



Cripple Creek & Victor
Gold Mining Company
P.O. Box 191
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Victor, Colorado 80860

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SENT VIA ELECTRONIC COMMUNICATIONS

August 29, 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, Grassy Valley Surface and Groundwater Monitoring June 2023; Permit No. M-1980-244

Mr. Lennberg:

Cripple Creek and Victor Gold Mining Company (CC&V) received the Division of Reclamation, Mining, and Safety (DRMS) Additional Information Required, Grassy Valley Surface and Groundwater Monitoring June 2023; Permit No. M-1980-244. CC&V has reviewed the comments issued in the letter dated July 31, 2023 from DRMS and has prepared responses for each comment. The DRMS comment (*in italics*) and CC&V's corresponding response (**in bold**) is presented below.

1. *Please provide a detailed discussion on why the chemistry is different between Seep 1 and Seep 2.*

Seeps 1 and 2 are spatially separated expressions of pore water from the ECOSA Facility which are being influenced differently from distinct bodies of overburden material.

2. *Please explain the spike in Ammonia and Chloride in the groundwater samples. Include in the explanation the definition of the laboratory notes from the analytical report.*

Ammonia concentrations for the groundwater samples (GVMW-25 & GVMW-125) were non-detect (below the reporting limit) and do indicate a spike in concentration. Ammonia is a color affected metric and required dilution for these samples due to the color matrix that can interfere with the analysis. The reporting limit for these samples increased due to the dilution however, the results were non-detect and do not indicate a spike in Ammonia.

CC&V is continuing to look into the potential cause of the increase in Chloride concentration and will continue to closely monitor future results. While the Chloride concentrations do show a slight increase from what has been seen in the past they are still relatively low concentrations. It should be noted that per Table 2 in "Regulation No. 41 The Basic Standards for Groundwater" (5 CCR 1002-41) the Domestic Drinking Water Standard for Chloride is 250 mg/L and the reported Chloride values for GVMW-25 and the duplicate (GVMW-125) were 49 mg/L and 49.5 mg/L, respectively.

Laboratory notes from the analytical report are attached to this response (Attachment 1).

3. *Why did the rinsate sample require dilution for Ammonia only?*

The lab runs Ammonia samples in batches and typically runs the analyses from the same work order together. Ammonia is a color affected metric, and required dilution for the Seep 1 & 2, GVMW-25, and GVMW-125 samples. The rinse blank sample was clear enough and was rerun with no dilution but the undiluted result was mistakenly not reported. The lab report has been reissued and attached to this response (Attachment 2).

4. *Please provide a table that compares the GV-06 sample results with the appropriate surface water standards (acute and chronic). Note the Division is expecting the Operator to perform the necessary calculations to determine the TVS value for comparison.*

GV-06 results and Regulation 32 (5 CCR 1002-32) COARUA24 Standards comparison attached to this response (Attachment 3, Table 1).



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Should the Division required further information regarding the above responses, please do not hesitate to contact Antonio Matarrese at 719-851-4185 or Antonio.Matarrese@Newmont.com or me at 719-851-4048 or 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
A. Matarrese – CC&V
K. Blake - CC&V
J. Gonzalez – CC&V

File: "C:\Users\19012214\Newmont USA Limited\CC&V – S&ER Environmental - Environmental Compliance\Water\DRMS\Grassy Monthly\6 - June 2023\DRMS Add'l Info\Final"



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Attachment 1

**Newmont - Cripple Creek & Victor**

Post Office Box 191

Victor, CO 80860

Work Order:

X3F0212

Reported:

01-Aug-23 09:44

Notes and Definitions

D	The reported value is from a dilution.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
E11	Sample exceeds method-specified limit for solids content.
E12	The reported value is estimated due to the presence of interferents.
H1	Sample analysis performed past holding time.
H3	Sample was received and/or analysis requested past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M1	Matrix spike recovery was high, but the LCS recovery was acceptable.
M2	Matrix spike recovery was low, but the LCS recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
M4	The analysis of the spiked sample required a dilution such that the spike recovery calculation does not provide useful information. The LCS recovery was acceptable.
Q5C	After two pH adjustments, the method-specified pH was not achieved.
U	Less than MDL.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
0.30R>S	% recovery not applicable; spike level is less than 30% of the sample concentration
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable



