

STATE OF  
COLORADO

Lennberg - DNR, Patrick &lt;patrick.lennberg@state.co.us&gt;

**RE: [EXTERNAL] Re: CC&V Response - Grassy Valley Dec**

1 message

**Joshua Adams** <Joshua.Adams@newmont.com>

Fri, Apr 19, 2024 at 9:09 AM

To: "Lennberg - DNR, Patrick" &lt;patrick.lennberg@state.co.us&gt;, Norma Townley &lt;Norma.Townley2@newmont.com&gt;

Cc: Elliott Russell - DNR &lt;elliott.russell@state.co.us&gt;, Katie Blake &lt;Katie.Blake@newmont.com&gt;, Johnna Gonzalez &lt;Johnna.Gonzalez@newmont.com&gt;, Zach Trujillo - DNR &lt;zach.trujillo@state.co.us&gt;

Patrick,

Apologies for the mix up. Please see the attached responses for Additional Information Required No.2 - Grassy Valley Monthly Monitoring December 2023. Let us know if you have questions. Thank you!

**Newmont**  
CRIPPLE CREEK & VICTOR**Josh Adams, PG**

SITE WATER COORDINATOR

Cripple Creek &amp; Victor Gold Mining Company

Victor, CO 80860

O 719.851.4260

M 719.323.0438

NEWMONT.COM

**From:** Lennberg - DNR, Patrick <patrick.lennberg@state.co.us>**Sent:** Friday, April 19, 2024 7:31 AM**To:** Norma Townley <Norma.Townley2@newmont.com>**Cc:** Elliott Russell - DNR <elliott.russell@state.co.us>; Katie Blake <Katie.Blake@Newmont.com>; Johnna Gonzalez <Johnna.Gonzalez@newmont.com>; Joshua Adams <Joshua.Adams@newmont.com>; Zach Trujillo - DNR <zach.trujillo@state.co.us>**Subject:** [EXTERNAL] Re: CC&V Response - Grassy Valley

Good Morning,

The response attached to this email is the original response from February 29, 2024 and appears to have been accidentally re-submitted as the response to the Division's second request for additional information.

Please submit the correct response as soon as you are able.

Thank you,

Patrick

On Thu, Apr 11, 2024 at 3:17 PM Norma Townley <[Norma.Townley2@newmont.com](mailto:Norma.Townley2@newmont.com)> wrote:

Patrick, attached please find our response to Additional information Grassy Valley. If you have any questions please reach out to [Joshua.Adams@Newmont.com](mailto:Joshua.Adams@Newmont.com) or [Katie.Blake@Newmont.com](mailto:Katie.Blake@Newmont.com). Thank you.



**Newmont**  
CRIPPLE CREEK & VICTOR

***Norma Townley***

Business Assistant | Newmont | T 719-851-4255

Newmont

Cripple Creek & Victor Gold Mine

PO Box 191

100 N.3<sup>rd</sup> Street

Victor CO 80860

[www.newmont.com](http://www.newmont.com)

Email: [Norma.Townley2@Newmont.com](mailto:Norma.Townley2@Newmont.com)

**\*\*Office hours Monday-Thursday, 6:00 AM-4:30PM MT\*\***

Please consider the environment before printing this e-mail

--

**Patrick Lennberg**

**Environmental Protection Specialist**



**COLORADO**  
Division of Reclamation,  
Mining and Safety  
Department of Natural Resources

P 303.866.3567 x8114 | F 303.832.8106

Physical Address: [1313 Sherman Street, Room 215, Denver, CO 80203](#)

**Address for FedEx, UPS, or hand delivery:**

[1001 E 62nd Ave, Denver, CO 80216](#)

[Patrick.Lennberg@state.co.us](mailto:Patrick.Lennberg@state.co.us) | <https://drms.colorado.gov>



---

**CC&V Response - AddInfoNeeded#2GrassyValleyMonitoring\_Dec2023 (1) (1).pdf**  
909K



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 COMMUNICATION

April 11, 2024

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, Grassy Valley Groundwater and Surface Water Monitoring Report December 2023; Permit No. M-1980-244**

Dear 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, Grassy Valley Groundwater and Surface Water Monitoring Report December 2023; Permit No. M-1980-244*. CC&V has reviewed the additional information required in the letter dated March 13, 2024 from DRMS and has prepared the following responses for each comment. The DRMS comment (**in bold**) and CC&V's corresponding response (*in italics*) is presented below.

