ceriodaphnia dubia</i>)?	Y
Test protocol conforms to CDPHE guidelines (fathead minnow)?	Y
Average test temp. $\pm 1^{\circ}\text{C}$ (<i>Ceriodaphnia dubia</i>)?	Y
Average test temp. $\pm 1^{\circ}\text{C}$ (fathead minnow)?	Y
DO level $\geq 4.0\text{mg/L}$; no super-saturation (<i>Ceriodaphnia dubia</i>)?	Y
DO level $\geq 4.0\text{mg/L}$; no super-saturation (fathead minnow)?	Y
Survival in control $\geq 80\%$ (<i>Ceriodaphnia dubia</i>)?	Y
Survival in control $\geq 80\%$ (fathead minnow)?	Y
<i>Ceriodaphnia dubia</i> neonates <24-hours old?	Y
Fathead minnow larvae <24-hours old?	Y
Appropriate reference toxicity test conducted?	Y
Reference toxicity test results within the confidence limits for the lab?	Y

* Sample #1, #2, and #3 were received at 13.0°C, 12.1°C, and 10.5°C on the same day as sampling.

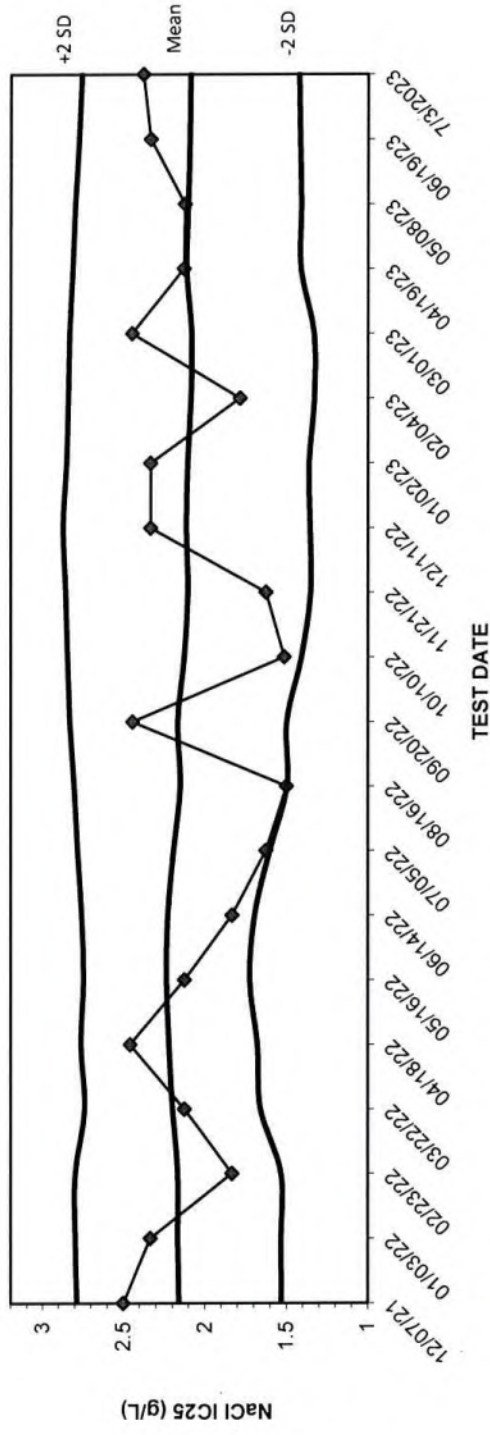
Author D. Thornton Date August 17, 2023
Position: Laboratory Supervisor
Quality Control Carl M. Ed Date August 17, 2023

Method	Analyte	Date	LCS (rec)	%REC	%RPD	QC LIMITS
2320 B	Alkalinity - Total	7/5/2023	102.40%	100.45%	-0.25%	± 5.00%
2320 B	Alkalinity - Total	7/11/2023	102.40%	101.06%	1.89%	± 5.00%
2320 B	Alkalinity - Total	7/20/2023	101.20%	103.19%	0.73%	± 5.00%
2320 B	Alkalinity - Total	7/27/2023	102.00%	103.70%	4.17%	± 5.00%
4500 NH ₃ D	Ammonia	7/7/2023	95.00%	95.32%	-2.99%	± 10.00%
4500 NH ₃ D	Ammonia	7/12/2023	95.00%	95.06%	-4.88%	± 10.00%
4500 NH ₃ D	Ammonia	7/20/2023	95.00%	95.50%	-4.65%	± 10.00%
4500 NH ₃ D	Ammonia	7/26/2023	95.60%	95.04%	-4.18%	± 10.00%
4500 Cl D	Chlorine	7/19/2023	103.13%	96.97%	0.00%	± 5.00, ± 20.00%
2340 B	Hardness - Total	7/6/2023	100.00%	101.47%	1.08%	± 5.00%
2340 B	Hardness - Total	7/13/2023	98.20%	100.00%	-0.90%	± 5.00%
2340 B	Hardness - Total	7/21/2023	102.00%	100.00%	-1.24%	± 5.00%
2340 B	Hardness - Total	7/27/2023	100.00%	99.55%	2.30%	± 5.00%
			LCS (rec)	%REC M1	%REC M2	QC Limits
4500 O	DO - Winkler	7/5/2023	N/A	98.55%	100.00%	± 5.00%
4500 O	DO - Winkler	7/11/2023	N/A	97.14%	97.14%	± 5.00%
4500 O	DO - Winkler	7/19/2023	N/A	100.00%	100.00%	± 5.00%
4500 O	DO - Winkler	7/26/2023	N/A	97.22%	97.22%	± 5.00%
			Blank	%REC MR S	%RPD	QC Limits
2540 D	Suspended Solids (TTL)	7/19/2023	100.00%	103.53%	0.00%	± 15%
2540 C	Dissolved Solids (TTL)	7/19/2023	100.00%	107.70%	0.03%	± 15%

Signature: Kaley West
Date: AUGUST 1, 2023

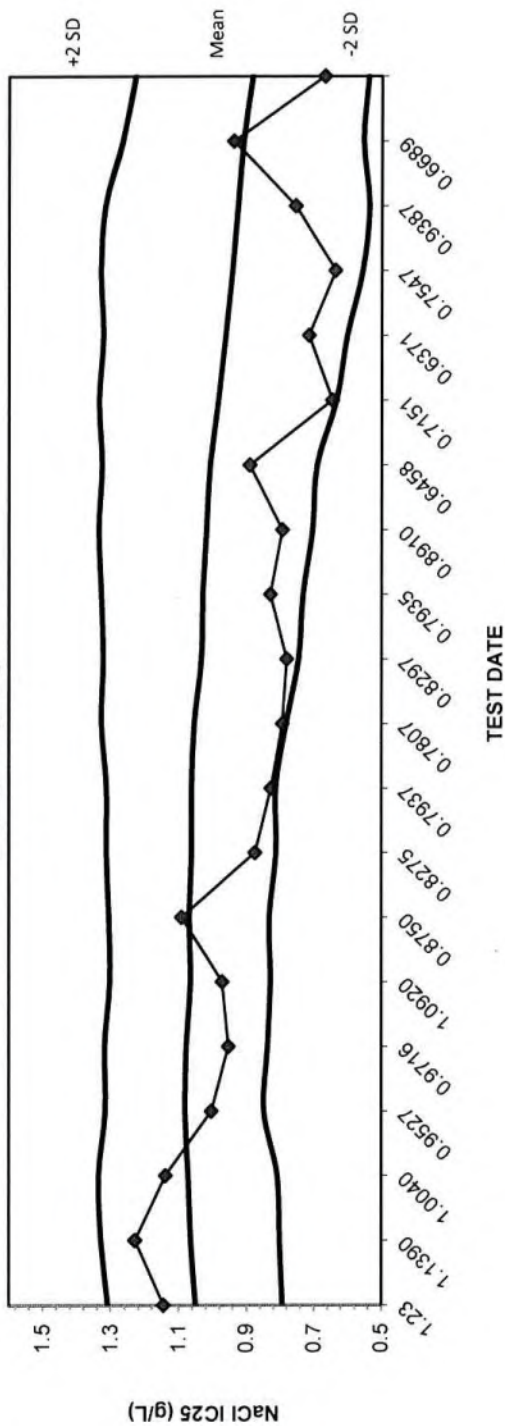
Signature: Call me 2d
Date: AUGUST 1, 2023

CERIODAPHNIA SURVIVAL LC25 NaCl REFTOX



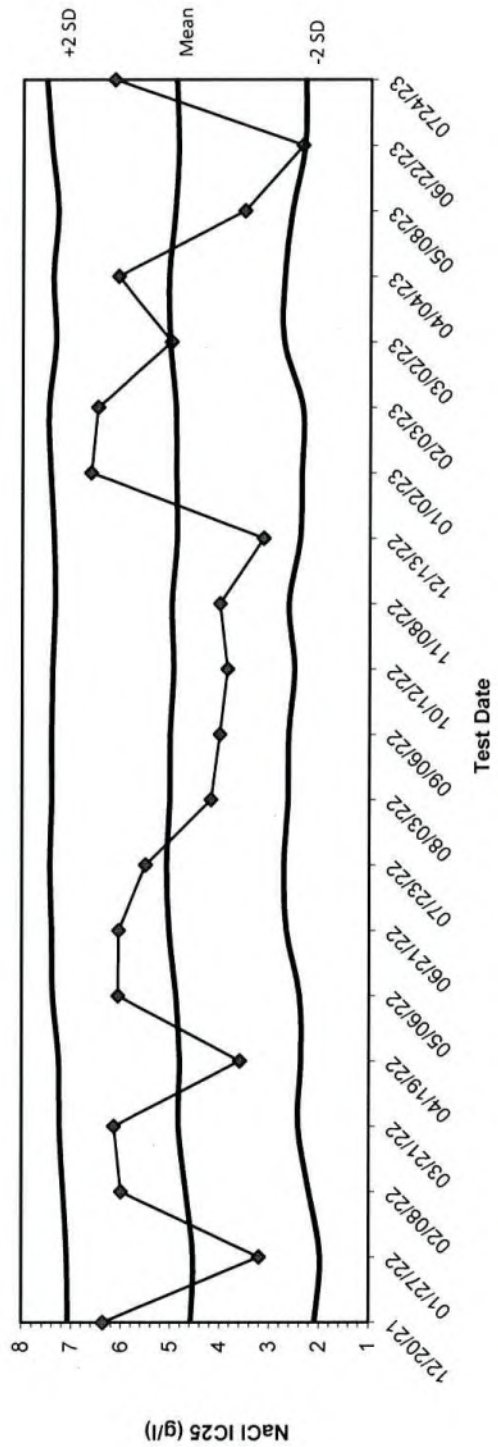
Date	IC25	Mean	-2 SD	+2 SD
12/07/21	2.5000	2.1592	1.5310	2.7874
01/03/22	2.3330	2.1656	1.5330	2.7982
02/23/22	1.8330	2.1656	1.5330	2.7982
03/22/22	2.1250	2.1982	1.6590	2.7374
04/18/22	2.4580	2.2200	1.6774	2.7626
05/16/22	2.1250	2.2355	1.7257	2.7453
06/14/22	1.8330	2.2267	1.6951	2.7582
07/05/22	1.6250	2.1930	1.6031	2.7828
08/16/22	1.5000	2.1506	1.4959	2.8054
09/20/22	2.4440	2.1658	1.4989	2.8328
10/10/22	1.5130	2.1268	1.4070	2.8465
11/21/22	1.6250	2.1055	1.3533	2.8578
12/11/22	2.3330	2.1154	1.3566	2.8742
01/02/23	2.3330	2.1075	1.3622	2.8527
02/04/23	1.7860	2.0869	1.3307	2.8430
03/01/23	2.4480	2.0844	1.3336	2.8352
04/19/23	2.1300	2.1144	1.4129	2.8158
05/08/23	2.1250	2.1045	1.4102	2.7988
06/19/23	2.3330	2.0965	1.4176	2.7755
7/3/2023	2.3780	2.0907	1.4243	2.7571

CERIODAPHNIA REPRODUCTION IC25 NaCl REFTOX



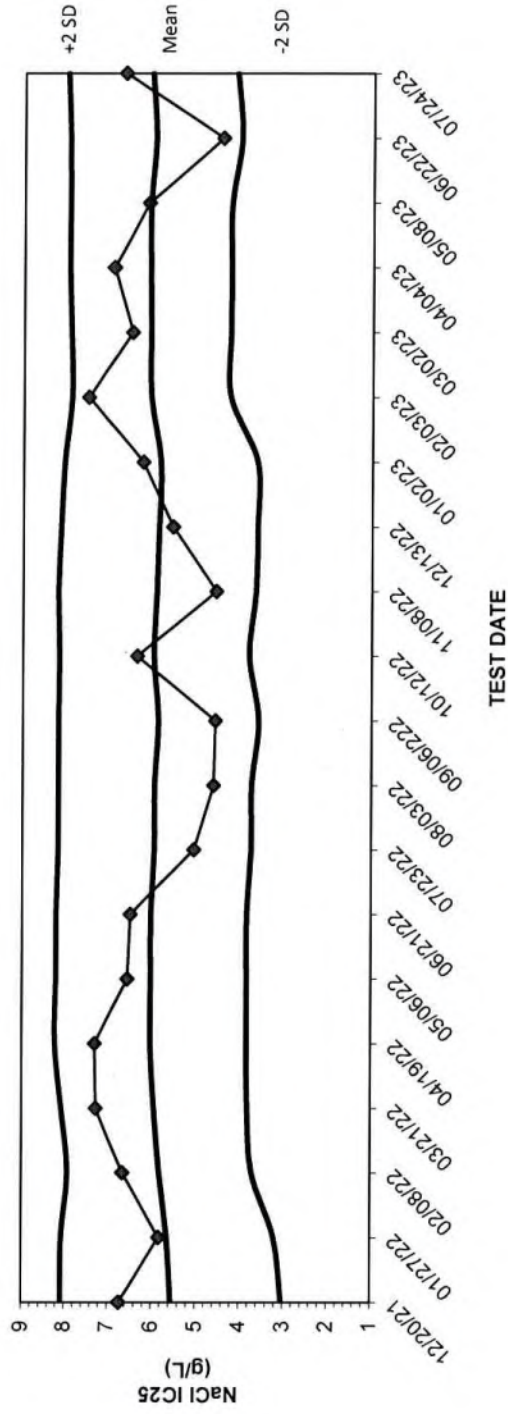
Date	IC25	Mean	-2 SD	+2 SD
12/07/21	1.1450	1.0503	0.7931	1.3076
1/3/2022	1.23	1.06497	0.801557607	1.328382393
02/23/22	1.1390	1.0719	0.8084	1.3354
03/22/22	1.0040	1.0821	0.8489	1.3154
04/18/22	0.9527	1.0775	0.8376	1.3174
05/16/22	0.9716	1.0659	0.8293	1.3025
06/14/22	1.0920	1.0691	0.8330	1.3053
07/05/22	0.8750	1.0628	0.8126	1.3129
08/16/22	0.8275	1.0630	0.8138	1.3123
09/20/22	0.7937	1.0554	0.7830	1.3279
10/10/22	0.7807	1.0340	0.7456	1.3223
11/21/22	0.8297	1.0301	0.7328	1.3275
12/11/22	0.7935	1.0197	0.7041	1.3353
01/02/23	0.8910	1.0085	0.6912	1.3258
02/04/23	0.6458	0.9841	0.6340	1.3342
03/01/23	0.7151	0.9621	0.6021	1.3221
04/19/23	0.6371	0.9431	0.5562	1.3300
05/08/23	0.7547	0.9267	0.5369	1.3165
06/19/23	0.9387	0.9105	0.5540	1.2670
07/03/23	0.6689	0.8843	0.5384	1.2302