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Attachment 2



One Government Gulch - PO Box 929

Kellogg, ID 83837-0929

(208) 784-1258

www.svl.net**Newmont - Cripple Creek & Victor**

Post Office Box 191

Victor, CO 80860

Work Order: **X3F0212**

Reported: 01-Aug-23 09:44

Client Sample ID: **RB-0612**

Sampled: 12-Jun-23 08:07

Received: 14-Jun-23

Sampled By: PB

SVL Sample ID: **X3F0212-06 (Ground Water)****Sample Report Page 1 of 2**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total Recoverable--reportable as Total per 40 CFR 136)										
EPA 200.7	Calcium	< 0.100	mg/L	0.100	0.035		X325062	SMU	06/27/23 18:01	
EPA 200.7	Magnesium	< 0.500	mg/L	0.500	0.045		X325062	SMU	06/27/23 18:01	
EPA 200.7	Potassium	< 0.50	mg/L	0.50	0.09		X325062	AS	07/03/23 11:34	
SM 2340 B	Hardness (as CaCO ₃)	< 2.31	mg/L	2.31	0.543		N/A		06/27/23 18:01	

Metals (Dissolved)

EPA 200.7	Aluminum	< 0.080	mg/L	0.080	0.054		X324274	SMU	06/29/23 17:53	
EPA 200.7	Barium	< 0.0020	mg/L	0.0020	0.0019		X324274	SMU	06/29/23 17:53	
EPA 200.7	Beryllium	< 0.00200	mg/L	0.00200	0.00080		X324274	SMU	06/29/23 17:53	
EPA 200.7	Boron	< 0.0400	mg/L	0.0400	0.0078		X324274	AS	07/03/23 09:07	
EPA 200.7	Cadmium	< 0.0020	mg/L	0.0020	0.0016		X324274	SMU	06/29/23 17:53	
EPA 200.7	Calcium	< 0.100	mg/L	0.100	0.069		X324274	SMU	06/29/23 17:53	
EPA 200.7	Chromium	< 0.0060	mg/L	0.0060	0.0020		X324274	SMU	06/29/23 17:53	
EPA 200.7	Cobalt	< 0.0060	mg/L	0.0060	0.0046		X324274	SMU	06/29/23 17:53	
EPA 200.7	Copper	< 0.0100	mg/L	0.0100	0.0027		X324274	SMU	06/29/23 17:53	
EPA 200.7	Iron	< 0.100	mg/L	0.100	0.056		X324274	SMU	06/29/23 17:53	
EPA 200.7	Lead	< 0.0075	mg/L	0.0075	0.0049		X324274	SMU	06/29/23 17:53	
EPA 200.7	Lithium	< 0.040	mg/L	0.040	0.025		X324274	SMU	06/29/23 17:53	
EPA 200.7	Magnesium	< 0.500	mg/L	0.500	0.090		X324274	SMU	06/29/23 17:53	
EPA 200.7	Manganese	< 0.0080	mg/L	0.0080	0.0034		X324274	SMU	06/29/23 17:53	
EPA 200.7	Molybdenum	< 0.0080	mg/L	0.0080	0.0034		X324274	SMU	06/29/23 17:53	
EPA 200.7	Nickel	< 0.0100	mg/L	0.0100	0.0048		X324274	SMU	06/29/23 17:53	
EPA 200.7	Potassium	< 0.50	mg/L	0.50	0.18		X324274	SMU	06/29/23 17:53	
EPA 200.7	Silver	< 0.0050	mg/L	0.0050	0.0019		X324274	SMU	06/29/23 17:53	
EPA 200.7	Sodium	< 0.50	mg/L	0.50	0.12		X324274	SMU	06/29/23 17:53	
EPA 200.7	Vanadium	< 0.0050	mg/L	0.0050	0.0019		X324274	SMU	06/29/23 17:53	
EPA 200.7	Zinc	0.0126	mg/L	0.0100	0.0054		X324274	SMU	06/29/23 17:53	
EPA 200.8	Antimony	< 0.00100	mg/L	0.00100	0.00072		X325099	SMU	06/28/23 13:32	
EPA 200.8	Arsenic	< 0.00100	mg/L	0.00100	0.00021		X325099	SMU	06/28/23 13:32	
EPA 200.8	Selenium	< 0.00100	mg/L	0.00100	0.00024		X325099	SMU	07/07/23 12:57	
EPA 200.8	Thallium	< 0.00100	mg/L	0.00100	0.00008		X325099	SMU	06/28/23 13:32	
EPA 200.8	Uranium	< 0.000100	mg/L	0.000100	0.000052		X325099	SMU	06/28/23 13:32	

Metals (Filtered)

EPA 245.1	Mercury	< 0.000200	mg/L	0.000200	0.000093		X324242	NMS	06/19/23 13:05	
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Classical Chemistry Parameters