- 1. Provide an update on the investigation into wells GVMW-4A and GVMW-15A, have samples been collected and what were the results of the pumping? If samples were collected provide the results.**

**If the Operator has not performed the investigation provide a time frame for when it will occur and commit to informing the Division when the field investigation is complete.**

**Has the Operator acquired a water level meter that can gauge GVMW-15C? If so, please provide that information and if not, when is that equipment expected?**



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)

*After investigation, the total depth in GVMW-4A was approximately 365 feet below ground surface (bgs) during the March sampling event which is consistent with the documentation for this well. A sample was collected in March 2024 from this well and field and laboratory analytical results will be provided in the March 2024 Monitoring Report.*

*Total depth in GVMW-15A was recorded as 682 feet bgs during the March sampling event. A sample was collected from this well in February 2024 (results provided in the monthly report) and results from the sample collected in March 2024 will be provided in the March 2024 monitoring report.*

*CC&V did acquire a 1000' water level indicator and inspected GVMW-15C on March 13 2024, at this inspection CC&V recorded this well as dry at 440 feet bgs. Investigation of this well is documented in the February 2024 Monitoring report.*

- 2. In response to the Division's question about the Operator not sampling GVMW-7B the Operator provides a quote from the USGS National Field Manual for the Collection of Water Quality Data Book 9 Chapter A4 Section 4.2.2 that recommends against sampling wells with 5 feet or less water in them because of detritus in the bottom of the well may bias analytical results. What the Operator omitted from this citation is the following "Any reported interpretations of chemical analyses when sampling under such conditions must be clearly qualified and the well conditions documented." Clearly, there is a USGS procedure in place to address sampling a well with less than 5 feet of water in it and the Operator did not follow it. The majority of the sample collected from GVMW-7B is analyzed for dissolved constituents which requires field filtering water to remove most of the non-dissolved particles from the water sample mitigating potential impacts from the detritus.**

**Regardless of the incomplete USGS citation the approved QAPP for Grassy Valley clearly defines the procedure for sampling a well like GVMW-7B and the Operator did not follow the approved plan. Furthermore, if there is a concern about detritus in the bottom of the well the Operator can redevelop the well to remove any debris that may have accumulated over time or may potentially bias analytical results.**



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

**It is noted the Operator has sampled GVMW-7B six times since March 2023. Provide the GVMW- 7B field sheets for samples collected on March 14, July 19, September 26, October 17 and November 13, 2023**

*The referenced USGS citation contains multiple references that discourage sampling low-yield and low recovery wells. EPA low flow procedures also advise against sampling in scenarios when the depth to water within a well is below the screened interval. These precautions are to avoid biasing the samples and avoiding future misinterpretation of the results. CC&V believes that the currently approved QAPP needs to be revised to address these particular situations and would like to reach an agreement with the Division on how low-yield and small water column wells can be addressed moving forward. The requested field sheets are included as Attachment 1.*

- 3. For the list of wells below, provide a summary table that lists each well diameter (inches), well location (x, y in decimal degrees), ground surface elevation, top of casing elevation, total depth (feet below ground surface) and screened interval (feet below ground surface).**

Grassy Valley	GVMW-8A	GVMW-4A, GVMW-4B	GVPZ1
	GVMW-8B	GVMW-6A	GVPZ2
	GVMW-22A	GVMW-7A, GVMW-7B	GVPZ3
	GVMW-22B	GVMW-10	GVPZ4
	GVMW-25	GVMW-15A, GVMW-15B	
		GVMW-15C, GVMW-21A	
		GVMW-23A, GVMW-23B	
		GVMW-24A, GVMW-24B	
		OSABH-12	
		OSABH-14	
		OSABH-16	
		OSABH-17	
		OSABH-18	

*Requested information is included in Attachment 2.*

- 4. Provide an explanation on where the sediment built up to prevent sampling of GVMW-24A and how a similar situation will be avoided in the future**

*Sediment build up is occurring within the water column itself. Sediment laden water is blocking the intake of our pumps and preventing the pumping of water, as well as causing damage to our sampling equipment. CC&V plans to redeveloped the well in April 2024 to alleviate these conditions. After the well is redeveloped, CC&V will either low-flow sample the well or conduct*



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)


*a purge and return (via hand bailing) to attempt to collect samples in April 2024.*

- 5. The Division agrees that graphs are intended to be a depiction of trends in concentrations over time. However, those trends need to be accurate or at the very least provide clear information. In the case of Thallium in GVMW-25, there are numerous spikes in the graphs and as depicted lead the reviewer to believe that Thallium has actually been detected when in fact it is a product of routine laboratory dilution of the sample. A reviewer has to take additional time to locate the lab data sheet for that analyte to determine if it was actually detected or follow up with an adequacy question inquiring about the detection. The Operator has an opportunity to update graph symbols or provide a brief narrative to address these dilution instances.**