FHM SURVIVAL LC25 NaCl REFTOX



Date	IC25	Mean	-2 SD	+2 SD
12/20/21	6.3570	4.5781	2.0849	7.0713
01/27/22	3.2000	4.5318	1.9736	7.0900
02/08/22	6.0000	4.6848	2.2009	7.1688
03/21/22	6.1400	4.8361	2.4258	7.2464
04/19/22	3.5870	4.8140	2.3657	7.2622
05/06/22	6.0670	4.8914	2.3955	7.3872
06/21/22	6.0500	5.0353	2.6626	7.4081
07/23/22	5.5000	5.0819	2.7150	7.4488
08/03/22	4.1820	5.0220	2.6328	7.4112
09/06/22	4.0000	5.0185	2.6233	7.4137
10/12/22	3.8420	4.9507	2.5089	7.3925
11/08/22	4.0000	4.9848	2.6228	7.3468
12/13/22	3.1230	4.8843	2.3996	7.3690
01/02/23	6.6150	4.9051	2.3687	7.4415
02/03/23	6.4800	4.9171	2.3524	7.4818
03/02/23	5.0000	5.0364	2.7367	7.3361
04/04/23	6.0800	5.0628	2.7278	7.3978
05/08/23	3.5230	4.9385	2.5790	7.2979
06/22/23	2.3600	4.8775	2.3230	7.4321
07/24/23	6.1696	4.9250	2.3130	7.5370

FHM GROWTH IC25 NaCl REFTOX



Date	IC25	Mean	-2 SD	+2 SD
12/20/21	6.7310	5.5549	3.0309	8.0788
01/27/22	5.8200	5.6387	3.2082	8.0692
02/08/22	6.6580	5.8193	3.7120	7.9266
03/21/22	7.2690	5.9425	3.8121	8.0729
04/19/22	7.2990	6.0314	3.8358	8.2271
05/06/22	6.5630	6.0225	3.8376	8.2074
06/21/22	6.5000	6.0225	3.8376	8.2074
07/23/22	5.0500	5.9498	3.7409	8.1587
08/03/22	4.6040	5.9482	3.7354	8.1611
09/06/22	4.5630	5.8716	3.5812	8.1620
10/12/22	6.3570	5.9716	3.7966	8.1465
11/08/22	4.5530	5.9137	3.6531	8.1744
12/13/22	5.5530	5.8673	3.6196	8.1150
01/02/23	6.2350	5.8373	3.6291	8.0455
02/03/23	7.4870	6.0624	4.2424	7.8824
03/02/23	6.5000	6.0758	4.2468	7.9047
04/04/23	6.9180	6.0931	4.2384	7.9479
05/08/23	6.1200	6.0879	4.2341	7.9416
06/22/23	4.4340	5.9816	4.0146	7.9487
07/24/23	6.6760	6.0591	4.1185	7.9998

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

January 8, 2024

Colorado Department of Public Health and Environment
Water Quality Control Division
Attn: WQDC-B2 – DMR Receipt
4300 Cherry Creek Drive
Denver, CO 80246-1530

Re: Battle Mountain Resources, Inc.
San Luis Project - San Luis, Colorado
Fourth Quarter 2023 – DMR's, BMP and WET Testing Reports
CDPHE CDPS Permit No. CO0045675

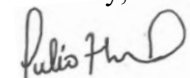
Dear Sir or Madame:

Please find the enclosed Battle Mountain Resources, Inc. "San Luis Project" (Permit No. CO0045675) Colorado Department of Public Health and Environment-Colorado Discharge Permit System (CDPS) Best Management Practices (BMP) report for permitted outfall 002 for the fourth quarter 2023. The quarterly BMP report provides the required data associated with groundwater well elevations, the quarterly potentiometric surface map and groundwater well chemistry.

In addition, the fourth quarter 2023 Discharge Monitoring Reports (DMRs) were submitted for each of the permitted water treatment plant discharges in the NetDMR System and the WET Testing Reports were attached to the appropriate DMR submittal in NetDMR. These permitted discharges consist of water treatment plant Discharge Numbers 001-A and 001-B. During the quarter, the maximum 30-day average flow was 0.24 million gallons of water discharged per day, therefore the applicable permit criteria for the reporting period is associated with discharge number 001-B.

Should any questions arise or if I can be of any assistance providing clarification, please call me at (719) 379-0538.

Sincerely,



Julio Madrid
Authorized Agent
Battle Mountain Resources, Inc.

Cc: BMRI File
Devon Horntvedt, Newmont USA Limited
Tim Runnells, Engineering Analytics

Battle Mountain Resources, Inc.
San Luis Project
P.O. Box 310
San Luis, Colorado 81152-0310
(719) 379-0798

January 8, 2024

Colorado Department of Public Health and Environment
Water Quality Control Division
Attn: WQDC-B2 – DMR Receipt
4300 Cherry Creek Drive
Denver, CO 80246-1530

Re: Battle Mountain Resources, Inc.
San Luis Project
Fourth Quarter 2023 BMP Report
CDPHE CDPS Permit No. CO0045675

Dear Sir or Madame:

In accordance with and compliance of the permit limitations and permit terms and conditions contained in Part I, Section 5 Discharge Point 002: (Permit Limitations, Best Management Practices, and Schedule of Compliance of the State of Colorado Authorization to Discharge Under the Colorado Discharge Permit System, Battle Mountain Resources, Inc. submits the following *Quarterly Best Management Practices Report*.

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Sections 61.8(2), 61.8(3)(n), and 61.8(3)(r), 5 C.C.R. 1002-61, the permittee shall continue to implement the following limitations, compliance schedules, and Best Management Practices (BMPs).

The attainment of applicable water quality standards will be implemented and evaluated through the application of the following limitations, compliance schedules, and BMPs that are designed to monitor and control the groundwater quality and quantity discharging from the West Pit to the Rito Seco alluvial aquifer.

Specifically, the limitations, compliance schedules, and BMPs are those activities that address contaminated groundwater that may flow into the Rito Seco. This includes: (1) the potential flow of the affected groundwater from the West Pit that, in the past, manifested itself in the formation of the surface seeps along the arroyo sidewall of the Rito Seco, and (2) the plume of affected groundwater within the Rito Seco alluvial aquifer downgradient of the West Pit that flows along the naturally occurring hydraulic gradient and that may flow into the Rito Seco. The activities will include the following specific requirements:

- 1) The elevation of the groundwater table in the vicinity of the West Pit shall be measured on a weekly basis at the following locations: (i) the West Pit backfill wells BF-4 and BF-5 and (ii) the Rito Seco alluvial wells M-16 and M-20, as shown in Figure 3 of the permit, for purposes of determining the performance of the “pump and treat” system that regulates the flow and quality of the groundwater in the seepage front. The permittee shall

also determine on a quarterly basis the elevations of the groundwater table at BF-3, BF-4, BF-5, BF-6, M-11R, M-16, M-17, M-18, M-19, M-20, M-21, M-22, M-23, M-24, M-25, M-26, M-27, M-28, M-29, M-30, M-31, M-32, and M-33 for the purpose of developing a groundwater potentiometric map as monitoring confirmation of the groundwater flow direction. The quarterly data regarding depth to groundwater and groundwater potentiometric surface map will be submitted to the WQCD with the BMP report as described.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the weekly West Pit backfill and alluvial wells as required under Paragraph 1 of the specific requirements. Measurements obtained for the weekly West Pit backfill wells (BF-4 and BF-5R) and alluvial wells (M-16 and M-20) are shown in Table 1. The quarterly groundwater elevations required under Paragraph 1 were also measured and are shown in Table 2. A potentiometric surface map, developed by Engineering Analytics, is shown in Figure 1. The groundwater table elevations and potentiometric map confirm that the groundwater flow gradient during the fourth quarter of 2023 was from the Rito Seco to the West Pit. No corrective action is required under Paragraph 1 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 1 – Weekly Groundwater Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
BF-4	10/04/2023	8579.25
	10/11/2023	8579.35
	10/18/2023	8579.29
	10/25/2023	8579.37
	11/01/2023	8579.30
	11/08/2023	8579.32
	11/15/2023	8579.27
	11/22/2023	8579.28
	11/29/2023	8579.28
	12/06/2023	8579.25
	12/13/2023	8579.28
	12/20/2023	8579.31
	12/27/2023	8579.25
BF-5R	10/04/2023	8579.04
	10/11/2023	8579.08
	10/18/2023	8579.07
	10/25/2023	8579.11
	11/01/2023	8579.06
	11/08/2023	8579.06
	11/15/2023	8579.05
	11/22/2023	8579.05
	11/29/2023	8579.06
	12/06/2023	8579.03
	12/13/2023	8579.06
	12/20/2023	8579.06
	12/27/2023	8579.05

Table 1 – Weekly Groundwater Elevations (continued)

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
M-16	10/04/2023	8601.39
	10/11/2023	8601.42
	10/18/2023	8601.46
	10/25/2023	8601.52
	11/01/2023	8601.59
	11/08/2023	8601.65
	11/15/2023	8601.65
	11/22/2023	8601.63
	11/29/2023	8601.59
	12/06/2023	8601.52
	12/13/2023	8601.42
	12/20/2023	8601.28
	12/27/2023	8601.19
M-20	10/04/2023	8580.14
	10/11/2023	8580.16
	10/18/2023	8580.14
	10/25/2023	8580.15
	11/01/2023	8580.16
	11/08/2023	8580.13
	11/15/2023	8579.63
	11/22/2023	8580.08
	11/29/2023	8580.05
	12/06/2023	8580.01
	12/13/2023	8579.99
	12/20/2023	8579.95
	12/27/2023	8579.95

Table 2 – Quarterly Groundwater Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)
BF-3	10/31/2023	8577.94
BF-4	10/31/2023	8579.30
BF-5R	10/31/2023	8579.07
BF-6	10/31/2023	8579.01
M-11R	10/31/2023	8549.22
M-16	10/31/2023	8601.59
M-17	10/31/2023	8586.66
M-18	10/31/2023	8579.90
M-19	10/31/2023	8580.82
M-20	10/31/2023	8580.16
M-21	10/31/2023	8577.43
M-22	10/31/2023	8572.92
M-23	10/31/2023	8555.02
M-24	10/31/2023	8558.94
M-25	10/31/2023	DRY
M-26	10/31/2023	8543.07
M-27	10/31/2023	DRY
M-28	10/31/2023	8580.04
M-29	10/31/2023	8580.64
M-30	10/31/2023	8610.31
M-31	10/31/2023	8548.88
M-32	10/31/2023	8533.39
M-33	10/31/2023	8528.65

- 2) The weekly groundwater table elevation data shall be tabulated and reported on the quarterly BMP reports, and the data will be used to evaluate compliance with the following permit limitations.

The groundwater table elevation, based on the average of all measured values for each calendar month in the West Pit backfill groundwater monitoring wells BF-4 and BF-5, must be equal to or lower than an elevation of 8582 feet above sea level (ft. amsl).

Compliance Action Taken: Battle Mountain Resources, Inc. measured the West Pit backfill monitoring wells (BF-4 and BF-5R) weekly and the measurements are shown in Table 1. The groundwater measurements for wells BF-4 and BF-5R were averaged by calendar month and the results are shown in Table 3. The October, November, and December 2023 averages were below the 8582 ft. amsl required in Paragraph 2. No corrective action is required under the Paragraph 2 requirement and schedule compliance monitoring will continue unchanged next quarter.

Table 3 – Quarterly West Pit Backfill Monthly Average Groundwater Table Elevations

Monitoring Well Identification	Month (2023)	Number of Observations	Average Monthly Groundwater Elevation (ft amsl)
BF-4	October	4	8579.32
	November	5	8579.29
	December	4	8579.27
BF-5R	October	4	8579.08
	November	5	8579.06
	December	4	8579.05

- 3) If the average monthly groundwater table elevation in the West Pit backfill for any calendar month, measured as described in the above paragraph, is greater than 8582 ft. amsl or the quarterly determination of the groundwater potentiometric surface map indicates that the flow of the groundwater is from the West Pit to the Rito Seco alluvium, the permittee shall verbally communicate such condition to WQCD within 24 hours of the determination of the condition (elevated West Pit backfill table or groundwater flow from the West Pit as indicated by the quarterly groundwater potentiometric surface map) and initiate the following compliance schedule.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the West Pit backfill monitoring wells (BF-4 and BF-5R) weekly and the calendar month average groundwater measurement elevations (Table 3) were below the 8582 ft. amsl required in Paragraph 2. The October 31, 2023, potentiometric surface map (Figure 1) shows the groundwater flow gradient was from the Rito Seco alluvium to the West Pit backfill. Therefore, site operations demonstrated the West Pit backfill groundwater level was maintained at or below an elevation of 8582 ft. amsl through the quarter. Therefore, no requirement(s) to initiate actions contained within the schedule of compliance for Section 5.3 is required.

- 4) The quality of groundwater in the vicinity of the West Pit shall be monitored on a monthly basis in the Rito Seco alluvial groundwater monitoring wells M-19, M-21, M-24 and M-11R for the purposes of monitoring the changes in the quality of the plume or affected groundwater in the Rito Seco alluvial aquifer. Groundwater quality in these monitoring wells will be analyzed for pH, temperature, total dissolved solids, calcium, sulfate, manganese, fluoride, copper, and iron for the purpose of evaluating the status of the groundwater quality in the downgradient groundwater plume. The groundwater quality data will be summarized and transmitted to the WQCD in the quarterly BMP report required under Part I, Section E.1 of this permit.

Compliance Action Taken: Battle Mountain Resources, Inc. collected monthly groundwater samples in the vicinity of the West Pit backfill area from Rito Seco alluvial monitoring wells M-19, M-21, M-24 and M-11R. No corrective action is required under the Paragraph 4 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 4 – Rito Seco Alluvial Groundwater Quality Summary

Analyte	Reporting Units	Sample Date	Monitoring Well Identifier			
			M-11R	M-19	M-21	M-24
pH	SU	10/03/2023	7.33	6.81	7.22	7.36
		11/01/2023	7.41	6.83	7.21	7.36
		12/11/2023	7.36	6.78	7.17	7.33
Temperature	°C	10/03/2023	10.00	8.5	8.5	8.8
		11/01/2023	9.9	9.4	8.4	8.8
		12/11/2023	9.6	10.3	7.6	8.7
Calcium, Total	mg/L	10/03/2023	74.1	19.3	30.0	75.1
		11/01/2023	96.7	20.6	31.8	76.5
		12/11/2023	92.4	21.2	32.3	77.2
Copper, Dissolved	mg/L	10/03/2023	LT 0.002	0.0035	LT 0.002	LT 0.002
		11/01/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
		12/11/2023	LT 0.002	LT 0.002	LT 0.002	LT 0.002
Fluoride	mg/L	10/03/2023	0.928	0.876	1.49	0.939
		11/01/2023	0.929	0.903	1.49	LT 1.25
		12/11/2023	0.898	0.930	1.49	0.790
Iron, Dissolved	mg/L	10/03/2023	LT 0.15	0.248	LT 0.15	4.18
		11/01/2023	LT 0.15	0.167	LT 0.15	3.78
		12/11/2023	LT 0.15	LT 0.15	LT 0.15	3.97
Manganese, Dissolved	mg/L	10/03/2023	0.105	0.051	0.369	0.844
		11/01/2023	0.190	LT 0.05	0.370	0.790
		12/11/2023	0.211	0.085	0.386	0.828
Sulfate	mg/L	10/03/2023	103	7.24	9.22	140
		11/01/2023	152	6.99	9.08	121
		12/11/2023	155	8.32	9.26	130
Total Dissolved Solids	mg/L	10/03/2023	326	90	132	388
		11/01/2023	424	112	144	370
		12/11/2023	418	114	136	384

- 5) The historical seeps were caused by the plume of affected groundwater and may, in the future, also be caused by natural variation in the flow of groundwater in the vicinity of the area where the past seeps occurred. The permittee shall conduct a monthly visual inspection of the area of historical seeps and the permittee shall report any seepage flow that is associated with the area historic seepage expression, as is identified in Figure 2 of the permit. Results of the seep monitoring shall be tabulated and summarized in the quarterly BMP report.

