



Additional Information Request, TR10 4th quarter 2022 report

1 message

Daniel Takami <danieltakami@gmail.com>

Fri, Apr 7, 2023 at 11:03 AM

To: Patrick Lennberg - DNR <patrick.lennberg@state.co.us>, Sergio Rivera <sergio.rivera@novametallix.com>, Je'an-Paul Brewer <jpbrewer@nedmining.com>

Patrick,

Enclosed is Grand Island Resources additional information response concerning our 4th quarter TR10 report and DRMS request for additional information. If you need any additional clarification, please let us know.

Respectfully,

Daniel J. Takami

President, Sustainable Metal Solutions, LLC

President, Nederland Mining Consultants Inc.

President, Grand Island Resources, LLC

danieltakami@gmail.com

501.256.4444

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2023.04.01 DRMS TR10 4th Quarter 2022 Additional Information Responses - Signed.pdf

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Division of Reclamation, Mining & Safety
c/o Mr. Patrick Lennberg
1001 E 62nd Ave,
Room 215
Denver, CO 80216

RE: Additional Information Required, 4th Quarter 2022 Groundwater and Surface Water Monitoring Report; Cross Gold Mine, Permit No. M-1977-410

Dear Mr. Lennberg:

This is responsive to your letter dated March 2, 2022. Grand Island Resources (“GIR”).

General

1. *It appears the Operator is using the laboratory duplicate (laboratory replicate) analysis in place of collecting a field duplicate samples for groundwater and effluent media. An analytical laboratory replicate is a subsample of a routine sample that is homogenized, divided into separate containers, and analyzed using the same analytical method. It is used to determine method precision, but because it is a non-blind sample, or known to the analyst, it can only be used by the analyst as an internal control tool and not as an unbiased estimate of analytical precision.*

Field duplicate samples are samples obtained side-by-side with the primary sample and treated as separate samples throughout the remaining sample handling and analytical processes. These samples are used to assess error associated with sample heterogeneity, sample methodology and analytical procedures. An assessment of field duplicate samples is completed by using the Relative Percent Difference.

Finally, the SAP approved under TR10 states field duplicate samples will be collected side-by-side with the primary sample. The Operator shall collect one field duplicate sample for each media sampled (groundwater, effluent, and surface water), for a total of 3 duplicate samples to be collected per sampling event as committed to in TR10.

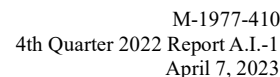
GIR Response:

Going forward GIR will collect field duplicates Samples side-by-side with the primary sample for each of the sampled media (groundwater, effluent and surface water); for a total of 3 duplicate samples per sampling event.

2. *In future reports, please provide a footnote for the tables that defines what “ND” means.*

GIR Response:

Going forward, GIR will update the table indicating that “ND” means “Not Detected”.



GIR Response:

Groundwater

GIR Response:

