



Cripple Creek & Victor  
Gold Mining Company  
P.O. Box 191  
100 North 3<sup>rd</sup> Street  
Victor, Colorado 80860

P 719.689.2977  
F 719.689.3254  
[newmont.com](http://newmont.com)

SENT VIA ELECTRONIC COMMUNICATIONS

October 17, 2023

Mr. Patrick Lennberg  
Environmental Protection Specialist  
Colorado Department of Natural Resources  
Division of Reclamation, Mining and Safety  
Office of Mined Land Reclamation  
1313 Sherman Street, Room 215  
Denver, Colorado 80203

**RE: Additional Information Required No. 2; Second Quarter 2023 Surface Water and Groundwater Monitoring Report, Cresson Project, Permit No. M-1980-244**

Mr. Lennberg:

Cripple Creek and Victor Gold Mining Company (CC&V) received the Division of Reclamation, Mining, and Safety's (DRMS) Additional Information Required No. 2, Second Quarter 2023 Surface Water and Groundwater Monitoring Report, Cresson Project, Permit No. M-1980-244. CC&V has reviewed the comments issued in the letter dated September 26, 2023 from DRMS and has prepared responses for each comment. The DRMS comment (**in bold**) and CC&V's corresponding response (*in italics*) is presented below.

- 1. The Division was unable to verify where it is indicated on Stream Classification Table #24 (COARUA24) that the Table Value Standards (TVS) from Regulation 31 (Reg. 31) is to be utilized. However, in the footnotes on the page where Table #24 is located it references Section 32.6 for further details on applied standards. The Division reviewed Section 32.6(3) Table Value Standards and it appears these standards are more appropriate. If the Operator's opinion is the Reg. 31 TVS calculations are more appropriate please provide a discussion as to why. Finally, please recalculate the TVS values using the specified Reg. 32 TVS values, if they differ from Reg. 31 TVS values, and resubmit. If the Reg. 32 TVS equations are not different from the Re. 31 TVS equations please clearly state that is the case.**

*Regulation 32. Section 32.6 (3) states "In certain instances in the tables in Appendix 32-1, the designation "TVS" is used to indicate that for a particular parameter a "table value standard" has been adopted. This designation refers to numerical criteria set forth in the Basic Standards and*

*Methodologies for Surface Water.” The Basic Standards and Methodologies for Surface Water is Regulation 31; therefore, all TVS equations are the same and have been calculated appropriately.*

2. **The Tables provided in Appendix 1 need additional clarification. Why are sample result values missing in the tables for GV-02 and GV-03? Where calculated values are above a standard it needs to be indicated either by highlighting or text bolded to clearly reflect an exceedance. A footnote should be added to the tables to indicate where estimated or unknown sample results are at or above a calculated standard value, e.g. Cyanide (Free), Mercury, and Nitrite. Update and resubmit the tables.**

*Surface Water monitoring parameters for quarterly surface water monitoring locations including GV-02 and GV-03 are analyzed in accordance with Table 3.2 of the approved Quality Assurance Project Plan (QAPP). The approved QAPP does not include the parameters that are missing values. As clarified in the initial response, CC&V is in the process of updating the QAPP and Exhibit G by October 21, 2023, which will include analysis for parameters identified in Regulation 32 for Surface Water Monitoring Locations. Attachment 1 contains updated tables with **bold** text indicating any exceedances.*

3. **The Division concurs that there is no specific statement to monitor purge volume within the USEPA Low-Flow Sampling Procedure. However, there is a requirement to monitor purge rate. Purge rate aids in determining the following “The final purge volume must be greater than the stabilized drawdown volume plus the pump’s tubing volume. If the drawdown has exceeded 0.3 feet and stabilizes, calculate the volume of water between the initial water level and the stabilized water level. Add the volume of the water which occupies the pump’s tubing to this calculation. This combined volume of water needs to be purged from the well after the water level has stabilized before samples are collected.”(USEPA, 2017). In the original USEPA Low-Flow Sampling Procedure, 1996, section VI Documentation it is stated at a minimum documentation should include flow-rate and volumes extracted. For future sampling events the volumes extracted during monitoring well sampling need to be provided.**