If these inspections identified the occurrence of seeps, the permittee will be required to communicate verbally to the WQCD within 24 hours of the seepage observation, followed by written notification within 7 calendar days of the seepage observation. Verbal updates will then be provided to the WQCD every second day thereafter until the WQCD has made a determination regarding the status of the West Pit groundwater control system through the implementation of the following compliance schedule.

Compliance Action Taken: Battle Mountain Resources, Inc. performed monthly visual seepage expression inspections in the historic seepage area identified in Figure 2 of the permit. Visual observations during these inspections are shown in Table 5. No seepage expressions were observed in the historic seepage area during the fourth quarter of 2023. Therefore, no verbal or written notifications were required and the implementation of the compliance schedule was not required. No corrective action is required under the Paragraph 5 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 5 – Monthly Seepage Expression Inspection Tabulation

Visual Inspection Date	Was Visual Observation of Seepage Determined in the Area of the Historic Seepage Expression	Comments
10/31/2023	No	All Dry
11/30/2023	No	All Dry
12/28/2023	No	All Dry

- 6) The BMP for the groundwater flow downgradient from the groundwater divide (see section VI.A.2 for the Rationale) that has been developed in the Rito Seco alluvial aquifer consists of a groundwater capture system in conjunction with groundwater table elevation control in the West Pit. The water management plan for the Rito Seco alluvial aquifer consists of pumping two groundwater capture wells (M-32 and M-33) located downgradient of the plume of affected groundwater. This action will allow flushing of constituents in the groundwater of the Rito Seco alluvial aquifer in that portion (plume) of the aquifer affected by previous flow of groundwater from the West Pit. Measurements of the groundwater table elevations will be taken on a weekly basis from M-32 and M-33. This data shall be tabulated and reported for outfall 002 on the quarterly BMP report, and the data will be used to evaluate compliance with the following permit limitation.

The groundwater table elevation, based on the average of all measured values for each calendar month at M-32 and M-33 in the Rito Seco alluvial aquifer, must be equal to or lower than an elevation of 8540 ft. amsl.

If the average monthly groundwater table elevations measured in the Rito Seco alluvial aquifer at M-32 and M-33 is greater than 8540 ft. amsl, the permittee shall initiate the following compliance schedule within 24 hours of the determination of groundwater table elevation exceedance.

Compliance Action Taken: Battle Mountain Resources, Inc. measured the alluvial aquifer monitoring wells (M-32 and M-33) weekly and the resulting elevations are presented in Table 6. The groundwater elevations for wells M-32 and M-33 were averaged by calendar month and the results are shown in Table 6. The October, November, and December 2023 averages were below the 8540 ft. amsl required under Paragraph 6. Therefore, site operations were in full compliance of Part I, Section 5.5 and there were no requirements(s) to initiate actions contained within the schedule of compliance for Section 5.5. No corrective action is required under Paragraph 6 specific requirement and scheduled compliance monitoring will continue unchanged next quarter.

Table 6 – Weekly/Monthly Rito Seco Alluvial Aquifer Average Groundwater Table Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)	Month (2023)	Average Monthly Groundwater Elevation (ft amsl)
M-32	10/04/2023	8527.78	October	8527.83
	10/11/2023	8527.81		
	10/18/2023	8527.96		
	10/25/2023	8527.76		
	11/01/2023	8527.38	November	8528.53
	11/08/2023	8528.53		
	11/15/2023	8528.03		
	11/22/2023	8529.18		
	11/29/2023	8529.55		

Table 6 (Cont) – Weekly/Monthly Rito Seco Alluvial Aquifer Average Groundwater Table Elevations

Monitoring Well Identification	Observation Date	Groundwater Elevation (ft amsl)	Month (2023)	Average Monthly Groundwater Elevation (ft amsl)
M-32	12/06/2023	8530.70	December	8531.47
	12/13/2023	8531.15		
	12/20/2023	8532.33		
	12/27/2023	8531.69		
M-33	10/04/2023	8537.57	October	8532.16
	10/11/2023	8536.52		
	10/18/2023	8527.34		
	10/25/2023	8527.20		
	11/01/2023	8527.46	November	8528.75
	11/08/2023	8536.54		
	11/15/2023	8526.99		
	11/22/2023	8526.39		
	11/29/2023	8526.36		
	12/06/2023	8526.34	December	8526.66
	12/13/2023	8527.14		
	12/20/2023	8526.32		
	12/27/2023	8526.84		

- 7) The water quality of the Rito Seco will be assessed using surface water quality collected at RS-2, as shown in Figure 3. Surface water monitoring in the Rito Seco shall be conducted at RS-2 on a monthly basis and the laboratory analytical results shall be submitted to the WQCD in the quarterly BMP report. Water quality samples collected at RS-2 shall be analyzed for the following constituents: calcium, magnesium, sodium, potassium, ammonia, total dissolved solids, total hardness, pH, total suspended solids, cyanide (WAD and total), bicarbonate, alkalinity, chloride, sulfate, nitrate-nitrite, fluoride and the total and dissolved concentrations of aluminum, arsenic, barium, boron, cadmium, copper, chromium, iron, lead, manganese, mercury, nickel, selenium, silica, silver and zinc. The following compliance schedule shall be implemented in the event that any constituent exceeds the applicable water quality standards for the Rito Seco.

Compliance Action Taken: Battle Mountain Resources, Inc. collected monthly surface water samples in October, November, and December 2023 at location RS-2, as shown in Figure 3 of the permit. Results of analyses performed on these samples are shown in Table 7. The results of the laboratory analytical testing show that the applicable water quality standards were met for the Rito Seco during the months of October, November, and December 2023. Site operations were in full compliance of Part I, Section 5.7 and there was no requirement(s) to initiate actions contained within the schedule of compliance for Section 5.7. Scheduled compliance monitoring will continue unchanged next quarter.

Table 7 – RS-2 Surface Water Quality Results

Analyte	Reporting Units	10/03/2023	11/01/2023	12/11/2023
Alkalinity	mg/L as CaCO ₃	55.8	50	66.8
Aluminum, Dissolved	mg/L	LT 0.25	LT 0.25	LT 0.25
Aluminum, Total	mg/L	0.223	LT 0.25	LT 0.25
Ammonia as N	mg/L	LT 0.2	LT 0.2	LT 0.2
Arsenic, Dissolved	mg/L	LT 0.001	LT 0.001	LT 0.001
Arsenic, Total	mg/L	LT 0.001	LT 0.001	LT 0.001
Barium, Dissolved	mg/L	LT 0.035	LT 0.035	LT 0.035
Barium, Total	mg/L	LT 0.035	LT 0.035	LT 0.035
Bicarbonate as CaCO ₃	mg/L	55.8	46.5	66.8
Boron, Dissolved	mg/L	LT 0.1	LT 0.1	LT 0.1
Boron, Total	mg/L	LT 0.1	LT 0.1	LT 0.1
Cadmium, Dissolved	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Cadmium, Total	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Calcium, Total	mg/L	15.2	14.9	18.7
Carbonate as CaCO ₃	mg/L	LT 20	LT 20	LT 20
Chloride	mg/L	5.54	6.87	LT 2
Chromium, Dissolved	mg/L	LT 0.002	LT 0.002	LT 0.002
Chromium, Total	mg/L	LT 0.002	LT 0.002	LT 0.002
Copper, Dissolved	mg/L	LT 0.002	LT 0.002	LT 0.002
Copper, Total	mg/L	LT 0.002	LT 0.002	LT 0.002
Cyanide, Total	mg/L	LT 0.01	LT 0.01	LT 0.01H
Cyanide, WAD	mg/L	LT 0.01	LT 0.01	LT 0.01
Fluoride	mg/L	0.88	1.02	0.59
Hardness as CaCO ₃	mg/L	56	56	66
Iron, Dissolved	mg/L	0.259	LT 0.15	LT 0.15
Iron, Total	mg/L	0.607	0.225	0.228
Lead, Dissolved	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Lead, Total	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Magnesium, Total	mg/L	4.74	4.42	4.74
Manganese, Dissolved	mg/L	LT 0.05	LT 0.05	LT 0.05
Manganese, Total	mg/L	LT 0.05	LT 0.05	LT 0.05
Mercury, Dissolved	mg/L	LT 0.001	LT 0.001	LT 0.001
Mercury, Total	mg/L	LT 0.001	LT 0.001	LT 0.001
Nickel, Dissolved	mg/L	LT 0.04	LT 0.04	LT 0.04
Nickel, Total	mg/L	LT 0.04	LT 0.04	LT 0.04
Nitrate+Nitrite as N	mg/L	LT 0.1	LT 0.1	LT 0.1
pH	SU	7.83	7.77	7.85
Potassium, Total	mg/L	1.63	1.35	LT 1
Selenium, Dissolved	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Selenium, Total	mg/L	LT 0.00025	LT 0.00025	LT 0.00025
Silica, Total	mg/L	13.7	11.9	12.3
Silver, Dissolved	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Silver, Total	mg/L	LT 0.0005	LT 0.0005	LT 0.0005
Sodium, Total	mg/L	13.8	13.3	4.64
Sulfate	mg/L	25.4	33.8	6.55
Total Dissolved Solids	mg/L	118	114	90
Total Suspended Solids	mg/L	LT 20	LT 20	LT 20
Zinc, Dissolved	mg/L	LT 0.05	LT 0.05	LT 0.05
Zinc, Total	mg/L	LT 0.05	LT 0.05	LT 0.05

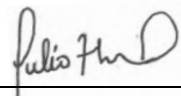
- 8) If any component of the groundwater control system is not performing within the limits set forth in this permit, the permittee will be required to initiate appropriate compliance schedule activities, including the preparation of a response plan, for any and all components of the groundwater control system that do not meet the applicable

requirements. The permittee shall also conduct weekly sampling at RS-2 until such time as the other compliance schedule activity(ies) have been completed.

Compliance Action Taken: *As demonstrated by the information and data presented in this report, all components of the groundwater control system performed within the limits set forth in the permit. Therefore, site operations were in full compliance of Part I, Section 8 and there was no requirement(s) to initiate actions contained within the schedule of compliance for Section 8.*

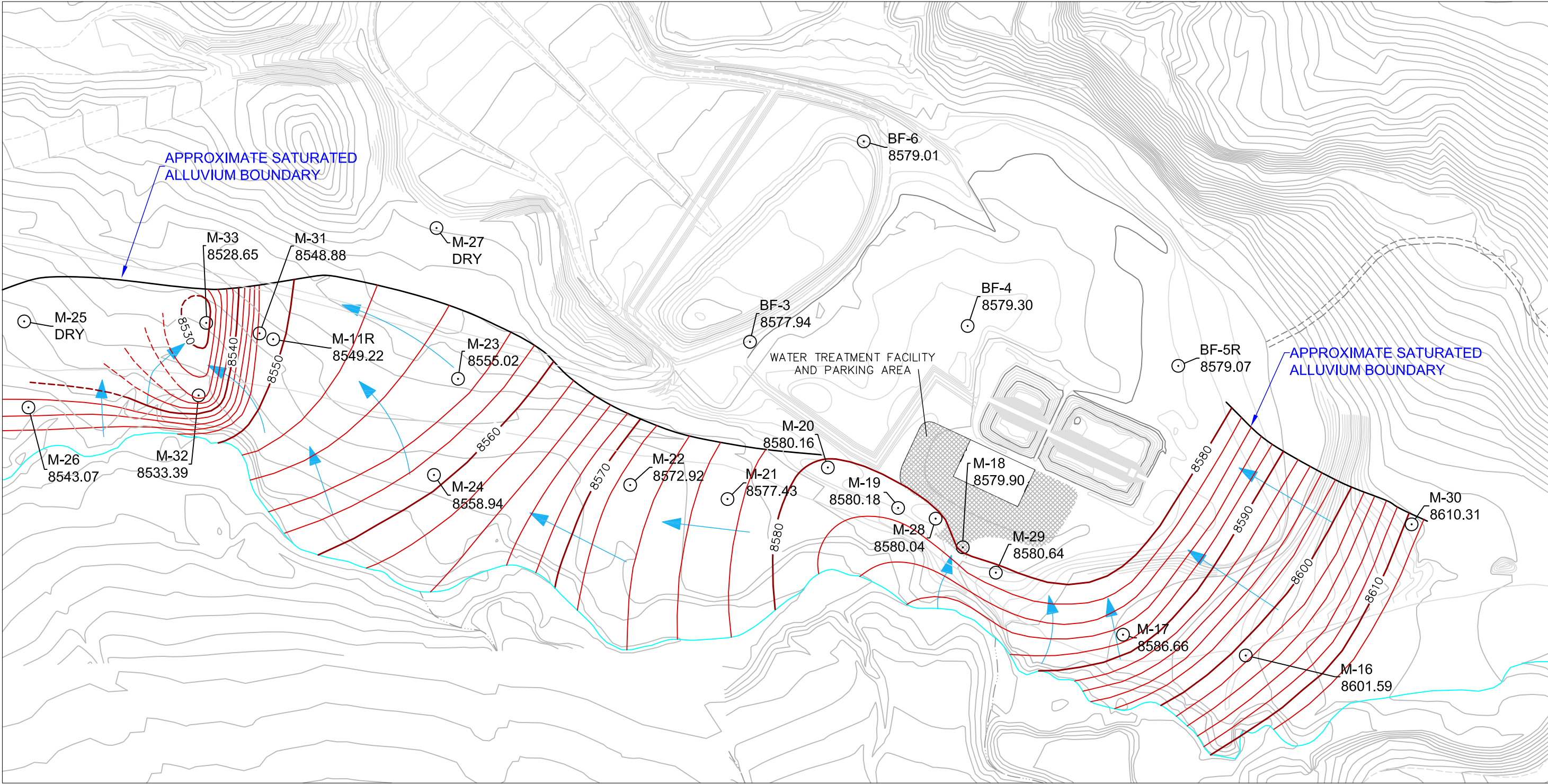
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Name: Julio Madrid

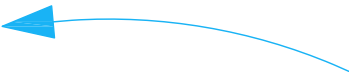
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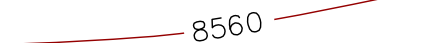
Date: January 8, 2023


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KEY

- 


GROUND WATER FLOW DIRECTION
- 

LINE OF EQUIPOTENTIAL HYDRAULIC HEAD
- 


WELL NAME
WATER LEVEL

ISSUED BY

Engineering Analytics, Inc.



Drawn By: RDP
Designed By: TRR
Approved By: TRR
Date: 11/06/2023
Project: 21010506
Scale: 1" = 200'
Sheet Number: **1**



SAN LUIS PROJECT
San Luis National Monument
San Luis, Colorado

ALLUVIAL GROUND WATER
POTENTIOMETRIC SURFACE MAP

FOURTH QUARTER (OCTOBER 2023)

NO	REVISION DESCR.	DATE	BY
A			
B			
C			
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2			

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October 20, 2023

Julio Madrid
Battle Mountain Resources, Inc.
P.O. Box 310
San Luis, CO 81152

Dear Julio:

Enclosed is the report for chronic biomonitoring tests performed for Battle Mountain Resources, Inc. on effluent from the 001B outfall. There was no statistically significant toxicity to either test species at any effluent concentration. The effluent passes WET (Whole Effluent Toxicity) testing requirements for this sampling period.