Sample Collected on:	October 27, 2022					
Parameter	Standard	Cross Well	Caribou Well	Cabin Well (Compliance)	Unit	Comments
2-Chlorophenol	0.0002	ND	ND	ND	mg/l	Total - Std in mg/l; results in ug/l
Aluminum (Al)	5	ND	0.003	ND	mg/l	Dissolved
Antimony (Sb)	0.006	ND	ND	ND	mg/l	Dissolved
Arsenic (As)	0.01	ND	ND	ND	mg/l	Dissolved
Asbestos	7,000,000	ND	ND	ND	fibers/liter	Total
Barium (Ba)	2	0.0275	0.0057	0.0382	mg/l	Dissolved
Beryllium (Be)	0.004	ND	ND	ND	mg/l	Dissolved
Beta and Photon Emitters	4	<3	<2.8	<3	mrem/year	Std is in mrem/year; Lab reports pCi/l
Boron (B)	0.75	ND	ND	ND	mg/l	Dissolved
Cadmium (Cd)	0.005	0.0002	ND	ND	mg/l	Dissolved
Chloride (Cl)	250	3.15	0.41	2.86	mg/l	Dissolved
Chromium (Cr)	0.1	ND	ND	ND	mg/l	Dissolved
Cobalt (Co)	0.05	0.0002	0.0003	0.0002	mg/l	Dissolved
Coliform (Max Total)	23	ND	ND	ND	org/100 ml	Total - Std in org/100 ml; Lab reports mpn/100ml
Coliform 30-day avg. Total	2.2	ND	ND	ND	org/100 ml	Total - Std in org/100 ml; Lab reports mpn/100ml
Color	15	ND	ND	ND	color units	--
Copper (Cu)	0.2	0.0070	0.4407	ND	mg/l	Dissolved
Corrosivity	Non Corrosive	-2.33	-3.52	-2.04	Langelier Units	--
Cyanide [Free] (Cn)	0.2	ND	ND	ND	mg/l	Total
Fluoride (F)	2	ND	ND	ND	mg/l	Dissolved
Foaming Agents	0.5	ND	ND	ND	mg/l	Total
Gross Alpha Particle Activity	15	<0.1	0.3	0.2	pCi/l	--
Iron (Fe)	0.3	ND	ND	0.005	mg/l	Dissolved
Lead (Pb)	0.05	0.0006	0.0004	0.0002	mg/l	Dissolved
Lithium (Li)	2.5	ND	ND	ND	mg/l	Dissolved
Manganese (Mn)	0.05	0.0010	ND	0.0092	mg/l	Dissolved
Mercury (inorganic) (Hg)	0.002	ND	ND	ND	mg/l	Dissolved
Molybdenum (Mo)	0.21	0.0006	ND	0.0042	mg/l	Dissolved
Nickel (Ni)	0.1	ND	ND	ND	mg/l	Dissolved
Nitrate (NO3)	10	0.25	0.12	0.30	mg/l as N	Dissolved
Nitrate-NitriteTotal	10	0.25	0.12	0.30	mg/l as N	Dissolved
Nitrite (NO2)	1	ND	ND	ND	mg/l as N	Dissolved
Odor	3	ND	ND	ND	threshold odor numbers	--
pH (field)	6.5 - 8.5	7.3	7	7.3	pH units	--
Phenol	0.3	ND	ND	ND	mg/l	Total - Std in mg/l; Lab reports in ug/l
Selenium (Se)	0.02	ND	ND	ND	mg/l	Dissolved
Silver (Ag)	0.05	ND	ND	ND	mg/l	Dissolved
Silver Total		ND	ND	ND	mg/l	Total
Sulfate (SO4)	250	9.29	2.66	9.27	mg/l	Dissolved
TDS	400	88	41	79	mg/l	Total
Thallium (Tl)	0.002	ND	ND	ND	mg/l	Dissolved
Uranium (U)	0.0168 - 0.03	ND	ND	ND	mg/l	Dissolved
Vanadium (V)	0.1	ND	ND	ND	mg/l	Dissolved
Zinc (Zn)	2	1.25	0.005	0.080	mg/l	Dissolved

"ND" indicates "Not Detected"

Effluent

5. In Tables 3.2 and 3.3 the exceedance of the pH standard from the Caribou Portal is not highlighted. Please revise and resubmit the table.

GIR Response:

Corrected Tables 3.2 and 3.3 are provided below.

