

April 14, 2021

File #: 2021-013-012-1

Ms. Diana Furman
GCC Rio Grande, Inc.
3372 Lime Road
Pueblo, CO 81004

Attn: Diana Furman
Environmental Engineer

Dear Ms. Furman,

Re: Review Response 2020 Annual Groundwater Report, M2002-004

This letter addresses comments from the Division of Reclamation, Mining and Safety (Division) from Mr. Patrick Lennberg, Environmental Protection Specialist, dated March 22, 2021. For ease of review, each Division comment has been restated in italics immediately followed by the corresponding response.

1. *Please provide additional information regarding naturally occurring seleniferous minerals in the Fort Hayes and other Formations at the site that may account for the selenium concentrations observed at the site.*

The reference citation for the information presented in the 2020 Annual Groundwater Report regarding naturally occurring seleniferous minerals in the Fort Hayes and other Formations at the site is:

Bern, C.R., and Stogner, R.W. Sr., 2017. The Niobrara Formation as a Challenge to Water Quality in the Arkansas River, Colorado, USA. *Journal of Hydrology: Regional Studies*, Volume 12, pp. 181-195. August.

This reference discusses the distinctive water quality impacts from the Niobrara Formation in the Arkansas River basin in the reach above Pueblo, which includes the Fort Hayes Limestone Member. The specific constituents documented here as significantly impacting water quality from Niobrara-influenced inflows are selenium, sulfate, magnesium, sodium and uranium. As stated in this reference on page 193, "The greater association of Se with pyrite, apparently in combination with

the more permeable and calcareous nature of the Niobrara Formation, appear to be driving factors for Se mobility in the aqueous system.”

2. *Currently the Boron standard at the site is 0.75 mg/L. A review of the Boron standard in Regulation 41 indicates the current standard is set to protect the following plants in ascending order of sensitivity: Pecan, Black Walnut, Persian (English) Walnut, Jerusalem Artichoke, Navy Bean, American Elm, Plum, Pear, Apple, Grape (Sultanina and Malaga), Kadota Fig, Persimmon, Cherry, Peach, Apricot, Thornless Blackberry, Orange, Avocado, Grapefruit, Lemon. It is not reasonable to expect that any of these crops will be water with groundwater near the site. Thus, the Division believes the standard for Boron should be set at 5.0 mg/L following guidance provided by footnote (g) of the regulation. Please commit to a Boron standard of 5.0 mg/L for future standard comparisons.*

GCC agrees with the Division’s position and commits to a Boron standard of 5.0 mg/L for future standard comparisons.

3. *In the Recommendation section, first bullet, the operator recommends collecting additional sample volume for analysis of major cations and anions to determine groundwater type. The Division agrees that this information will further the understanding of groundwater at the site. The operator should submit a Technical Revision for Division approval to change the analyte suite to be collected at the site. However, the Division does not want the lack of an approved Technical Revision to prohibit 1st quarter sample analysis for the updated analyte suite.*

GCC commits to the analysis of major cation and anions for compliance groundwater samples collected moving forward from the date of this letter. While the timing did not allow 1st quarter samples to include this additional analysis, the compliance groundwater suite has since been updated with the contract environmental laboratory and is already in place for upcoming 2nd quarter monitoring. This update to the compliance groundwater analyses will be included within a Technical Revision for Division approval submitted in 2021.

Yours sincerely,

Resource Hydrogeologic Services, Inc.



Landon Beck
Principal Hydrogeologist

Enclosures/Attachments: None

CC: None