If you have any questions or concerns, please do not hesitate to contact me at (303) 661-9324.

Best regards,

Haley West
Laboratory Manager
Enclosure(s): Invoice
Report

**REPORT OF CHRONIC BIOMONITORING TESTS
CONDUCTED FOR
BATTLE MOUNTAIN RESOURCES, INC.
ON EFFLUENT FROM
THE 001B OUTFALL**

Prepared for:

Julio Madrid
Battle Mountain Resources, Inc.
P.O. box 310
San Luis, CO 81152

Prepared by:

Haley West
SeaCrest Group
500 S Arthur Ave. Suite 450
Louisville, Colorado 80027-3065
(303) 661-9324

October 20, 2023

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Chronic Toxicity Test Summary

Test:	7-day static renewal using <i>Ceriodaphnia dubia</i> 7-day static renewal using fathead minnow (<i>Pimephales promelas</i>)
Client:	Battle Mountain Resources, Inc.
Test Procedure Followed:	<i>Ceriodaphnia dubia</i> : EPA/821/R-02-013. Method 1002.0 (2002) fathead minnow: EPA/821/R-02-013. Method 1000.0 (2002)
Sample Number:	423504.B
Dilution Water:	moderately hard laboratory reconstituted water
Test Organism Source:	SeaCrest Group
Reference Toxicant:	Sodium Chloride

Sample	Time of Collection	Date of Collection	Time of Receipt	Date of Receipt
Effluent 1	0600	10-09-2023	1230	10-09-2023
Effluent 2	0600	10-11-2023	1049	10-11-2023
Effluent 3	0600	10-13-2023	1155	10-13-2023

	<i>Ceriodaphnia dubia</i>	fathead minnow
Test Initiation Time	1300	1500
Test Initiation Date	10-09-2023	10-09-2023
Test Completion Time	1300	1530
Test Completion Date	10-16-2023	10-16-2023

Abstract with Results

Test Concentrations:	Control (0%), 13%, 26%, 52%, 76%, 100%
Number of Organisms/Concentration:	10 for <i>Ceriodaphnia dubia</i> 40 for fathead minnow
Replicates at each Concentration:	10 for <i>Ceriodaphnia dubia</i> 4 for fathead minnow

	<i>Ceriodaphnia dubia</i>	fathead minnow
Test vessel size/Exposure volume	30ml/15ml	500ml/200ml
Sub-lethal NOEL/IC25	100%/>100%	100%/>100%
Pass/Fail Status	PASS	PASS
Temperature Range (°C)	24.1 – 25.5	24.1 – 25.9
Dissolved Oxygen Range (mg/L)	6.8 – 8.4	4.0 – 8.0
pH Range	7.3 – 8.1	7.0 – 8.3
*Single endpoint failure		
	Control (<i>Cerio</i>/FHM)	Effluent Sample
Hardness (mg/L as CaCO ₃)	85/88	45/47/36
Alkalinity (mg/L as CaCO ₃)	60/57	5/0/8
Total residual chlorine (mg/L)	<0.01	0.01/<0.01/<0.01
Total ammonia (mg/L as NH ₃)	<0.03	<0.03

INTRODUCTION

Biomonitoring provides an effective means by which the toxicity of discharges from municipal, industrial, and mining operations can be tested. Among the advantages of biomonitoring is the ability to test complex effluents containing a broad range of contaminants. Biomonitoring, when used in conjunction with chemical analyses, can generate data capable of identifying a much wider range of contaminants.

The Colorado Water Quality Control Division requires certain NPDES permittees to perform acute and/or chronic biomonitoring tests. The chronic test measures significant differences in lethality and in reproduction (*Ceriodaphnia dubia*) or growth (fathead minnow – *Pimephales promelas*) between control and effluent-exposed organisms.

The present report discusses the results of chronic biomonitoring tests conducted on effluent from the Battle Mountain Resources, Inc. 001B discharge. These tests were conducted in accordance with EPA and State of Colorado procedures in October 2023.

MATERIALS AND METHODS

Sample Collection

Two gallons of the effluent were collected on three separate dates as specified in Permit CO-0045675. Samples were delivered chilled to the SeaCrest lab where they were held at 0-6°C. Chain of custody forms showing sample collection and laboratory arrival times are included (Appendix 1).

Dilution Water

Laboratory reconstituted water was used as both the dilution water source and the control for the tests. Reconstituted water for the *Ceriodaphnia dubia* test was produced by adding sodium bicarbonate, calcium sulfate, magnesium sulfate, potassium chloride, and sodium selenate to deionized water. Reconstituted water for the fathead minnow test was produced by adding sodium bicarbonate, calcium sulfate, magnesium sulfate, and potassium chloride to deionized water.

Test Organisms

The biomonitoring test used *Ceriodaphnia dubia*, cultured in the SeaCrest laboratory. The organisms are cultured in brood culture boards from which individual females are monitored for survival and reproduction for periods of up to two weeks. Neonates less than 24-hours old, released from third or subsequent broods of eight or more within an 8-hour period, are collected from the brood chambers and used in tests. The animals are fed daily with a mixture of Yeast, Cereal Leaves, and Trout Chow (YCT), produced in-house. This is supplemented with cultured green algae (*Selenastrum capricornutum*) provided by Aquatic Biosystems.

Less than one-day-old fathead minnow, cultured in the laboratory, were also used in the test. Adult fish are maintained in 10-gallon aquaria where females deposit their eggs on the under-surface of split PVC pipe sections. The eggs are collected daily and transferred to aerated containers where they hatch after three to four days. The larval fish are fed newly hatched brine shrimp (*Artemia* sp.) at least twice per day.

In-house organisms are tested monthly in a reference toxicant test using sodium chloride to monitor overall health and test reproducibility (Appendix 4).

Test Procedures

Upon receipt at the lab, samples were analyzed for alkalinity, ammonia, chlorine, conductivity, dissolved oxygen, hardness, and pH.

Methods used in chemical analysis

Alkalinity	EPA 310.2	Hach 8203	I-2030-85.2
Ammonia	SM4500-NH ₃ , C-E1997	ASTM D1426-08	
Chlorine	SM4500-Cl D	Hach 10026	
Conductivity	SM2510		
Dissolved Oxygen	SM4500-O	Electrode: G-2001	Winkler (QC): B-F-2001
Hardness	SM2340 B or C	Hach 8213	
pH	SM4500-H+ B-2000		

The test followed procedures in EPA³ and CDPHE⁴ guidelines. Exposure concentrations included control (0%), 13%, 26%, 52%, 76%, and 100% mixtures, diluted with moderately hard laboratory reconstituted water.

Individual *Ceriodaphnia dubia* were placed in 30ml plastic containers containing approximately 15ml of exposure medium. Ten replicates at each concentration were used. The animals were fed daily with the YCT mixture and an equal volume of the green algae (*Selenastrum capricornutum*). The exposure medium was changed daily in each container and the number of young released overnight were counted and recorded. Young were removed from the containers daily and discarded. Routine measurements were made each day of temperature, dissolved oxygen, and pH before and after the water changes.

Fathead minnow were exposed in 500ml plastic cups to which 250ml of media was replaced daily. Four replicates were used at each concentration. Ten fish, less than 24-hours old, were placed in each cup. The fish were monitored daily for survival and fed live brine shrimp at least twice per day. After seven days, the fish were removed from the cups, euthanized with isopropyl alcohol, and then placed in aluminum pans and dried in an oven for a minimum of six hours at 100°C. The pans were then weighed on a five-place analytical balance to determine the average dry weight of the fish from each replicate.

Data Analysis

Data from the tests were analyzed on a personal computer using the CETIS program (developed by Tidepool Scientific Software). Statistical tests used in the analyses are shown in Table 1. Test acceptability was determined using control survival and reproduction/growth criteria, concentration-response relationships, and percent minimum significant differences (USEPA ^{5,6}).

Table 1. Statistical methods used in testing for significant differences in test parameters.

Variance		Distribution		
Bartlett Equality of Variance Test		Shapiro-Wilk W Normality Test		
Statistical Difference				
Species	Survival	Growth	Reproduction	IC ₂₅
<i>Ceriodaphnia dubia</i>	Fisher Exact/Bonferroni-Holm Test	N/A	Steel Many-One Rank Sum Test	IC _p
fathead minnow	Steel Many-One Rank Sum Test	Dunnett Multiple Comparison Test	N/A	IC _p

RESULTS

Ceriodaphnia dubia Test Results

Test results for the *Ceriodaphnia dubia* are summarized in Table 2 and provided on the data sheets located in Appendix 2. Survival was 90% in the 100% effluent and ranged from 90% - 100% in the remaining effluent concentrations. Control survival was 100%. No statistically significant lethality was measured in any effluent concentration when compared to the control. The NOEL (No Observed Effect Level) for lethality was 100% and the LC₂₅ (Lethal Concentration 25) for lethality was >100%.

Average number of neonates was 30.9 in the 100% effluent concentration and ranged from 26.4 – 32.6 in the remaining effluent concentrations. Average number of neonates in the control was 31.3 for statistical analyses and test acceptability criteria. No statistically significant differences in the number of neonates were found between the control and any effluent concentrations. The NOEL for reproduction was 100% and the IC₂₅ (Inhibition Concentration 25) for reproduction was >100%.

Table 2. Summary of *Ceriodaphnia dubia* test results. An asterisk (*) denotes a statistically significant difference from the control.

Concentration	Percent Survival	Mean Neonates	Min.	Max.	Significant Difference	
					Lethality	Reprod.
Control (0%)	100	31.3	23	39		
13%	100	29.4	22	34		
26%	90	27.2	0	42		
52%	100	32.6	23	43		
76%	100	26.4	2	38		
100%	90	30.9	10	42		

Fathead Minnow Test Results

Fathead minnow results are summarized in Table 3 and are provided on data sheets in Appendix 3. Survival was 93% in the 100% effluent concentration and ranged from 85% - 98% in the remaining effluent concentrations. Control survival was 95%. No statistically significant lethality was measured in any effluent concentration when compared to the control. The NOEL for lethality was 100% and the LC₂₅ for lethality was >100%.

Average weight in the 100% effluent concentration was 0.549mg and ranged from 0.495mg - 0.529mg per individual in the remaining effluent concentrations. Average weight for the control fish was 0.540mg for statistical analyses and test acceptability criteria. No statistically significant differences for growth were measured in any effluent concentration when compared to the control. The NOEL for growth was 100% and the IC₂₅ for growth was >100%.

Table 3. Summary of fathead minnow test results. An asterisk (*) denotes a statistically significant difference from the control.

Concentration	Percent Survival	Average Weight (mg)	Min.	Max.	Significant Difference	
					Lethality	Growth
Control (0%)	95	0.540	0.476	0.609		
13%	90	0.495	0.384	0.570		
26%	98	0.518	0.452	0.580		
52%	85	0.529	0.437	0.658		
76%	98	0.521	0.471	0.560		
100%	93	0.549	0.405	0.606		

Test Acceptability

Acceptable control survival (80%) was achieved in both tests. Similarly, *Ceriodaphnia dubia* reproduction (average 15 neonates/organism) and fathead minnow growth (average 0.250mg/test container) in control organisms met required levels. PMSD was within the required limits for an acceptable test (Table 4).

Table 4. PMSD for chronic test parameters.

PMSD (% Minimum significant difference)	fathead minnow growth		<i>C. dubia</i> reproduction	
	Lower bound	Upper bound	Lower bound	Upper bound
	12	30	13	47
	23.5		26.2	

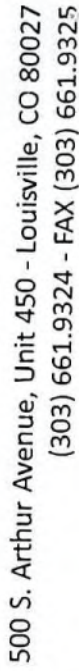
DISCUSSION

A failed test for this discharge occurs when there is an NOEL or IC₂₅ less than the IWC (Instream Waste Concentration) of 52%. The NOEL represents the highest effluent concentration at which no statistically significant effect is observed. The IC₂₅ represents an estimate of the effluent concentration that would cause a 25 percent reduction of a non-quantal biological measurement. A violation for this discharge occurs when both the NOEL and the IC₂₅ are less than the IWC. Since neither test species demonstrated statistically significant differences meeting these criteria, the discharge passes WET testing requirements for this sampling period.

REFERENCES

1. **Hach Chemical Company.** 2008. *Hach's Water Analysis Handbook*. Fifth Edition. Hach Chemical Company, Loveland, Colorado. Digital Medium.
2. **APHA/AWWA/WEF.** 1998. *Standard Methods for the Examination of Water and Wastewater*. 20th Edition. American Public Health Association, Washington, D.C.
3. **USEPA.** 2002. *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*. EPA-821-R-02-013. 335 pp.
4. **CDPHE (Colorado Department of Public Health and Environment).** 1998. *Laboratory Guidelines for Conducting Whole Effluent Toxicity Tests*. Water Quality Control Division.
5. **USEPA.** 2000. *Method of Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR Part 136). EPA/821/B-00/004.
6. **USEPA.** 2000. *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the National Pollutant Discharge Elimination System Program*. EPA/833/R-00/003.

Appendix 1 – Chain of Custody with Sample Receipt Forms

[illegible]

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[illegible]

out fall - 001B

Sample Receipt Form

Project # 423 504.B

Date: 100923

Samples Were:

1. FedEx UPS Courier

Notes:

Sample #: 1

Initials: WK

Hand Delivery (circle one)

2. Chilled to Ship

Ambient Chilled

3. Cooler Received Broken or Leaking

Y N NA

Notes:

4. Sample Received Broken or Leaking

Y N

Notes:

5. Received Within 36hr Holding Time

Y N

Notes:

6. Aeration necessary

Y N

7. pH adjustment necessary

Y N

8. Sample Received at Temperature between 0-6° C .

Y N NA

Notes: same day

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: no pm

Receiving: N/A

Presence of native species:

Y N

Lab #	Temp	D.O.	pH	Cond
423504.B#1	12.5	7.9	7.8	241

Custody Seals:

1. Present on Outer Package

Y N

2. Unbroken on Outer Package

Y N NA

3. Present on Sample

Y N

4. Unbroken on Sample

Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y N

WK

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 550 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 10/9/23 Circle One M W F

Sampling Personnel: A. Taylor, R. Lucero, S. maestras, D. carter

~3 Hour Time 0900 Observation good water flow, power on to sampler, sample container on ice

~6 Hour Time 1200 Observation good water flow, power on to sampler, sample container on ice

~9 Hour Time 1500 Observation good water flow, power on to sampler, sample container on ice

~12 Hour Time 1800 Observation good water flow, power on to sampler, sample container on ice

~15 Hour Time 2100 Observation good water flow, power on to sampler, sample container on ice

~18 Hour Time 2400 Observation good water flow, power on to sampler, sample container on ice

~21 Hour Time 0300 Observation good water flow, power on to sampler, sample container on ice

~24 Hour Time 0600 Observation good water flow, power on to sampler, sample container on ice

Volume sent to lab 2 gallons

Total Volume Collected 4 gallons
 Samples packed on ice ☒
 Completed COC ☒
 Cooler Sealed ☒
~~UPS pickup on time~~
 BMLI Delivered ☒

Sample Receipt Form

Project # 423504.B

Date: 10/1/23

Samples Were:

1. FedEx UPS Courier
Notes:

Sample #: Z

Initials: MK

Hand Delivery (circle one)

2. Chilled to Ship Ambient Chilled

3. Cooler Received Broken or Leaking Y N NA
Notes:

4. Sample Received Broken or Leaking Y N
Notes:

5. Received Within 36hr Holding Time Y N
Notes:

6. Aeration necessary Y N

7. pH adjustment necessary Y N

8. Sample Received at Temperature between 0-6°C . Y N NA
Notes: same day

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: no pm

Receiving: N/A

Presence of native species: Y N

Lab #	Temp	D.O.	pH	Cond
<u>423504.B</u>	<u>10.1</u>	<u>8.1</u>	<u>7.6</u>	<u>190</u>

Custody Seals:

1. Present on Outer Package Y N
2. Unbroken on Outer Package Y N NA
3. Present on Sample Y N
4. Unbroken on Sample Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample Y N

CM

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 520 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 10/11/23 Circle One: M ☒ F

Sampling Personnel: A. Taylor, D. Carrino, S. Maestas, R. Lucero

~3 Hour Time 0900 Observation good water flow, power on to sampler, sample container on ice
 ~6 Hour Time 1200 Observation good water flow, power on to sampler, sample container on ice
 ~9 Hour Time 1500 Observation good water flow, power on to sampler, sample container on ice
 ~12 Hour Time 1800 Observation good water flow, power on to sampler, sample container on ice
 ~15 Hour Time 2100 Observation good water flow, power on to sampler, sample container on ice
 ~18 Hour Time 2400 Observation good water flow, power on to sampler, sample container on ice
 ~21 Hour Time 0300 Observation good water flow, power on to sampler, sample container on ice
 ~24 Hour Time 0600 Observation good water flow, power on to sampler, sample container on ice

Volume sent to lab 2 gallons

Total Volume Collected 4 gallons
 Samples packed on ice ☒
 Completed COC ☒
 Cooler Sealed ☒
 UPS ~~pick up on time~~

BMRI Delivered ☒

Sample Receipt Form

Project # 423504.6

Date: 10/3/23

Samples Were:

1. FedEx UPS Courier

Notes:

Sample #: 3

Initials: JC

Hand Delivery (circle one)

2. Chilled to Ship

Ambient Chilled

3. Cooler Received Broken or Leaking

Y N NA

Notes:

4. Sample Received Broken or Leaking

Y N

Notes:

5. Received Within 36hr Holding Time

Y N

Notes:

6. Aeration necessary

Y N

7. pH adjustment necessary

Y N

8. Sample Received at Temperature between 0-6°C .

Y N NA

Notes: Same day

9. Description of Sample (Color, Odor, and/or Presence of Particulate Matter):

Effluent: No visible P.M.