Corrected Table 3.2 – Effluent Test Results November 2022

Sample Collected on: November 29, 2022					
Parameter	Standard	Cross Portal	Caribou Portal	Unit	Comments
2-Chlorophenol	0.0002	ND	ND	mg/l	Total - Std in mg/l; results in ug/l
Aluminum (Al)	5	0.002	0.002	mg/l	Dissolved
Antimony (Sb)	0.006	ND	ND	mg/l	Dissolved
Arsenic (As)	0.01	ND	0.0007	mg/l	Dissolved
Asbestos	7,000,000	ND	ND	fibers/liter	Total
Barium (Ba)	2	0.0711	0.054	mg/l	Dissolved
Beryllium (Be)	0.004	ND	ND	mg/l	Dissolved
Beta and Photon Emitters	4	<2.9	<2.7	mrem/year	Std is in mrem/year; Lab reports pCi/l
Boron (B)	0.75	ND	ND	mg/l	Dissolved
Cadmium (Cd)	0.005	0.0009	ND	mg/l	Dissolved
Chloride (Cl)	250	0.38	0.54	mg/l	Dissolved
Chromium (Cr)	0.1	ND	ND	mg/l	Dissolved
Cobalt (Co)	0.05	ND	ND	mg/l	Dissolved
Coliform (Max Total)	23	ND	ND	org/100 ml	Total - Std in org/100 ml; Lab reports mpn/100ml
Coliform 30-day avg. Total	2.2	ND	ND	org/100 ml	Total - Std in org/100 ml; Lab reports mpn/100ml
Color	15	ND	ND	color units	--
Copper (Cu)	0.2	0.0019	ND	mg/l	Dissolved
Corrosivity	Non Corrosive	-1.11	-0.31	Langelier Units	--
Cyanide [Free] (Cn)	0.2	ND	ND	mg/l	Total
Fluoride (F)	2	ND	ND	mg/l	Dissolved
Foaming Agents	0.5	ND	ND	mg/l	Total
Gross Alpha Particle Activity	15	1.6	4	pCi/l	--
Iron (Fe)	0.3	0.007	0.005	mg/l	Dissolved
Lead (Pb)	0.05	0.0009	0.0002	mg/l	Dissolved
Lithium (Li)	2.5	ND	ND	mg/l	Dissolved
Manganese (Mn)	0.05	0.0129	0.0031	mg/l	Dissolved
Mercury (inorganic) (Hg)	0.002	ND	ND	mg/l	Dissolved
Molybdenum (Mo)	0.21	0.0073	0.0057	mg/l	Dissolved
Nickel (Ni)	0.1	ND	ND	mg/l	Dissolved
Nitrate (NO3)	10	0.07	0.12	mg/l as N	Dissolved
Nitrate-NitriteTotal	10	0.07	0.12	mg/l as N	Dissolved
Nitrite (NO2)	1	ND	ND	mg/l as N	Dissolved
Odor	3	ND	ND	threshold odor numbers	--
pH (field)	6.5 - 8.5	8.2	8.6	pH units	--
Phenol	0.3	ND	ND	mg/l	Total - Std in mg/l; Lab reports in ug/l
Selenium (Se)	0.02	ND	ND	mg/l	Dissolved
Silver (Ag)	0.05	ND	ND	mg/l	Dissolved
Silver Total		ND	ND	mg/l	Total
Sulfate (SO4)	250	10.97	10.51	mg/l	Dissolved
TDS	400	143	136	mg/l	Total
Thallium (Tl)	0.002	ND	ND	mg/l	Dissolved
Uranium (U)	0.0168 - 0.03	0.0009	0.0059	mg/l	Dissolved
Vanadium (V)	0.1	ND	ND	mg/l	Dissolved
Zinc (Zn)	2	0.206	0.008	mg/l	Dissolved

The highlighted cells indicate Test Results Higher than the Reference Values from Reg. 5 CCR 1002-41

"ND" indicates "Not Detected"