*As shown in the February 2024 Grassy Valley Monitoring Report, CC&V provided a narrative to address dilutions and other qualifications within the discussion section of the report. This will be the format moving forward.*

Should the Division required further information regarding the above responses, please do not hesitate to contact Josh Adams at 719-323-0438 or [Joshua.Adams@Newmont.com](mailto:Joshua.Adams@Newmont.com) or me at 719-851-4048 or [Katie.Blake@Newmont.com](mailto:Katie.Blake@Newmont.com).

Sincerely,

p.p. 3AF21101E9CC41A...

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  
J. Adams – CC&V



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)

## Attachment 1



Newmont Mining Co  
Cripple Creek & Victor Gold Mining Co

## Groundwater Sampling Log

Location : Grassy valleyDate: 3/14/23Technician: P. Barla / B. DoeringQuarter: 1Static Water Level (DTW): 42.5Well ID: GVMW 7BIs well Dry? NoIf so Dry at:        feetWell Depth: 50'

Time	Drawdown (ft)	pH (S.U.)	Cond. (uS/cm)	Temp. (°C)	Notes
10:15	0.5	7.08	1091	6.1	.5 L Per min
10:28	1.8	7.33	1083	7.3	
10:35	2.7	7.35	1086	9.2	
10:40	3.4	7.36	1086	9.1	

Sample Method: Low Flow Rate (gpm): ~.125 Time Start: 10:15 Time End: 10:40

Final Parameters	Stabilization Guidance	Met?	Comments
pH	7.36	0.1	<input checked="" type="checkbox"/> Y/N
Conductivity	1086	3%	<input checked="" type="checkbox"/> Y/N
Temp@	9.1	10%	<input checked="" type="checkbox"/> Y/N
Final H2O level	45.9	feet	

O/G visible: ☒ Y/NTurbid? ☒ Y/NEquipment Decontaminated: ☒ Y/NDecontamination procedure used: Triple rinse with liquinox. Deploy Pump was rinse. New tubing and filter used for Para Perisotic PumpSignature: [Signature]Weather: Mostly clear, cold, breezy

Newmont Mining Co  
Cripple Creek & Victor Gold Mining Co  
Groundwater Sampling Log

Location: Griessy valley

Date: 7/19/23

Technician: P. Barela

Quarter: 3

Static Water Level (DTW): 31.6

Well ID: GVMW-7B

Well Depth: 50

Is well Dry? NO

If so Dry at: —

feet

Time	Drawdown (ft)	pH (S.U.)	Cond. (uS/cm)	Temp. (°C)	Notes
43.1 48.5 9:35		7.63	1172	7.2	started Pumping 6.34 L/P
9:40	11.5	7.30	1176	7.4	
9:45	16.9	—	—	—	Dried out / stopped Pumping
38.3 11:25		7.33	1164	7.1	collected sample.

Sample Method: Surge & return Rate (gpm): ~1.67 Time Start: 9:35 Time End: 11:25

Final Parameters	Stabilization Guidance	Met?	Comments
pH	7.33	0.1	Y/N
Conductivity	1164	3%	Y/N
Temp@	7.1	10%	Y/N
Final H2O level	38.3	feet	

O/G visible: Y/N

Turbid? Y/N

Equipment Decontaminated: Y/N

Decontamination procedure used: Triple rinse w/liquinex : Pump & Sounder

use new tubing & Filter

Weather: sunny, hot

Signature: [Signature]

**Newmont Mining Co**  
**Cripple Creek & Victor Gold Mining Co**

**Groundwater Sampling Log**

Location : Grassy valley Date: 9/26/23  
 Technician: P. Barela Quarter: 3  
 Static Water Level (DTW): 33.3 Well ID: GVMW-7B  
 Is well Dry? NO If so Dry at: — Well Depth (TD): 50  
 feet

Time	Drawdown (ft)	pH (S.U.)	Cond. (uS/cm)	Temp. (°C)	Notes
9:53		6.24	842.0	6.6	Started Pumping 4.18 4/m
9:58	7.7	6.51	836.5	6.5	
10:01					Stopped Pumping / dry
11:06		7.10	931.2	7.7	