Receiving: N/A

Presence of native species:

Y N

Lab #	Temp	D.O.	pH	Cond
<u>504.3</u>	<u>9.5</u>	<u>7.6</u>	<u>7.2</u>	<u>218</u>

Custody Seals:

1. Present on Outer Package

Y N

2. Unbroken on Outer Package

Y N NA

3. Present on Sample

Y N

4. Unbroken on Sample

Y N NA

Custody Documentation (Chain of Custody):

1. Present Upon Receipt of Sample

Y N

W

Battle Mountain Gold Mine NPDES WET Test Log

Treatment System Flow Rate 500 GPM
 ISCO Sampling Schedule 100 ml per 10 minutes
 Start Sample Program: Time 0600
 End Sample Program: Time 0600 Date 10-13-23 Circle One: M W T

Sampling Personnel: S. Maestas, D. Carino, A. Taylor, B. Lucero

~3 Hour Time 0900 Observation good water flow, Power on to Sampler, Sample Container on ice
 ~6 Hour Time 1200 Observation good water flow, Power on to Sampler, Sample Container on ice
 ~9 Hour Time 1500 Observation good water flow, Power on to Sampler, Sample Container on ice
 ~12 Hour Time 1800 Observation good water flow, Power on to Sampler, Sample Container on ice
 ~15 Hour Time 2100 Observation good water flow, Power on to Sampler, Sample Container on ice
 ~18 Hour Time 2400 Observation good water flow, Power on to Sampler, Sample Container on ice
 ~21 Hour Time 0300 Observation good water flow, Power on to Sampler, Sample Container on ice
 ~24 Hour Time 0600 Observation good water flow, Power on to Sampler, Sample Container on ice

Total Volume Collected 4 gallons
 Samples packed on ice ☒
 Completed COC ☒
 Cooler Sealed ☒
 ☐

BM RT Delivered ☒

Volume sent to lab 2 gallons
 Contacts Lab: 303-794-8976 (Henry Latimer)

Appendix 2 – Data Sheets for the *Ceriodaphnia dubia* Test

WET TEST REPORT FORM – CHRONIC

Permittee: Battle Mountain Resources, Inc.
Permit No.: CO-0045675
Outfall: 001B – IWC: 52%
Test Type: Routine ☒ Accelerated ☐ Screen ☐
Test Species: *Ceriodaphnia dubia*

Test Start Time	Test Start Date	Test End Time	Test End Date
1300	10-09-2023	1300	10-16-2023

Test Results	Lethality/TCP3B	Reproduction/TKP3B
S code: NOEL	100%	100%
	PASS	PASS
P code: LC ₂₅ /IC ₂₅	>100%	>100%
	PASS	PASS
T code:	>100%	>100%

Test Summary

Measurements	Control (0%)	13%	26%	52%	76%	100%
Exposed organisms	10	10	10	10	10	10
Survival for day 1	10	10	10	10	10	10
Survival for day 2	10	10	10	10	10	10
Survival for day 3	10	10	9	10	10	10
Survival for day 4	10	10	9	10	10	10
Survival for day 5	10	10	9	10	10	10
Survival for day 6	10	10	9	10	10	9
Survival for day 7	10	10	9	10	10	9
Mean 3 Brood Total	31.3	29.4	27.2	32.6	26.4	30.9

Hardness (mg/L) – Receiving Water: N/A Effluent: 45/47/36 Recon Water: 85
Alkalinity (mg/L) – Receiving Water: N/A Effluent: 5/0/8 Recon Water: 60
Chlorine (mg/L) – Effluent: pH (initial/final) – Control: 8.0/8.1 100%: 7.8/8.1
0.01/<0.01/<0.01

Total Ammonia as NH₃ (mg/L) - Effluent: <0.03

Were all Test Conditions in Conformance with Division Guidelines? YES ☒ NO ☐

If **NO**, list deviations from test specifications: N/A

Laboratory: SeaCrest Group

Comments:

Analyst's Name: Mia Kohler and Jordan Cashman

Signature Kelly M. Kent Date October 20, 2023

Permittee: BMRI Lab #: 423504.B Site: 001B
IWC #: 52 Template #: 5 Dilution Water: MH23-020 Sample Date: 100923
Age & Source: 100923 5152 Test Start: 100923 1300 Test End: 101623 1300

Test Conditions:

	0	1	2	3	4	5	6	7	Total
(C)	0	0	0	0	62	0	12	13	27
0	0	0	0	0	3	0	13	15	31
	0	0	0	5	11	0	13	18	29
	0	0	0	7	10	0	17	17	34
	0	0	0	6	9	0	18	17	33
	0	0	0	2	8	0	14	15	39
	0	0	0	2	7	0	11	13	33
	0	0	0	4	6 +1	0	16	16	27
	0	0	0	0	5	16	0	16	37
	0	0	0	0	6	7	10	0	23
DO	7.0	7.9	7.0	7.1	7.0	7.5	7.6	7.5	7.2
Temp	24.1	24.2	24.1	25.5	25.0	24.9	24.1	25.0	24.4
pH	8.0	8.0	8.1	8.0	8.1	7.8	8.0	7.8	8.1
Cond	308	321	343	329	333	319	315		
(1)	0	0	0	0	8	0	11	14	33
13	0	0	0	0	4	0	0	18	22
	0	0	0	5	10	0	13	13	28
	0	0	0	5	10	0	16	14	31
	0	0	0	5	11	0	13	14	29
	0	0	0	6	8	0	13	16	27
	0	0	0	5	7	0	14	15	26
	0	0	0	3	4	0	12	15	34
	0	0	0	0	5	14	0	14	33
	0	0	0	0	7	10	14	0	31
DO	7.1	7.9	7.2	7.7	7.1	7.5	7.6	7.5	7.2
Temp	24.1	24.2	24.2	25.6	25.0	24.9	24.1	25.0	24.4
pH	8.0	8.0	8.1	7.9	8.1	7.8	8.0	7.7	8.0
Cond	297	312	318	314	308	296	298		
(2)	0	0	0	0	8	0	0	16	24
26	0	0	0	0	7	0	0	17	34
	0	0	0	4	8	0	14	14	26
	0	0	0	4	9	0	17	15	30
	0	0	0	6	11	8	0	15	25
	0	0	0	6	12	0	15	14	33
	0	0	0	0	8	4	0	20	32
	0	0	0	5	0	9	12	17	26
	0	0	0	0	D				0
	0	0	0	0	0	13	18	11	42
DO	7.2	7.9	7.4	7.7	7.2	7.5	7.6	7.5	7.1
Temp	24.2	24.3	24.3	25.5	25.0	24.9	24.1	25.0	24.4
pH	8.0	8.0	8.0	7.8	8.0	7.6	8.0	7.6	8.0
Cond	285	304	303	297	294	287	284		
(3)	0	0	0	0	9	12	0	15	36
52	0	0	0	0	6	0	16	16	38
	0	0	0	4	9	10	0	16	23
	0	0	0	5	9 +2	0	0	18	34
	0	0	0	7	11	5	0	19	23
	0	0	0	3	10	0	15	15	43
	0	0	0	3	7	0	13	12	35
	0	0	0	5	5	0	15	17	25
	0	0	0	0	6	12	0	17	35
	0	0	0	0	7	14	11	2	34
DO	7.4	7.9	7.4	7.8	7.4	7.6	7.7	7.6	7.3
Temp	24.2	24.3	24.4	25.5	25.0	24.9	24.1	25.0	24.4
pH	8.0	7.9	8.0	7.7	7.9	7.5	7.8	7.5	7.9
Cond	274	288	271	272	268	267	261		

31.3

29.4

27.2

32.10

CM

	0	1	2	3	4	5	6	7	Total						
(4)	0	0	0	0	0	0	13	12	25						
76	0	0	0	0	5	8	0	16	29						
	0	0	0	5	9	0	13	17	27						
	0	0	0	1	9	0	11	16	37						
	0	0	0	4	10	6	0	16	20						
	0	0	0	5	9	11	0	17	25						
	0	0	0	5	10	0	12	11	27						
	0	0	0	4	6	0	15	14	25						
	0	0	0	0	5	14	0	15	34						
	0	0	0	0	8	15	15	0	38						
DO	7.6	7.9	7.6	7.8	7.6	7.7	7.6	7.4	7.5	8.0	7.8	7.6	8.3	20.4	
Temp	24.3	24.4	24.5	25.5	25.0	24.8	24.1	25.0	24.2	24.4	24.1	24.1	24.3		24.7
pH	7.9	7.9	7.9	7.7	7.8	7.7	7.9	7.4	7.6	7.5	7.8	8.0	7.9		8.1
Cond	250	272	240	241	244	251	237								
(5)	0	0	0	0	6	9 + 1	0	19	35						
100	0	0	0	0	0	10	0	10	10						
	0	0	0	6	9	0	13	11	28						
	0	0	0	5	11	0	16	16	32						
	0	0	0	5	9	0	15	18	29						
	0	0	0	5	12	12	0	17	29						
	0	0	0	3	9	0	12	15	39						
	0	0	0	3	6	0	14	19	42						
	0	0	0	0	5	10	0	18	33						
	0	0	0	0	6	12	14	0	32						
DO	7.9	7.9	7.8	7.8	8.1	7.6	7.7	7.6	7.5	8.4	7.8	7.6	8.3	30.9	
Temp	24.3	24.4	24.6	25.5	25.0	24.8	24.1	25.0	24.1	24.4	24.1	24.1	24.3		24.7
pH	7.8	7.9	7.8	7.6	7.6	7.7	7.8	7.3	7.4	7.4	7.5	8.0	7.8		8.1
Cond	241	250	190	189.3	224	228	207								
Algae	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS							
YCT	2306	2306	2306	2306	2307	2307	2307	2307							
H ₂ O	1	1	2	2	3	3	3	3							
Initials	NK	MK	JC	MK	JC	IC	MK	MK							
	Eff #1		Eff #2		Eff #3		Recon								
Hardness	45		47		36		85								
Alkalinity	5		0		8		60								
Chlorine	0.01		0.01		0.01		0.01								
Ammonia	0.03		0.03		0.03		0.03								

Exposure Chamber:
Total Capacity: 30mL
Total Solution Volume: 15ml

Feeding Schedule:
Fed daily
Food used: YCT, Algae

Units:
DO: mg/L
Temp: °C
pH: N/A
Cond: µS/cm³
Hardness: mg/L
Alkalinity: mg/L
Chlorine: mg/L
Ammonia: mg/L

Comments:

x:y:z = board #:row:column

1	2	3	4	5	6	7	8	9	10
B7	B9	C2	C5	C10	D3	D4	D5	D7	E2

CM

CETIS Analytical Report

Report Date: 17 Oct-23 09:37 (p 1 of 1)
Test Code/ID: 423504.B / 10-3941-3462

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 18-1464-2788	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 17 Oct-23 9:36	Analysis: STP 2xK Contingency Tables	Status Level: 1
Batch ID: 06-0056-0192	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 09 Oct-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 15 Oct-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 19-0317-1654	Code: 423504.B	Project: WET Quarterly Compliance Test (4Q)
Sample Date: 09 Oct-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 09 Oct-23	CAS (PC):	Station: 001B
Sample Age: n/a (0 °C)	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	100	>100	n/a	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	1.0000	Exact	1.0000	Non-Significant Effect
		26	0.5000	Exact	1.0000	Non-Significant Effect
		52	1.0000	Exact	1.0000	Non-Significant Effect
		76	1.0000	Exact	1.0000	Non-Significant Effect
		100	0.5000	Exact	1.0000	Non-Significant Effect

Data Summary

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	10	0	10	1	0	0.0%
13		10	0	10	1	0	0.0%
26		9	1	10	0.9	0.1	10.0%
52		10	0	10	1	0	0.0%
76		10	0	10	1	0	0.0%
100		9	1	10	0.9	0.1	10.0%

CETIS Analytical Report

Report Date: 17 Oct-23 09:37 (p 1 of 2)
Test Code/ID: 423504.B / 10-3941-3462

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 16-3696-5218	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.6
Analyzed: 17 Oct-23 9:36	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 06-0056-0192	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 09 Oct-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 15 Oct-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 19-0317-1654	Code: 423504.B	Project: WET Quarterly Compliance Test (4Q)
Sample Date: 09 Oct-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 09 Oct-23	CAS (PC):	Station: 001B
Sample Age: n/a (0 °C)	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	395667	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC5	82	19.5	n/a	1.22	n/a	5.128
LC10	100	79.43	n/a	1	n/a	1.259
LC15	>100	n/a	n/a	<1	n/a	n/a
LC20	>100	n/a	n/a	<1	n/a	n/a
LC25	>100	n/a	n/a	<1	n/a	n/a
LC40	>100	n/a	n/a	<1	n/a	n/a
LC50	>100	n/a	n/a	<1	n/a	n/a

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	D	10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	10/10	1	0.0%
13		10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	10/10	1	0.0%
26		10	0.9000	0.0000	1.0000	0.3162	35.14%	10.0%	9/10	0.9667	3.33%
52		10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	10/10	0.9667	3.33%
76		10	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	10/10	0.9667	3.33%
100		10	0.9000	0.0000	1.0000	0.3162	35.14%	10.0%	9/10	0.9	10.0%