*The flow rate is recorded on the Groundwater Sampling Field Logs for each well as described in the Monitoring Well Sampling Procedure in the approved CC&V QAPP. From this flow rate, total volume pumped is able to be calculated based on the amount of time the well is purged. The Groundwater Sampling Field Log has also been updated to ensure that the proper purge*

*volume is being evacuated and recorded prior to sample collection if the drawdown exceeds 0.3 feet and stabilizes.*

- 4. It is inappropriate to reference a site specific NPL concentration that is currently under review in an ongoing Technical Revision, TR-136. Please remove the references to those concentrations. For the locations mentioned provide updated graphs that demonstrate the exceedances are within the historic analytical range for those specific analytes.**

*GVMW-8A: This Fluoride concentration is consistent with background fluoride levels in wells installed in the Pikes Peak Granite. Elevated levels of fluorine in this formation are well-documented, as are elevated fluoride concentrations in groundwater in the Pikes Peak vicinity. Graph demonstrating historic analytical range for Fluoride is included in Attachment 2.*

*CRMW-3B: This Fluoride concentration is consistent with background fluoride levels in wells installed in the Pikes Peak Granite. Elevated levels of fluorine in this formation are well-documented, as are elevated fluoride concentrations in groundwater in the Pikes Peak vicinity. Graph demonstrating historic analytical range for Fluoride is included in Attachment 2.*

*CRMW-3C: This Fluoride concentration is consistent with background fluoride levels in wells installed in the Pikes Peak Granite. Elevated levels of fluorine in this formation are well-documented, as are elevated fluoride concentrations in groundwater in the Pikes Peak vicinity. Graph demonstrating historic analytical range for Fluoride is included in Attachment 2.*

*VIN-2B: It is known that Vindicator Valley contains a number of historical mines, and significant amounts of waste rock from these mines was placed throughout the valley during their operation. The elevated levels of sulfate are consistent with leaching from sulfidic mine waste materials and are therefore likely associated with impacts from historic mine waste that is known to exist in Vindicator Valley prior to January 31, 1994. The Q2 concentration may also be a potential outlier as the subsequent result for Q3 was more consistent with the historical data and below the current sulfate NPL for this location.*

*PGMW-3: Large fluctuations in Manganese concentrations have been identified at PGMW-3 throughout the period of record. These elevated concentrations are likely associated with impacts from historical mine waste, including tailings and waste rock known to exist throughout Poverty Gulch prior to January 31, 1994. The Q2 concentration may also be a potential outlier as the subsequent result for Q3 was more consistent with the historical average.*

*GV-02: Upon further review of historical data from this sample location, it appears that the increase in concentration of these parameters is related to heavy precipitation events. The*



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*historical data shows other intermittent spikes in concentrations that correlate to heavy precipitation events. Heavy precipitation was experienced in the days prior to the sample being collected on May 16, 2023. From May 11, 2023 through May 15, 2023 total precipitation as recorded at CC&V's RIGI Met Station was 3.13 inches.*

Should the Division require further information regarding the above responses, please do not hesitate to contact Antonio Matarrese at 719-851-4185 or [Antonio.Matarrese@Newmont.com](mailto:Antonio.Matarrese@Newmont.com) or me at 719-851-4048 or [Katie.Blake@Newmont.com](mailto:Katie.Blake@Newmont.com).

Sincerely,

DocuSigned by:  
  
5A3D013B629844B...