Sample Method: Purge & return Rate (gpm): ~1.10 Time Start: 9:53 Time End: 11:06

Final Parameters	Stabilization Guidance	Met?	Comments
pH	7.10	0.1	Y / N
Conductivity	931.2	3%	Y / N
Temp@	7.7	10%	Y / N
Final H2O level		feet	

O/G visible: Y / N Turbid? Y / N

Equipment Decontaminated: Y / N

Decontamination procedure used: Triple rinse w/119quinox before sampling

Weather: Clear, Sunny

Signature: [Signature]

**Well Volume Calculation:**

For 2" Diameter Well (gal):  $V(\text{gal}) = 0.1632 * h(\text{ft})$

For 2" Diameter Well (L):  $V(\text{L}) = 0.61778 * h(\text{ft})$

Water Column Calculation:  $h(\text{ft}) = \text{Total Depth(TD)}(\text{ft}) - \text{Depth to Water(DTW)}(\text{ft})$

Well Volume Purge Method:  $\text{Three Well Volumes} = 3 * V$

For 4" Diameter Well (gal):  $V(\text{gal}) = 0.6528 * h(\text{ft})$

For 4" Diameter Well (L):  $V(\text{L}) = 2.471 * h(\text{ft})$

**Conversions:**

$1\text{ft}^3 = 7.48\text{ gal}$

$1\text{gal} = 3.785\text{ L}$

**Show Calculations:**

Newmont Mining Co  
Cripple Creek & Victor Gold Mining Co

## Groundwater Sampling Log

Location: Grassy valleyDate: 10/17/23Technician: P. BarelaQuarter: 4Static Water Level (DTW): 33.8Well ID: GVMW-7BWell Depth (TD): 50 feetIs well Dry? NO

If so Dry at: \_\_\_\_\_

Time	Depth to Water (ft)	Drawdown (ft)	pH (S.U.)	Cond. (uS/cm)	Temp. (°C)	Notes
8:53			6.32	986.5	6.5	
9:00	47.7					Stopped Pumping
10:20	46		7.22	1032	8.4	

Sample Method: Purge & return

Rate (gpm): \_\_\_\_\_

\* Flow rate at stabilization (during sample collection)

Time Start: 8:53Time End: 10:20

Final Parameters	Stabilization Guidance	Met?	Comments
pH	7.22	Y / N	
Conductivity	1032	Y / N	
Temp	8.4	Y / N	
DTW Stabilized	46	Y / N	
Final H2O level	46		

If Low Flow Method: Drawdown greater than 0.33 ft?

Y / ☒ N

If yes, required pump vol (gal): \_\_\_\_\_ following stabilization

Actual vol. pumped (gal) \_\_\_\_\_

\* See Field Volume Guide

O/G visible:

Y / N

Turbid?

Y / N

Equipment Decontaminated:

☒ Y / N

Decontamination procedure used:

Triple rinse w/liquinox before sampling

Weather:

Clear, sunny

Signature:

[Signature]

## Volume Calculations:

For 2" Diameter Well (gal):  $V(\text{gal}) = 0.1632 \cdot h(\text{ft})$ For 4" Diameter Well (gal):  $V(\text{gal}) = 0.6528 \cdot h(\text{ft})$ Other Diameter Well & Tubing Vol (gal):  $V(\text{gal}) = 0.1632 \cdot (r(\text{in}))^2 \cdot h(\text{ft})$ Water Column Calculation:  $h(\text{ft}) = \text{Total Depth (TD)}(\text{ft}) - \text{Depth to Water (DTW)}(\text{ft})$ Well Volume Purge Method: Three Well Volumes =  $3 \cdot V$ 

## Conversions:

 $1 \text{ ft}^3 = 7.48 \text{ gal}$  $1 \text{ gal} = 3.785 \text{ L}$ 

## Show Calculations:



Newmont Mining Co  
Cripple Creek & Victor Gold Mining Co

## Groundwater Sampling Log

Location: Grassy ValleyTechnician: P. BarelaStatic Water Level (DTW): 39.4Date: 11-13-23Quarter: 4Well ID: GVMW-7BWell Depth (TD): 50  
feetIs well Dry? NOIf so Dry at: —

Time	Depth to Water (ft)	Drawdown (ft)	pH (S.U.)	Cond. (uS/cm)	Temp. (°C)	Notes
9:58			7.18	1017	6.6	Started Pumping
10:05	48	8.6				Stopped Pumping
11:54	46.9		8.17	1000	8.0	collected sample

Sample Method: Purge & return Rate (gpm): — Time Start: 9:58 Time End: 11:54  
\* Flow rate at stabilization (during sample collection)