CETIS Analytical Report

Report Date: 17 Oct-23 09:37 (p 1 of 1)
 Test Code/ID: 423504.B / 10-3941-3462

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 01-3270-6513	Endpoint: Reproduction	CETIS Version: CETISv1.9.6
Analyzed: 17 Oct-23 9:36	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Batch ID: 06-0056-0192	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 09 Oct-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 15 Oct-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 19-0317-1654	Code: 423504.B	Project: WET Quarterly Compliance Test (4Q)
Sample Date: 09 Oct-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 09 Oct-23	CAS (PC):	Station: 001B
Sample Age: n/a (0 °C)	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	100	>100	n/a	1	26.16%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	93	75	5	18	CDF	0.4569	Non-Significant Effect
		26	91.5	75	2	18	CDF	0.4046	Non-Significant Effect
		52	115	75	2	18	CDF	0.9697	Non-Significant Effect
		76	89.5	75	4	18	CDF	0.3378	Non-Significant Effect
		100	108.5	75	3	18	CDF	0.9005	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	296.133	59.2267	5	0.926	0.4714	Non-Significant Effect
Error	3453.8	63.9593	54			
Total	3749.93		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	13.46	15.09	0.0194	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8886	0.9459	5.2E-05	Non-Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	31.3	27.79	34.81	32	23	39	1.55	15.66%	0.00%
13		10	29.4	26.72	32.08	30	22	34	1.185	12.75%	6.07%
26		10	27.2	19.34	35.06	28	0	42	3.476	40.42%	13.10%
52		10	32.6	27.79	37.41	34.5	23	43	2.125	20.61%	-4.15%
76		10	26.4	19.04	33.76	27	2	38	3.253	38.97%	15.65%
100		10	30.9	24.75	37.05	32	10	42	2.718	27.82%	1.28%

CETIS Analytical Report

Report Date: 17 Oct-23 09:37 (p 2 of 2)
 Test Code/ID: 423504.B / 10-3941-3462

Ceriodaphnia 7-d Survival and Reproduction Test

SeaCrest Group

Analysis ID: 16-1581-5324	Endpoint: Reproduction	CETIS Version: CETISv1.9.6
Analyzed: 17 Oct-23 9:36	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Batch ID: 06-0056-0192	Test Type: Reproduction-Survival (7d)	Analyst: Lab Tech
Start Date: 09 Oct-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 15 Oct-23	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 19-0317-1654	Code: 423504.B	Project: WET Quarterly Compliance Test (4Q)
Sample Date: 09 Oct-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 09 Oct-23	CAS (PC):	Station: 001B
Sample Age: n/a (0 °C)	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1453205	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC5	12.99	4.915	n/a	7.701	n/a	20.35
IC10	>100	n/a	n/a	<1	n/a	n/a
IC15	>100	n/a	n/a	<1	n/a	n/a
IC20	>100	n/a	n/a	<1	n/a	n/a
IC25	>100	n/a	n/a	<1	n/a	n/a
IC40	>100	n/a	n/a	<1	n/a	n/a
IC50	>100	n/a	n/a	<1	n/a	n/a

Reproduction Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	Mean	%Effect
0	D	10	31.3	23	39	4.9	15.66%	0.0%	31.3	0.0%
13		10	29.4	22	34	3.748	12.75%	6.07%	29.73	5.01%
26		10	27.2	0	42	10.99	40.42%	13.1%	29.73	5.01%
52		10	32.6	23	43	6.72	20.61%	-4.15%	29.73	5.01%
76		10	26.4	2	38	10.29	38.97%	15.65%	28.65	8.47%
100		10	30.9	10	42	8.595	27.82%	1.28%	28.65	8.47%

Appendix 3 – Data Sheets for the Fathead Minnow Test

WET TEST REPORT FORM – CHRONIC

Permittee: Battle Mountain Resources, Inc.
Permit No.: CO-0045675
Outfall: 001B – IWC: 52%
Test Type: Routine ☒ Accelerated ☐ Screen ☐
Test Species: fathead minnow

Test Start Time	Test Start Date	Test End Time	Test End Date
1500	10-09-2023	1530	10-16-2023

Test Results	Lethality/TCP6C	Growth/TKP6C
S code: NOEL	100%	100%
	PASS	PASS
P code: LC ₂₅ /IC ₂₅	>100%	>100%
	PASS	PASS
T code:	>100%	>100%

Test Summary

Measurements	Control (0%)	13%	26%	52%	76%	100%
Exposed organisms	40	40	40	40	40	40
Survival for day 1	39	37	40	37	39	39
Survival for day 2	38	36	40	35	39	38
Survival for day 3	38	36	40	35	39	38
Survival for day 4	38	36	40	35	39	38
Survival for day 5	38	36	40	35	39	38
Survival for day 6	38	36	39	34	39	38
Survival for day 7	38	36	39	34	39	37
Mean Dry Wt. (mg)	0.540	0.495	0.518	0.529	0.521	0.549

Hardness (mg/L) – Receiving Water: N/A Effluent: 45/47/36 Recon Water: 88
Alkalinity (mg/L) – Receiving Water: N/A Effluent: 5/0/8 Recon Water: 57
Chlorine (mg/L) – Effluent: pH (initial/final) – Control: 8.3/7.5 100%: 7.7/7.2
0.01/<0.01/<0.01

Total Ammonia as NH₃ (mg/L) - Effluent: <0.03

Were all Test Conditions in Conformance with Division Guidelines? YES ☒ NO ☐

If **NO**, list deviations from test specifications: N/A

Laboratory: SeaCrest Group

Comments:

Analyst's Name: Lindsey Muniz, Aurora Nelson, Mia Kohler, and Daniela Thornton

Signature

Kelly Melt

Date

October 20, 2023

Fathead Minnow Chronic Benchsheet

Client: **BMRI** Site: **001B** Lab #: **423504B** Sample Date: **100923** IWC: **52** Dilution H₂O: **MH23-040**

Test Start: **100923 1500** Test End: **101023 1530** Species Info: **1H100923** Template: **FHM** Test Conditions:

Test Conditions:																								
Conc	Read	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	#	Fish & Tare	Tare	Fish Wt mg	Ave wt		
0	DO	10.8	5.5	10.8	4.4	10.8	6.3	7.2	4.8	6.8	4.0	10.8	4.3	10	10	10	10	#1	1.18217	1.17608	0.1009	0.540		
	Temp	25.0	24.1	25.9	24.5	24.1	24.2	24.1	24.2	24.1	24.4	25.9	24.5	10	9	9	9	#2	1.17869	1.17393	0.476			
	pH	8.3	7.8	8.3	7.7	8.2	7.8	8.2	7.5	8.1	7.6	8.3	7.5	10	10	9	9	#3	1.17706	1.17203	0.503			
	Cond	366	377	357	396	353	377	377	429	377	377	429		10	10	10	10	#4	1.16698	1.16628	0.570			
13	DO	7.1	5.5	10.9	4.5	10.9	6.2	7.3	4.7	6.8	4.0	10.9	4.3	10	7	6	6	#5	1.18402	1.18018	0.384	0.495		
	Temp	24.8	24.2	25.6	24.5	24.2	24.1	24.2	24.4	24.2	24.4	24.5	25.6	10	10	10	10	#6	1.17172	1.16685	0.487			
	pH	8.2	7.8	8.2	7.7	8.2	7.7	8.2	7.4	8.1	7.6	8.3	7.5	10	10	10	10	#7	1.17652	1.17114	0.538			
	Cond	356	367	349	380	341	362	362	410	362	362	410		10	10	10	10	#8	1.17684	1.17119	0.570			
20	DO	7.3	5.5	7.0	4.6	7.0	4.6	7.1	6.1	7.4	4.7	6.8	4.0	10.9	4.3	10	10	10	#9	1.16807	1.16311	0.496	0.518	
	Temp	24.7	24.3	25.4	24.4	24.3	24.1	24.1	24.2	24.1	24.2	24.7	25.2	24.4	10	10	10	10	#10	1.11178	1.17198	0.580		
	pH	8.2	7.7	8.2	7.6	8.1	7.6	8.2	7.3	8.0	7.5	8.2	7.4	10	10	10	10	#11	1.18378	1.17426	0.452			
	Cond	344	353	341	360	314	348	348	388	348	348	388		10	10	10	10	#12	1.18767	1.18224	0.543			
52	DO	7.5	5.6	7.2	4.6	7.1	4.8	7.2	5.9	7.6	4.6	6.9	4.0	7.0	4.5	10	9	8	#13	1.17608	1.17131	0.437	0.509	
	Temp	24.5	24.4	25.2	24.4	24.4	24.1	24.1	24.2	25.0	24.7	24.8	24.3	10	10	9	9	#14	1.17468	1.16937	0.531			
	pH	8.0	7.7	8.1	7.6	8.0	7.6	8.2	7.6	8.1	7.2	7.8	7.5	8.1	7.3	10	8	8	#15	1.18446	1.17955	0.491		
	Cond	319	328	318	314	314	314	314	332	314	314	332		10	10	10	10	#16	1.18630	1.17972	0.458			
70	DO	7.7	5.6	7.4	4.7	7.2	4.9	7.4	5.8	7.7	4.6	6.9	4.0	7.1	4.6	10	9	9	#17	1.19003	1.19098	0.505	0.521	
	Temp	24.4	24.5	25.0	24.3	24.6	24.1	24.1	24.1	24.2	25.5	24.8	24.9	24.2	10	10	10	10	#18	1.17092	1.16621	0.471		
	pH	7.9	7.6	7.9	7.6	7.9	7.6	8.0	7.5	8.0	7.1	7.6	7.4	7.9	7.2	10	10	10	10	#19	1.18143	1.17595		0.548
	Cond	295	303	298	298	232	193	278	278	250	278	250		10	10	10	10	#20	1.17571	1.17011	0.560			
100	DO	8.0	5.6	7.5	4.7	7.3	5.0	7.5	5.7	7.8	4.5	6.9	4.0	7.2	4.6	10	10	10	10	#21	1.17684	1.17101	0.583	0.549
	Temp	24.2	24.6	24.8	24.3	24.7	24.1	24.1	24.1	24.2	25.9	24.9	24.1	24.1	10	10	10	10	#22	1.17090	1.16484	0.606		
	pH	7.7	7.6	7.6	7.5	7.7	7.5	7.8	7.4	7.7	7.0	7.3	7.4	7.6	7.2	10	10	10	10	#23	1.18606	1.18006	0.600	
	Cond	233	237	236	236	193	165	187	187	216	187	187	216		10	9	8	8	#24	1.14839	1.14434	0.490		
DO															10			#						
Temp															10			#						
pH															10			#						
Cond															10			#						
Initials	Water #	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	pretest	1.16492	1.16492				
Eff 1	Eff 2	Eff 3	Recon	Rcv 1	Rcv 2	Rcv 3	MR	Exposure Chamber																
Hard	45	47	34	58				Total Capacity: 500 mL																
Alk	5	0	8	57				Test Solution Volume: 250 mL																
Chlor	0.01	0.01	0.01	<0.01				Test Solution Surface Area: 50.2 cm																
NH ₃	0.03	0.03	0.03	<0.03				Water Depth (constant): 6.5 cm																
Feeding	0	1	2	3	4	5	6	Feeding Schedule																
AM								2x per day																
Initials								<24hr anemia																
PM								Food Used:																
Initials																								
Comments: ACTIVE + Mobile																								
Units: DO: mg/L Hard: mg/L																								
Temp: °C Alk: mg/L																								
pH: N/A Chlor: mg/L																								
Cond: µS/cm ³ NH ₃ : mg/L																								

Comments: **ACTIVE + MONITOR**

CETIS Analytical Report

Report Date: 17 Oct-23 10:49 (p 1 of 3)
Test Code/ID: 423504FHM / 08-3946-6007

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 09-9416-0991	Endpoint: 7d Survival Rate	CETIS Version: CETIS v2.1.5
Analyzed: 17 Oct-23 10:48	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 17 Oct-23 0:00	MD5 Hash: A77C732B2058EBF8099D742EEF5186DA	Editor ID: 008-269-892-1
Batch ID: 06-7341-7453	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 09 Oct-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 16 Oct-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 09-2174-4618	Code: 423504.B	Project: WET Quarterly Compliance Test (4Q)
Sample Date: 09 Oct-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 09 Oct-23	CAS (PC):	Station: 001B
Sample Age: ---	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.2017	21.24%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	6	19	10	2	CDF	0.9055	Non-Significant Effect
		26	6	20	10	3	CDF	0.9516	Non-Significant Effect
		52	6	14	10	3	CDF	0.3451	Non-Significant Effect
		76	6	20	10	3	CDF	0.9516	Non-Significant Effect
		100	6	19	10	2	CDF	0.9055	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0929248	0.018585	5	0.6613	0.6573	Non-Significant Effect
Error	0.50588	0.0281044	18			
Total	0.598805		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	6.702	15.09	0.2438	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8809	0.884	0.0087	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9500	0.8581	1.0000	0.9500	0.9000	1.0000	0.0289	6.08%	0.00%
13		4	0.9000	0.5818	1.0000	1.0000	0.6000	1.0000	0.1000	22.22%	5.26%
26		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	-2.63%
52		4	0.8500	0.6446	1.0000	0.8500	0.7000	1.0000	0.0646	15.19%	10.53%
76		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	-2.63%
100		4	0.9250	0.6863	1.0000	1.0000	0.7000	1.0000	0.0750	16.22%	2.63%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.3310	1.1810	1.4800	1.3310	1.2490	1.4120	0.0471	7.07%	0.00%
13		4	1.2810	0.8621	1.6990	1.4120	0.8861	1.4120	0.1315	20.54%	3.76%
26		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	-3.06%
52		4	1.1900	0.9005	1.4790	1.1780	0.9912	1.4120	0.0909	15.28%	10.57%
76		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	-3.06%
100		4	1.3070	0.9720	1.6420	1.4120	0.9912	1.4120	0.1052	16.10%	1.78%

CETIS Analytical Report

Report Date: 17 Oct-23 10:49 (p 1 of 2)
Test Code/ID: 423504FHM / 08-3946-6007

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 00-8977-6053	Endpoint: 7d Survival Rate	CETIS Version: CETIS v2.1.5
Analyzed: 17 Oct-23 10:49	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 17 Oct-23 0:00	MD5 Hash: A77C732B2058EBF8099D742EEF5186DA	Editor ID: 008-269-892-1
Batch ID: 06-7341-7453	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 09 Oct-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 16 Oct-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 09-2174-4618	Code: 423504.B	Project: WET Quarterly Compliance Test (4Q)
Sample Date: 09 Oct-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 09 Oct-23	CAS (PC):	Station: 001B
Sample Age: ---	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1620146	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
LC5	>100	---	---	<1	---	---
LC10	>100	---	---	<1	---	---
LC15	>100	---	---	<1	---	---
LC20	>100	---	---	<1	---	---
LC25	>100	---	---	<1	---	---
LC40	>100	---	---	<1	---	---
LC50	>100	---	---	<1	---	---

7d Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	D	4	0.9500	0.9500	0.9000	1.0000	6.08%	0.00%	38/40	0.9500	0.00%
13		4	0.9000	1.0000	0.6000	1.0000	22.22%	5.26%	36/40	0.9375	1.32%
26		4	0.9750	1.0000	0.9000	1.0000	5.13%	-2.63%	39/40	0.9375	1.32%
52		4	0.8500	0.8500	0.7000	1.0000	15.19%	10.53%	34/40	0.9167	3.51%
76		4	0.9750	1.0000	0.9000	1.0000	5.13%	-2.63%	39/40	0.9167	3.51%
100		4	0.9250	1.0000	0.7000	1.0000	16.22%	2.63%	37/40	0.9167	3.51%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	0.9000	0.9000	1.0000
13		0.6000	1.0000	1.0000	1.0000
26		0.9000	1.0000	1.0000	1.0000
52		0.7000	0.9000	0.8000	1.0000
76		0.9000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	0.7000