Katie Blake  
Sustainability & External Relations Manager  
Cripple Creek & Victor Mine

EC: M. Cunningham – DRMS  
E. Russell - DRMS  
K. Blake - CC&V  
J. Gonzalez – CC&V  
A. Matarrese – CC&V

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# Attachment 1

GV-02		
Sample Date:		5/16/2023
Data for Calculations:		
pH	6.47	std units
Hardness	400	mg/L
Temperature	9.6	Celsius
Regulation 32 (5 CCR 1002-32) COARUA24 Standards		
Physical	Acute	Chronic
pH (std. units)	6.5 - 9.0	---
Temperature (°C)	< 21.7	< 17
Inorganic	Acute (mg/L)	Chronic (mg/L)
Ammonia	32.968	6.693
Boron	---	0.750
Chloride	---	250.000
Chlorine	0.019	0.011
Cyanide (Free)	0.005	---
Nitrate	10.000	---
Nitrite	---	0.050
Sulfide	---	0.002
Sulfate	---	250.000
Phosphorus	---	0.110
Metals	Acute (mg/L)	Chronic (mg/L)
Arsenic	0.34000	---
Arsenic (T)	---	0.00002
Cadmium	0.00654	0.00203
Cadmium (T)	0.00500	---
Chromium (III)	---	0.23067
Chromium (III) (T)	0.05000	---
Hexavalent Chromium	0.01600	0.01100
Copper	0.04962	0.02928
Iron	---	0.30000
Iron (T)	---	1.00000
Lead	0.28085	0.01094
Lead (T)	0.05000	---
Manganese	4.73794	2.61771
Mercury (T)	---	0.00001
Molybdenum (T)	---	0.15000
Nickel	1.51289	0.16804
Nickel (T)	---	0.10000
Selenium	0.01840	0.00460
Silver	0.02202	0.00081
Uranium	11.06999	6.91462
Zinc	0.56447	0.42754

GV-02 Results
Physical
6.47
9.6
Inorganic
<0.03
<0.04
24.1
---
<0.005
0.436
<0.05
---
<b>479</b>
<0.05
Metals
<0.001
<0.001
<b>0.0191</b>
---
---
---
---
0.00152
<0.1
<0.1
<0.0002
---
<b>4.88</b>
<0.0002
---
0.18
---
<0.001
<0.00008
0.00011
<b>5.37</b>

\* **Bold** text indicates that an Acute and/or Chronic standard has been exceeded.

GV-03		
Sample Date:		5/15/2023
Data for Calculations:		
pH	5.7	std units
Hardness	64.3	mg/L
Temperature	3.7	Celsius
Regulation 32 (5 CCR 1002-32) COARUA24 Standards		
Physical	Acute	Chronic
pH (std. units)	6.5 - 9.0	---
Temperature (°C)	< 21.7	< 17
Inorganic	Acute (mg/L)	Chronic (mg/L)
Ammonia	37.823	7.017
Boron	---	0.750
Chloride	---	250.000
Chlorine	0.019	0.011
Cyanide (Free)	0.005	---
Nitrate	10.000	---
Nitrite	---	0.050
Sulfide	---	0.002
Sulfate	---	250.000
Phosphorus	---	0.110
Metals	Acute (mg/L)	Chronic (mg/L)
Arsenic	0.34000	---
Arsenic (T)	---	0.00002
Cadmium	0.00119	0.00052
Cadmium (T)	0.00500	---
Chromium (III)	---	0.05162
Chromium (III) (T)	0.05000	---
Hexavalent Chromium	0.01600	0.01100
Copper	0.00886	0.00614
Iron	---	0.30000
Iron (T)	---	1.00000
Lead	0.03980	0.00155
Lead (T)	0.05000	---
Manganese	2.57726	1.42394
Mercury (T)	---	0.00001
Molybdenum (T)	---	0.15000
Nickel	0.32226	0.03579
Nickel (T)	---	0.10000
Selenium	0.01840	0.00460
Silver	0.00095	0.00004
Uranium	1.47654	0.92229
Zinc	0.10708	0.08110

GV-03 Results
Physical
5.7
3.7
Inorganic
0.065
<0.04
18.7
---
<0.005
0.71
<0.05
---
77
<b>0.285</b>
Metals
<0.002
<0.001
<b>0.00117</b>
---
---
---
---
0.00568
<0.1
<b>1.57</b>
<0.0004
---
0.0709
<0.0002
---
<0.01
---
<0.002
<0.00016
0.00102
0.0554

\* **Bold** text indicates that an Acute and/or Chronic standard has been exceeded.



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## Attachment 2