ASTM D7237	Cyanide (free) @ pH 6 @20.0°C	< 0.0050	mg/L	0.0050	0.0048		X324213	HJL	06/22/23 17:23	
EPA 335.4	Cyanide (total)	< 0.0050	mg/L	0.0050	0.0038		X324264	JRR	06/20/23 11:29	
EPA 350.1	Ammonia as N	< 0.030	mg/L	0.030	0.013		X324218	ESL	06/22/23 18:06	
OIA 1677	Cyanide (WAD)	< 0.0050	mg/L	0.0050	0.0010		X324018	HJL	06/22/23 12:39	
SM 2310 B	Acidity to pH 8.3	< 10.0	mg/L as CaCO ₃	10.0			X325252	MWD	06/23/23 09:23	
SM 2320 B	Total Alkalinity	1.7	mg/L as CaCO ₃	1.0			X325026	MWD	06/19/23 14:29	
SM 2320 B	Bicarbonate	1.7	mg/L as CaCO ₃	1.0			X325026	MWD	06/19/23 14:29	
SM 2320 B	Carbonate	< 1.0	mg/L as CaCO ₃	1.0			X325026	MWD	06/19/23 14:29	
SM 2320 B	Hydroxide	< 1.0	mg/L as CaCO ₃	1.0			X325026	MWD	06/19/23 14:29	
SM 2540 C	Total Diss. Solids	< 10	mg/L	10			X324237	TJL	06/19/23 14:50	
SM 2540 D	Total Susp. Solids	< 5.0	mg/L	5.0			X324238	TJL	06/19/23 16:00	
SM 4500 H B	pH @19.0°C	6.5	pH Units				X325026	MWD	06/19/23 14:29	H5

SVL holds the following certifications:

AZ:0538, ID:ID00019, NV:ID000192007A, UT(TNI):ID000192015-1, WA:C573

Work order Report Page 12 of 23



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Kellogg, ID 83837-0929

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Work Order: **X3F0212**

Reported: 01-Aug-23 09:44

Client Sample ID: **RB-0612**SVL Sample ID: **X3F0212-06 (Ground Water)**

Sampled: 12-Jun-23 08:07

Received: 14-Jun-23

Sampled By: PB

Sample Report Page 2 of 2

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Chloride	< 0.20	mg/L	0.20	0.02		X324143	RS	06/14/23 20:00	
EPA 300.0	Fluoride	< 0.100	mg/L	0.100	0.017		X324143	RS	06/14/23 20:00	
EPA 300.0	Nitrate as N	< 0.050	mg/L	0.050	0.013		X324143	RS	06/14/23 20:00	H3
EPA 300.0	Nitrate+Nitrite as N	< 0.100	mg/L	0.100	0.044		X324143	RS	06/14/23 20:00	H3
EPA 300.0	Nitrite as N	< 0.050	mg/L	0.050	0.031		X324143	RS	06/14/23 20:00	H3
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.18		X324143	RS	06/14/23 20:00	

Cation/Anion Balance and TDS Ratios

Cation Sum: 0.03 meq/L

Anion Sum: 0.04 meq/L

C/A Balance: -23.69 %

Calculated TDS: 1

TDS/cTDS: 0.00

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kathryn Salter
Project Manager



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Attachment 3

Table 1: TVS Calculations & Comparison

GV-06		
Sample Date:		6/12/2023
Data for Calculations:		
pH	6.72	std units
Hardness	158	mg/L
Temperature	7.1	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	29.433	6.415
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	0.00275	0.00101
Cadmium (T)	0.00500	---
Chromium (III)	---	0.10780
Chromium (III) (Total)	0.05000	---
Hexavalent Chromium	0.01600	0.01100
Copper	0.02068	0.01324
Iron	---	0.30000
Iron (T)	---	1.00000
Lead	0.10587	0.00413
Lead (T)	0.05000	---
Manganese	3.47709	1.92109
Mercury (T)	---	0.00001
Molybdenum (T)	---	0.15000
Nickel	0.68949	0.07658
Nickel (T)	---	0.10000
Selenium	0.01840	0.00460
Silver	0.00446	0.00016
Uranium	3.97701	2.48415
Zinc	0.24254	0.18370
GV-06 Results		
Physical		
6.72		
7.1		
Inorganic		
< 0.03		
< 0.04		
8.3		
< 0.02		
< 0.005		
< 0.05		
< 0.05		
< 0.05		
89.3		
< 0.05		
Metals		
< 0.001		
< 0.001		
< 0.0001		
< 0.0001		
< 0.006		
< 0.011		
< 0.005		
< 0.0004		
0.462		
0.676		
< 0.0002		
< 0.0002		
0.815		
< 0.000093		
< 0.008		
< 0.01		
< 0.01		
< 0.001		
0.000082		
0.000742		
< 0.01		