CETIS Analytical Report

Report Date: 17 Oct-23 10:49 (p 3 of 3)
Test Code/ID: 423504FHM / 08-3946-6007

Fathead Minnow 7-d Larval Survival and Growth Test SeaCrest Group

Analysis ID: 03-2534-0600	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETIS v2.1.5
Analyzed: 17 Oct-23 10:48	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 17 Oct-23 0:00	MD5 Hash: F39B4A75EEA4C6005E0CAA510F55BB9F	Editor ID: 008-269-892-1
Batch ID: 06-7341-7453	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 09 Oct-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 16 Oct-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 09-2174-4618	Code: 423504.B	Project: WET Quarterly Compliance Test (4Q)
Sample Date: 09 Oct-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 09 Oct-23	CAS (PC):	Station: 001B
Sample Age: ---	Client: BMRI	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.1266	23.47%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Dilution Water		13	6	0.8507	2.407	0.1266	CDF	0.4890	Non-Significant Effect
		26	6	0.4134	2.407	0.1266	CDF	0.6844	Non-Significant Effect
		52	6	0.1948	2.407	0.1266	CDF	0.7696	Non-Significant Effect
		76	6	0.3516	2.407	0.1266	CDF	0.7098	Non-Significant Effect
		100	6	-0.1712	2.407	0.1266	CDF	0.8788	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0070561	0.0014112	5	0.255	0.9317	Non-Significant Effect
Error	0.0995982	0.0055332	18			
Total	0.106654		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.694	15.09	0.7470	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.976	0.884	0.8131	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.5395	0.4426	0.6364	0.5365	0.476	0.609	0.03045	11.29%	0.00%
13		4	0.4948	0.3653	0.6242	0.5125	0.384	0.57	0.04068	16.45%	8.29%
26		4	0.5178	0.4291	0.6064	0.5195	0.452	0.58	0.02785	10.76%	4.03%
52		4	0.5293	0.3795	0.679	0.511	0.437	0.658	0.04704	17.78%	1.90%
76		4	0.521	0.456	0.586	0.5265	0.471	0.56	0.02042	7.84%	3.43%
100		4	0.5485	0.3955	0.7015	0.5915	0.405	0.606	0.04808	17.53%	-1.67%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.609	0.476	0.503	0.57
13		0.384	0.487	0.538	0.57
26		0.496	0.58	0.452	0.543
52		0.437	0.531	0.491	0.658
76		0.505	0.471	0.548	0.56
100		0.583	0.606	0.6	0.405

CETIS Analytical Report

Report Date: 17 Oct-23 10:49 (p 2 of 2)
Test Code/ID: 423504FHM / 08-3946-6007

Fathead Minnow 7-d Larval Survival and Growth Test

SeaCrest Group

Analysis ID: 10-2893-0256	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETIS v2.1.5
Analyzed: 17 Oct-23 10:49	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 17 Oct-23 0:00	MD5 Hash: F39B4A75EEA4C6005E0CAA510F55BB9F	Editor ID: 008-269-892-1
Batch ID: 06-7341-7453	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 09 Oct-23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Reconstituted Water
Ending Date: 16 Oct-23	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: In-House Culture Age:
Sample ID: 09-2174-4618	Code: 423504.B	Project: WET Quarterly Compliance Test (4Q)
Sample Date: 09 Oct-23	Material: POTW Effluent	Source: NPDES Permit # (XX99999999)
Receipt Date: 09 Oct-23	CAS (PC):	Station: 001B
Sample Age: ---	Client: BMRI	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1995131	1000	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC5	>100	---	---	<1	---	---
IC10	>100	---	---	<1	---	---
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	D	4	0.5395	0.5365	0.476	0.609	11.29%	0.00%	0.5395	0.00%
13		4	0.4948	0.5125	0.384	0.57	16.45%	8.29%	0.5223	3.20%
26		4	0.5178	0.5195	0.452	0.58	10.76%	4.03%	0.5223	3.20%
52		4	0.5293	0.511	0.437	0.658	17.78%	1.90%	0.5223	3.20%
76		4	0.521	0.5265	0.471	0.56	7.84%	3.43%	0.5223	3.20%
100		4	0.5485	0.5915	0.405	0.606	17.53%	-1.67%	0.5223	3.20%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.609	0.476	0.503	0.57
13		0.384	0.487	0.538	0.57
26		0.496	0.58	0.452	0.543
52		0.437	0.531	0.491	0.658
76		0.505	0.471	0.548	0.56
100		0.583	0.606	0.6	0.405

Appendix 4 – QA/QC and Reference Toxicant Test Chart

Quality Assurance Check List – Chronic Whole Effluent Toxicity Test

Client:	Battle Mountain Resources, Inc.
SeaCrest Sample No:	423504.B
Species Tested:	<i>Ceriodaphnia dubia</i> and fathead minnow

Sample Dates	Start Date of Test (<i>Ceriodaphnia dubia</i>)	Start Date of Test (fathead minnow)
10-09-2023		
10-11-2023		
10-13-2023	10-09-2023	10-09-2023

Sample received in lab properly preserved (0-6°C)?	N*
Sample received at laboratory within 36 hours of collection?	Y
Sample delivered on ice or equivalent?	Y
Test initiated within 36-hours of collection?	Y
Test protocol conforms to CDPHE guidelines (<i>Ceriodaphnia dubia</i>)?	Y
Test protocol conforms to CDPHE guidelines (fathead minnow)?	Y
Average test temp. $\pm 1^{\circ}\text{C}$ (<i>Ceriodaphnia dubia</i>)?	Y
Average test temp. $\pm 1^{\circ}\text{C}$ (fathead minnow)?	Y
DO level $\geq 4.0\text{mg/L}$; no super-saturation (<i>Ceriodaphnia dubia</i>)?	Y
DO level $\geq 4.0\text{mg/L}$; no super-saturation (fathead minnow)?	Y
Survival in control $\geq 80\%$ (<i>Ceriodaphnia dubia</i>)?	Y
Survival in control $\geq 80\%$ (fathead minnow)?	Y
<i>Ceriodaphnia dubia</i> neonates <24-hours old?	Y
Fathead minnow larvae <24-hours old?	Y
Appropriate reference toxicity test conducted?	Y
Reference toxicity test results within the confidence limits for the lab?	Y

* The samples were received at 12.5°C, 10.1°C, and 9.5°C on the same day as sampling.

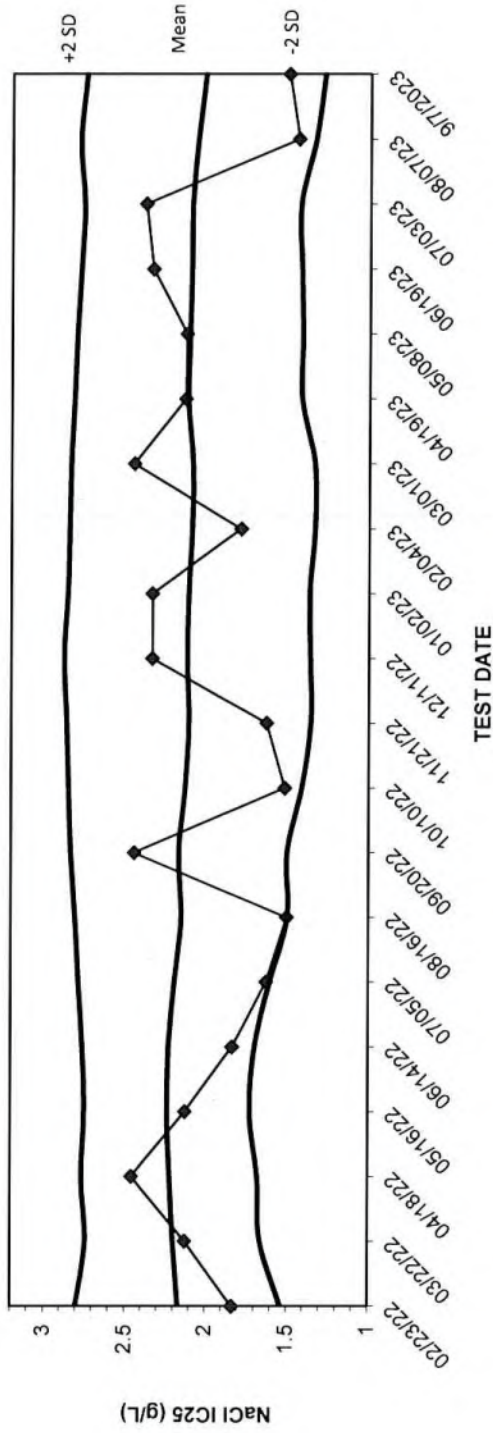
Author Kaley Went Date October 20, 2023
Position: Laboratory Manager
Quality Control Carl McD Date October 20, 2023

Method	Analyte	Date	LCS (rec)	%REC	%RPD	QC LIMITS
2320 B	Alkalinity - Total	9/5/2023	104.00%	95.61%	0.60%	± 5.00%
2320 B	Alkalinity - Total	9/13/2023	104.80%	99.40%	-3.43%	± 5.00%
2320 B	Alkalinity - Total	9/21/2023	95.20%	104.44%	0.96%	± 5.00%
2320 B	Alkalinity - Total	9/27/2023	104.80%	101.15%	-4.03%	± 5.00%
4500 NH ₃ D	Ammonia	9/14/2023	110.00%	101.98%	-3.03%	± 10.00%
4500 NH ₃ D	Ammonia	9/14/2023	100.00%	107.38%	-8.44%	± 10.00%
4500 NH ₃ D	Ammonia	9/22/2023	104.00%	100.00%	0.10%	± 10.00%
4500 NH ₃ D	Ammonia	9/29/2023	110.00%	103.77%	-0.85%	± 10.00%
4500 Cl D	Chlorine	9/27/2023	103.13%	96.97%	0.00%	± 5.00, ± 20.00%
2340 B	Hardness - Total	9/6/2023	96.49%	103.75%	4.02%	± 5.00%
2340 B	Hardness - Total	9/14/2023	104.00%	102.00%	3.21%	± 5.00%
2340 B	Hardness - Total	9/21/2023	102.00%	101.00%	-0.52%	± 5.00%
2340 B	Hardness - Total	9/28/2023	101.75%	100.30%	0.83%	± 5.00%
			LCS (rec)	%REC M1	%REC M2	QC Limits
4500 O	DO - Winkler	9/8/2023	N/A	98.17%	101.47%	± 5.00%
4500 O	DO - Winkler	9/15/2023	N/A	101.45%	101.43%	± 5.00%
4500 O	DO - Winkler	9/22/2023	N/A	101.47%	100.00%	± 5.00%
4500 O	DO - Winkler	9/29/2023	N/A	101.45%	101.47%	± 5.00%
			Blank	%REC MR S	%RPD	QC Limits
2540 D	Suspended Solids (TTL)	9/20/2023	100.00%	111.76%	0.00%	± 15%
2540 C	Dissolved Solids (TTL)	9/20/2023	100.00%	106.05%	-1.41%	± 15%

Signature: Cathy M. Ed Signature: Kalief Nelt

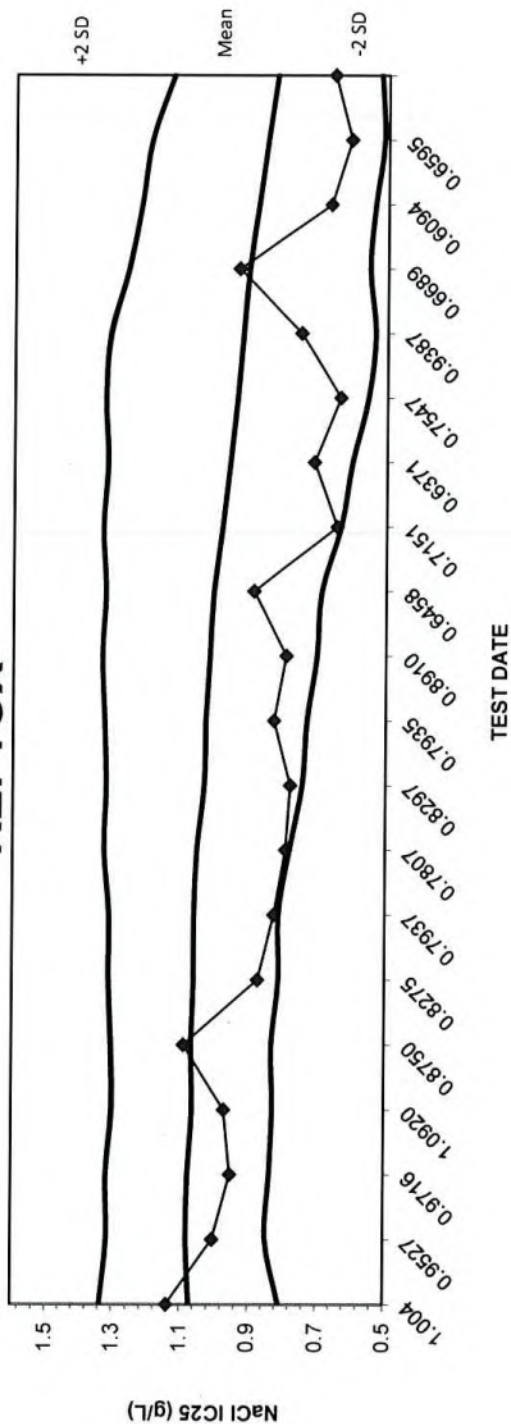
Date: October 2, 2023 Date: October 2, 2023

CERIODAPHNIA SURVIVAL LC25 NaCl REFTOX



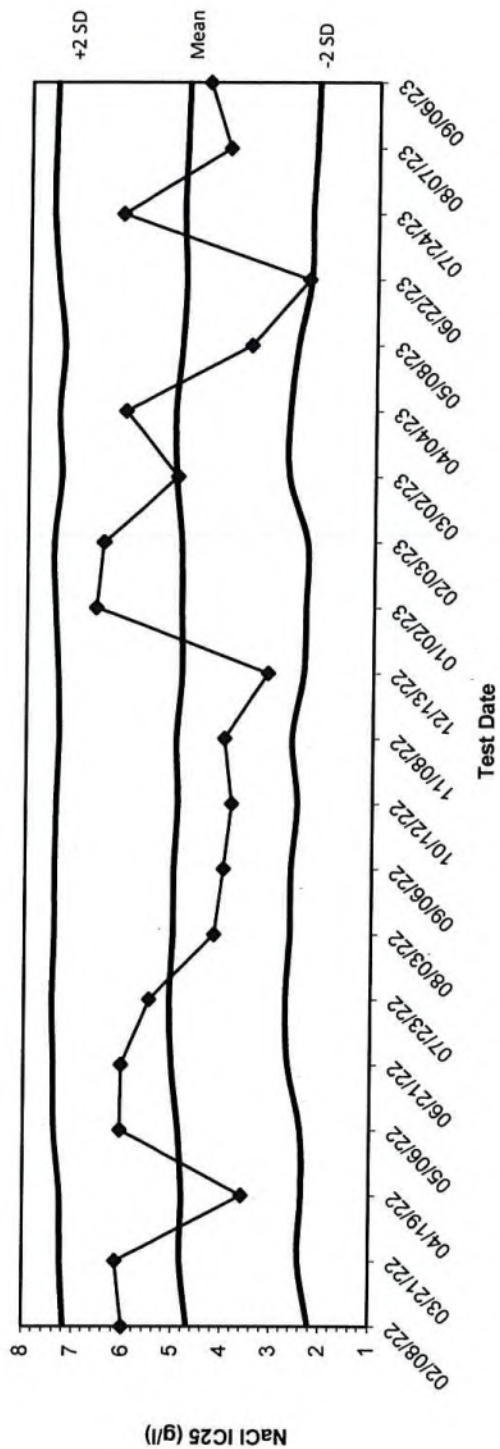
Date	IC25	Mean	-2 SD	+2 SD
02/23/22	1.8330	2.1656	1.5330	2.7982
03/22/22	2.1250	2.1982	1.6590	2.7374
04/18/22	2.4580	2.2200	1.6774	2.7626
05/16/22	2.1250	2.2355	1.7257	2.7453
06/14/22	1.8330	2.2267	1.6951	2.7582
07/05/22	1.6250	2.1930	1.6031	2.7828
08/16/22	1.5000	2.1506	1.4959	2.8054
09/20/22	2.4440	2.1658	1.4989	2.8328
10/10/22	1.5130	2.1268	1.4070	2.8465
11/21/22	1.6250	2.1055	1.3533	2.8578
12/11/22	2.3330	2.1154	1.3566	2.8742
01/02/23	2.3330	2.1075	1.3622	2.8527
02/04/23	1.7860	2.0869	1.3307	2.8430
03/01/23	2.4480	2.0844	1.3336	2.8352
04/19/23	2.1300	2.1144	1.4129	2.8158
05/08/23	2.1250	2.1045	1.4102	2.7988
06/19/23	2.3330	2.0965	1.4176	2.7755
07/03/23	2.3780	2.0907	1.4243	2.7571
08/07/23	1.4375	2.0580	1.3336	2.7824
9/17/2023	1.5000	2.0104	1.2766	2.7441