Final Parameters	Stabilization Guidance	Met?	Comments
pH	8.17	0.1	Y / N
Conductivity	1000	3%	Y / N
Temp@	8.0	3%	Y / N
DTW Stabilized	46.9	feet	Y / N
Final H2O level	46.9	feet	

If Low Flow Method: Drawdown greater than 0.33 ft? Y / N If yes, required pump vol (gal): — Actual vol. pumped (gal) —  
\* See Field Volume Guide following stabilizationO/G visible: Y / NEquipment Decontaminated: Y / NDecontamination procedure used: Triple rinse w/liquinox before samplingTurbid? Y / N  
lightWeather: clear, warmSignature: [Signature]

## Volume Calculations:

For 2" Diameter Well (gal):  $V(\text{gal}) = 0.1632 * h(\text{ft})$ For 4" Diameter Well (gal):  $V(\text{gal}) = 0.6528 * h(\text{ft})$ Other Diameter Well & Tubing Vol (gal):  $V(\text{gal}) = 0.1632 * (r(\text{in}))^2 * h(\text{ft})$ Water Column Calculation:  $h(\text{ft}) = \text{Total Depth (TD)}(\text{ft}) - \text{Depth to Water (DTW)}(\text{ft})$ Well Volume Purge Method: Three Well Volumes  $\div 3 * V$ 

## Conversions:

 $1\text{ft}^3 = 7.48\text{ gal}$  $1\text{gal} = 3.785\text{ L}$ 

## Show Calculations:



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)

## Attachment 2

SITE	Diameter (in)	Latitude	Longitude	Land Surface Elev Z	Measuring Point Elevation	TD (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
GVMW 22A-90	4	38.74077646	-105.1110422	9765.5	9766.7	91.9	70	90
GVMW 22B-30	4	38.74082734	-105.1110734	9766.1	9767.5	32.1	5	30
GVMW 8A-250	3	38.74134673	-105.1202299	9882.5	9883.6	244.45	200	250
GVMW 8B-50	3	38.74133335	-105.1201662	9882.2	9883.3	49.5	20	50
GVMW-25	4	38.74028757	-105.1196407	9864.6	9866.6	78.6	69	78
GVMW 4A-480	4	38.75044877	-105.1340429	10026.2	10027.7	480	430	480
GVMW 4B-50	4	38.75046215	-105.1340218	10026.0	10027.6	50	30	50
GVMW 6A-200	3	38.75244494	-105.1151788	10264.5	10266.0	194.55	160	200
GVMW 7A-200	3	38.74768697	-105.1243913	9954.2	9955.7	198	155	195
GVMW 7B-50	3	38.74771399	-105.12443	9954.0	9955.9	50	20	50
GVMW 10-270	3	38.74438408	-105.1252417	9958.2	9959.5	264.4	210	270
GVMW 15A-820	4	38.74946811	-105.1357596	10046.9	10046.9	820	700	800
GVMW 15B-102	4	38.74941232	-105.135647	10045.4	10045.4	102	78.5	98.5
GVMW 15C-1000	4	38.74950093	-105.1358985	10046.9	10051.9	1000	unkown	unknown
GVMW 21A-190	4	38.75399135	-105.1320774	10185.4	1087.3	190	140	190
GVMW 23A-65	4	38.74456456	-105.1113666	9978.3	9980.1	65.0	20	60
GVMW 23B-30	4	38.74459333	-105.1113535	9978.6	9980.4	31.5	10	30
GVMW 24A-250	4	38.73781415	-105.1187329	9914.0	9917.0	250	210	250
GVMW 24B-100	4	38.73776304	-105.1187142	9914.5	9917.2	100.4	80	100
OSABH-12	2	38.73772243	-105.1187148	9915.8	9918.4	39.00	29	39
OSABH-14	2	38.7413539	-105.1203234	9880.7	9882.7	28.90	18	28
OSABH-16	2	38.74447669	-105.125366	9959.7	9961.3	40.50	30	40
OSABH-17	2	38.74832178	-105.1327161	10021.6	10022.9	30.35	20	30
OSABH-18	2	38.74946251	-105.1358994	10047.7	10049.8	51.70	40	50
GVPZ-01	2	38.75098801	-105.137207	10090	10092	38.45	8	38
GVPZ-02	2	38.75148773	-105.1378555	10090	10092	31.35	9	29
GVPZ-03	2	38.75223923	-105.1388168	10103	10105	20.7	9	19
GVPZ-04	2	38.75299072	-105.140625	10133	10135	41.35	9	39

Wells removed by mining operations (WHEX)