Corrected Table 3.3 – Effluent Test Results December 2022

Sample Collected on: December 20, 2022					
Parameter	Standard	Cross Portal	Caribou Portal	Unit	Comments
2-Chlorophenol	0.0002	ND	ND	mg/l	Total - Std in mg/l; results in ug/l
Aluminum (Al)	5	0.001	ND	mg/l	Dissolved
Antimony (Sb)	0.006	ND	ND	mg/l	Dissolved
Arsenic (As)	0.01	ND	ND	mg/l	Dissolved
Asbestos	7,000,000	ND	ND	fibers/liter	Total
Barium (Ba)	2	0.073	0.06	mg/l	Dissolved
Beryllium (Be)	0.004	ND	ND	mg/l	Dissolved
Beta and Photon Emitters	4	<2.8	2.8	mrem/year	Std is in mrem/year; Lab reports pCi/l
Boron (B)	0.75	ND	ND	mg/l	Dissolved
Cadmium (Cd)	0.005	0.001	ND	mg/l	Dissolved
Chloride (Cl)	250	0.33	0.49	mg/l	Dissolved
Chromium (Cr)	0.1	ND	ND	mg/l	Dissolved
Cobalt (Co)	0.05	ND	ND	mg/l	Dissolved
Coliform (Max Total)	23	ND	ND	org/100 ml	Total - Std in org/100 ml; Lab reports mpn/100ml
Coliform 30-day avg. Total	2.2	ND	ND	org/100 ml	Total - Std in org/100 ml; Lab reports mpn/100ml
Color	15	ND	ND	color units	--
Copper (Cu)	0.2	0.0017	ND	mg/l	Dissolved
Corrosivity	Non Corrosive	-0.12	-0.61	Langelier Units	--
Cyanide [Free] (Cn)	0.2	ND	ND	mg/l	Total
Fluoride (F)	2	ND	ND	mg/l	Dissolved
Foaming Agents	0.5	ND	ND	mg/l	Total
Gross Alpha Particle Activity	15	1	3.7	pCi/l	--
Iron (Fe)	0.3	0.005	0.006	mg/l	Dissolved
Lead (Pb)	0.05	0.0006	0.0004	mg/l	Dissolved
Lithium (Li)	2.5	ND	ND	mg/l	Dissolved
Manganese (Mn)	0.05	0.0115	0.0014	mg/l	Dissolved
Mercury (inorganic) (Hg)	0.002	ND	ND	mg/l	Dissolved
Molybdenum (Mo)	0.21	0.0082	0.0067	mg/l	Dissolved
Nickel (Ni)	0.1	ND	ND	mg/l	Dissolved
Nitrate (NO3)	10	ND	ND	mg/l as N	Dissolved
Nitrate-NitriteTotal	10	0.08	0.14	mg/l as N	Dissolved
Nitrite (NO2)	1	ND	ND	mg/l as N	Dissolved
Odor	3	ND	ND	threshold odor numbers	--
pH (field)	6.5 - 8.5	8	8.6	pH units	--
Phenol	0.3	ND	ND	mg/l	Total - Std in mg/l; Lab reports in ug/l
Selenium (Se)	0.02	ND	ND	mg/l	Dissolved
Silver (Ag)	0.05	ND	ND	mg/l	Dissolved
Silver Total		ND	ND	mg/l	Total
Sulfate (SO4)	250	10.99	10.38	mg/l	Dissolved
TDS	400	80	141	mg/l	Total
Thallium (Tl)	0.002	ND	ND	mg/l	Dissolved
Uranium (U)	0.0168 -0.03	0.001	0.0072	mg/l	Dissolved
Vanadium (V)	0.1	ND	ND	mg/l	Dissolved
Zinc (Zn)	2	0.202	0.034	mg/l	Dissolved
The highlighted cells Indicate Test Results Higher than the Reference Values from Reg. 5 CCR 1002-41					
"ND" indicates "Not Detected"					

Surface Water

6. In reviewing the primary and duplicate surface water sample tables, Tables 4.1.1 and 5.3.1 respectively, it appears there is a discrepancy between the table values for Specific Conductance and Specific Conductance, Total. Please provide an explanation for the difference between the two tables.

GIR Response:

GIR contacted Eurofins Environmental Testing Laboratory regarding the Specific Conductance inconsistency provided in their Test Results.



Eurofins responded to GIR request on April 7, 2023 (via email to GIR):

“Eurofins wet chemistry group indicated today after they re-reviewed the data and they determined that there was a data entry error for the primary sample (2022-02 (280-168251-1)) that caused the result to be off by a factor of 10.

The primary sample is actually 220 umhos/cm instead of 23 umhos/cm. (rounding after the calculation is performed with unrounded numbers contributes to the less than perfect 10x difference).

Eurofins Environmental Testing Laboratory will re-issue to GIR the correct laboratory report”

GIR appreciates the opportunity to submit clarification regarding our 4th Quarter Water Collection and Testing in accordance with Technical Revision 10 (TR10).

Respectfully submitted,

Daniel J. Takami
President, Grand Island Resources LLC
danieltakami@gmail.com
501.256.4444