CERIODAPHNIA REPRODUCTION IC25 NaCl REFTOX



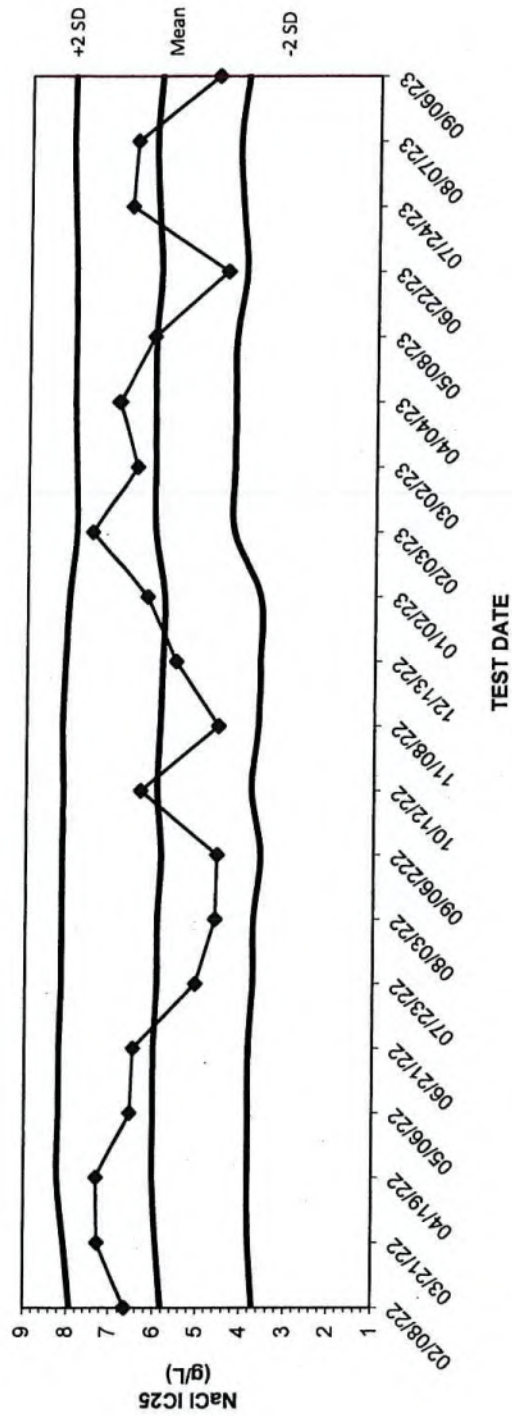
Date	IC25	Mean	-2 SD	+2 SD
02/23/22	1.1390	1.0719	0.8084	1.3354
3/22/2022	1.004	1.08212	0.848850762	1.315389238
04/18/22	0.9527	1.0775	0.8376	1.3174
05/16/22	0.9716	1.0659	0.8293	1.3025
06/14/22	1.0920	1.0691	0.8330	1.3053
07/05/22	0.8750	1.0628	0.8126	1.3129
08/16/22	0.8275	1.0630	0.8138	1.3123
09/20/22	0.7937	1.0554	0.7830	1.3279
10/10/22	0.7807	1.0340	0.7456	1.3223
11/21/22	0.8297	1.0301	0.7328	1.3275
12/11/22	0.7935	1.0197	0.7041	1.3353
01/02/23	0.8910	1.0085	0.6912	1.3258
02/04/23	0.6458	0.9841	0.6340	1.3342
03/01/23	0.7151	0.9621	0.6021	1.3221
04/19/23	0.6371	0.9431	0.5562	1.3300
05/08/23	0.7547	0.9267	0.5369	1.3165
06/19/23	0.9387	0.9105	0.5540	1.2670
07/03/23	0.6689	0.8843	0.5384	1.2302
08/07/23	0.6094	0.8575	0.5136	1.2014
09/07/23	0.6595	0.8290	0.5226	1.1353

FHM SURVIVAL LC25 NaCl REFTOX



Date	IC25	Mean	-2 SD	+2 SD
02/08/22	6.0000	4.6848	2.2009	7.1688
03/21/22	6.1400	4.8361	2.4258	7.2464
04/19/22	3.5870	4.8140	2.3657	7.2622
05/06/22	6.0670	4.8914	2.3955	7.3872
06/21/22	6.0500	5.0353	2.6626	7.4081
07/23/22	5.5000	5.0819	2.7150	7.4488
08/03/22	4.1820	5.0220	2.6328	7.4112
09/06/22	4.0000	5.0185	2.6233	7.4137
10/12/22	3.8420	4.9507	2.5089	7.3925
11/08/22	4.0000	4.9848	2.6228	7.3468
12/13/22	3.1230	4.8843	2.3996	7.3690
01/02/23	6.6150	4.9051	2.3687	7.4415
02/03/23	6.4800	4.9171	2.3524	7.4818
03/02/23	5.0000	5.0364	2.7367	7.3361
04/04/23	6.0800	5.0628	2.7278	7.3978
05/08/23	3.5230	4.9385	2.5790	7.2979
06/22/23	2.3600	4.8775	2.3230	7.4321
07/24/23	6.1696	4.9250	2.3130	7.5370
08/07/23	4.0000	4.8853	2.2436	7.5269
09/06/23	4.4240	4.8500	2.2052	7.4948

FHM GROWTH IC25 NaCl REFTOX



Date	IC25	Mean	-2 SD	+2 SD
02/08/22	6.6580	5.8193	3.7120	7.9266
03/21/22	7.2690	5.9425	3.8121	8.0729
04/19/22	7.2990	6.0314	3.8358	8.2271
05/06/22	6.5630	6.0225	3.8376	8.2074
06/21/22	6.5000	6.0225	3.8376	8.2074
07/23/22	5.0500	5.9498	3.7409	8.1587
08/03/22	4.6040	5.9482	3.7354	8.1611
09/06/22	4.5630	5.8716	3.5812	8.1620
10/12/22	6.3570	5.9716	3.7966	8.1465
11/08/22	4.5530	5.9137	3.6531	8.1744
12/13/22	5.5530	5.8673	3.6196	8.1150
01/02/23	6.2350	5.8373	3.6291	8.0455
02/03/23	7.4870	6.0624	4.2424	7.8824
03/02/23	6.5000	6.0758	4.2468	7.9047
04/04/23	6.9180	6.0931	4.2384	7.9479
05/08/23	6.1200	6.0879	4.2341	7.9416
06/22/23	4.4340	5.9816	4.0146	7.9487
07/24/23	6.6760	6.0591	4.1185	7.9998
08/07/23	6.5670	6.1170	4.1925	8.0415
09/06/23	4.6810	6.0194	4.0192	8.0196

APPENDIX D
REPORT REQUEST

From: Julio Madrid <Julio.Madrid@newmont.com>
Sent: Thursday, February 22, 2024 9:43 AM
To: Melissa Chalona <mchalona@enganalytics.com>
Cc: Karen.DeAguero <Karen.DeAguero@newmont.com>
Subject: FW: [EXTERNAL] Annual Fee, Report, and Map Due
Importance: High

From: Division of Reclamation, Mining and Safety <dnr_drms_permitadmin@state.co.us>
Sent: Thursday, February 22, 2024 5:44 AM
To: Julio Madrid <Julio.Madrid@newmont.com>
Subject: [EXTERNAL] Annual Fee, Report, and Map Due
Importance: High

02/22/24

Annual Fee, Report, and Map Due

Under the terms of your NOI or Permit and Colorado Statutes, you must submit an Annual Fee and Annual Report (including a map). You must pay the Annual Fee and submit an Annual Report each year until reclamation responsibility release is granted. The Annual Fee is not a renewal fee. The Fee and Report are for last year's exploration or mining and reclamation season, and must be paid even if your operation was inactive.

If you have requested reclamation responsibility release from the Division of Reclamation, Mining and Safety ("Division") but release has not been granted by the anniversary date listed below, the Annual Fee, Report and Map must be submitted. If the permit is released before the anniversary date, then by Statute, it is not necessary to pay an Annual Fee or submit an Annual Report for that year. The annual fee, report, and map are due on or before the Anniversary Date for the following operation:

Permit: M1988112

ePermit Number: 127925

Operation Name: San Luis Project

Anniversary Date: 03/23/24

Total Fee Due: \$1,150.00

As of January 1, 2018, all annual reports, maps and fees must be filed electronically. If you have not yet set up your ePermitting account, click on the link below to get started:

<https://drms.colorado.gov/information/epermitting>

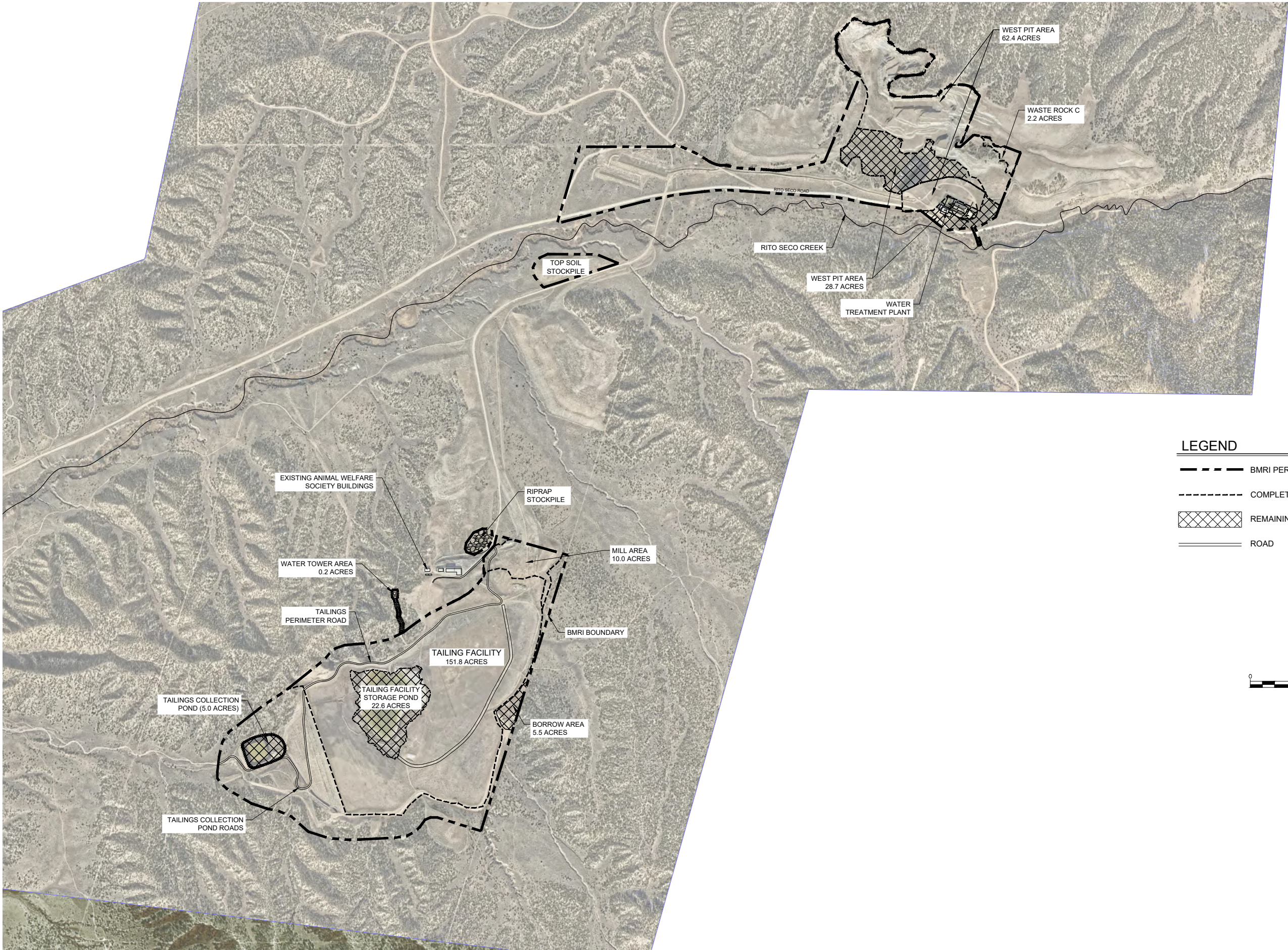
If you have already established your ePermitting account, click on the link below to file your report, upload your map, and pay your fee online now.

https://dnrlaserfiche.state.co.us/Forms/DRMSeForms_LandingPage





If you need additional information or have any questions, please contact Lucas West at the Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, by telephone at (303) 866-3567 x8187, or by email at lucas.west@state.co.us.

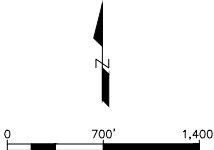
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APPENDIX E
2023 SITE MAP



LEGEND

-  BMRI PERMIT BOUNDARY
 COMPLETED RECLAMATION AREAS
 REMAINING RECLAMATION AREAS
 ROAD



ISSUED BY:

A Engineering Analytics, Inc.

600 Specht Point Road, Suite 209
Fort Collins, CO 80525

BATTLE MOUNTAIN RECLAMATION

2023 SAN LUIS PERMIT AREA
SITE MAP

NO	REVISION DESCR.	DATE	BY
	THIS DRAWING, INCLUDING ENGINEERING, DESIGNS AND SPECIFICATIONS IS INTENDED SOLELY FOR THE PROJECT STATED IN THE TITLE BLOCK. IT MAY NOT BE SUITABLE OR SAFE FOR OTHER PROJECTS. ANY OTHER USE OF THE DRAWING WITHOUT THE WRITTEN CONSENT OF THE ENGINEER, IS PROHIBITED.		

THIS DRAWING, INCLUDING ENGINEERING DESIGN(S) AND SPECIFICATION(S) IS INTENDED SOLELY FOR THE PROJECT STATED IN THE TITLE BLOCK. IT MAY NOT BE SUITABLE OR SAFE FOR OTHER PROJECTS. ANY OTHER USE OF THE DRAWING, WITHOUT THE WRITTEN CONSENT OF THE ENGINEER, IS PROHIBITED.

Project Number:	210105.06
Drawn By:	RDP
Designed By:	MLC
Approved By:	MLC
Date:	3/18/2024
Scale:	1" = 1400'
Drawing Number:	