

STATE OF
COLORADO

Carter - DNR, Jocelyn <jocelyn.carter@state.co.us>

M-2002-004 GCC Pueblo - Notification of GW Discharge Exceedance 3Q 2024

1 message

Meghan Way <meghanway@gcc.com>

Fri, Sep 27, 2024 at 12:03 PM

To: "Carter - DNR, Jocelyn" <jocelyn.carter@state.co.us>

Cc: Landon Beck <lbeck@slrconsulting.com>, Amy Rodrigues <aveek@gcc.com>

Hi Jocelyn,

Pursuant to Rule 3.1.7(9), this email provides the notification of concentrations above Colorado state ag standards in groundwater samples collected as part of the recent 3rd Quarter 2024 groundwater sampling event at GCC's Pueblo Facility. On September 25th GCC received the final laboratory reports from ACZ Laboratories indicating concentrations above the ag standards for the samples collected on September 4th from MW-13 and MW-14. The reports provided the following results with exceedances noted in bold red text:

Parameter	State Ag Standard (µg/L)	Results MW-13 (µg/L)	Results MW-14 (µg/L)
Boron	750	1040	1340
Fluoride	2000	6130	3030

1. As noted in [Water Quality Control Commission, Regulation 41 - The Basic Standards for Groundwater](#), the boron standard of 750 µg/L 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. As there are no known growing operations with crop use of groundwater received from this facility, the applicable standard for boron is 5000 µg/L.

2. Fluoride is a naturally occurring constituent, usually present in ionic form in groundwater, and the solubility of fluoride-bearing minerals can be increased in waters that are generally low in calcium (Nordstrom and Smedley, 2022; Hem, 2005). It is likely that groundwater in the wells with elevated fluoride concentrations is saturated with respect to calcite (CaCO₃) and dissolved concentrations of calcium remain low as calcite precipitates, increasing the solubility of the fluoride ion in solution (Nordstrom and Smedley, 2022).

- Nordstrom, D.K., and P.L. Smedley, 2022. Fluoride in Groundwater. The Groundwater Project. Guelph, Ontario, Canada. Available at: <https://books.gw-project.org/fluoride-in-groundwater/>
- Hem, J.D., 2005. Study and Interpretation of the Chemical Characteristics of Natural Waters. U.S. Geological Survey Water-Supply Paper 1473. Available at: <https://pubs.er.usgs.gov/publication/wsp1473>

Let me know if you have any questions.

Thank you,



Meghan Way

Environmental Engineer- Pueblo Plant

O: 719-647-6861

C: 719-963-9308

GCC.com