Presbyterian Senior Living
Glen Meadows Retirement Community
Annual Drinking Water Quality Report For 2022

PWSID 0030208

July 1, 2023

We're very pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. Our water source consists of two wells that draw from an underground aquifer that has become influenced by surface water. At times (usually during high rainfall events) the source water becomes adversely affected by turbidity which may bring along with it coliform and fecal coliform bacteria. PSL constructed a surface water treatment plant consisting of ultrafiltration and reverse osmosis filtration that has been in service since November 2013 to effectively treat source water adversely affected by surface water contaminants.

The following report shows our water quality and what it means:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If you have any questions about this report or concerning your water, please contact Jack Bradshaw at 443-903-4758. We want our residents to be informed about their water.

Glen Meadows Retirement Community routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of **January 1st to December 31st, 2022**. As water travels over land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is the highest level of a contaminant

that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Turbidity: Turbidity is the measurement of the cloudiness of the water caused by suspended particles. Measurement of turbidity (which is performed continuously by the SWTP, source water and finished water instrumentation: (Hach turbidity meters) is an indication of filtration effectiveness.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or manmade. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426- 4791.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Radioactive Contaminants						
Alpha emitters (2020)	N	<1.0	pCi/1	0	15	Erosion of natural deposits
Beta/photon emitters (2019)	N	4.0	pCi/1	0	50	Decay of natural and man-made deposits
Combined radium (226 & 228) (2019)	N	0.8	pCi/1	0	5	Erosion of natural deposits
Gross alpha excluding radon and uranium	N	0.8	pCi/1	0	15	Erosion of natural deposits
Inorganic Contaminants						
Copper (2020)	N	0.215	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (2020)	N	1.000	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen) (annual)	N	>2.00	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride (2020)	N	ND (>0.2)	ppm	4	4	Erosion of natural deposits; water Additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Synthetic Organic Contaminants including Pesticides and Herbicides						
Di (2-ethylhexyl) phthalate	N	1.0	ug/l	0	6	Discharge from rubber and chemical factories
2,4-D (2013)	N	0.5	ug/l	70	70	Runoff from herbicide used on row crops
Volatile Organic Contaminants						

TTHM (Distribution) [Total trihalomethanes]	N	<2.5	ug/l	0	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5) (distribution) (2022)	N	<1.0	ug/l	0	60	By-product of drinking water chlorination
Unregulated Contaminants						
Chloroform (2022)	N	<0.5	ug/l	N/A	N/A	By product of chlorine disinfection
Bromoform (2022)	N	<1	ug/l	N/A	N/A	By product of chlorine disinfection
Bromodichloromethane (2022)	N	<0.5	ug/l	N/A	N/A	By product of chlorine disinfection
Dibromochloromethane (2022)	N	<0.5	ug/l	N/A	N/A	By product of chlorine disinfection
Regulated Contaminants						
Barium (2022)	N	0.005	ppm	2	2	Discharge of drilling waste: discharge From metal refineries: erosion of natural deposits:
Chlorine (2022)	N	0.75	ppm	MRDLG= 4	MRDL = 4	Water additive used to control microbes
Arsenic (2022)	N	<0.002	ppm		0.010	

Note: Test results are for year 2022 unless otherwise noted; all tests are not required on an annual basis:

The GMRC Surface Water Treatment Plant (SWTP) operated continuously thru out 2022 delivering an excellent quality of UF filtered (Ultra Filtration) and RO softened (Reverse Osmosis) treated water to the GMRC campus. There were no major disruptions in water delivery and the SWTP operated without mechanical or instrumentation failure that could have affected water distribution. Scheduled preventive maintenance and instrumentation calibrations were performed as required.

Due to the GMRC source water wells being classified as GWUDI, (**ground water under direct influence of Surface Water**) the SWTP is required to monitor and record turbidity readings of the treated water discharged to storage every 15 minutes during process operations. The turbidity compliance protocol by MDE for the SWTP is: Zero turbidity above 1 NTU and 95% of all turbidity measured not greater than 0.3 NTU. I am pleased to report the SWTP had a 100% compliance record with the highest recorded turbidity level being 0.061 NTU. In addition to filtering particulate materials from the source water, the SWTP also provides 4-log treatment (99.99% removal) of bacteria and virus inactivation in the treated, finished water delivered to the campus. 4-log treatment is achieved by adding a liquid chlorine solution to the finished water in combination with the UF filtration process and providing enough contact time (CT) in the system for proper disinfection. The average chlorine residual concentration during 2022 was 0.75 mg/l. I am pleased to report the SWTP achieved 100% compliance for 4-log removal requirements.

In addition to the source water being considered GWUDI, the source water is also very high in calcium and magnesium concentrations from the limestone that is present in this region. The source water is considered **hard water** (350 mg/l avg.) and needs to be **softened** (40-80 mg/l) before delivery to the campus. Hard water causes problems with downstream equipment and fixtures and reduces cleaning agent efficiency. R/O is used to soften the finished water from the UF process. R/O is the most stringent filtering process, capable of removing all particulates from the water source. The SWTP blends the RO/UF water discharges together before discharging to storage. The RO influence on the UF water reduces the system pH. Low pH water can cause additional problems within the distribution system piping. Low pH is attributed to the leaching of lead and copper concentrations into the water which can lead to additional health concerns. GMRC had been under a lead and copper action level protocol since 2012, I am pleased to report that GMRC satisfied the action level protocol during June-September 2020 monitoring period. GMRC will now resume the normally required triannual monitoring protocol. GMRC's next scheduled Lead and Copper monitoring period will be in 2023.

To increase and maintain a consistent and controllable pH level in the distributed water GMRC installed a

sodium hydroxide (caustic soda) chemical feed system to the SWTP. The distribution system pH was maintained between 7.3 to 7.8 respectively.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Presbyterian Senior Living-Glen Meadows Retirement Community is responsible for providing high quality drinking water and removing any lead piping in the system, but cannot control the variety of materials used in plumbing components. You share the responsibility for protection from the lead in your home by identifying and removing lead materials within your home plumbing which will reduce your family's risk to lead exposure. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 2 minutes before using water for drinking or cooking. Using water for showering, dishwashing, and laundry are other ways of flushing the water distribution system within your home. Installation and use of filters installed by an accredited ANSI installer is also beneficial in reducing lead in drinking water. If you are concerned about lead in your drinking water and wish to have your water tested, contact Glen Meadows Retirement Community, Director of Facilities: 410-319-5024 for further details. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791 or at http://www.epa.gov/safewater/lead.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

In addition to lead and copper, the finished water is sampled for many other required contaminants. During 2022, GMRC water distribution was sampled for: Monthly bacteriology, nitrate, phase II/V metals, and TTHM, HAA5 (TTHM+HAA5 are disinfection byproducts from chlorine addition). Also, MDE conducted sampling (2021) for PFAS (polyfluoroalkyl substances). PFAS substances refer to a large group of more than 4000 human made chemicals that have been in use since the 1940's. The uses of PFAS have led to PFAS entering our environment where they have been measured by several states in soil, surface water, ground water and seafood. PFAS can last a long time in the environment, human body and food chain.
Beginning in 2020, MDE initiated a PFAS monitoring program. GMRC water distribution was one of the sites selected to conduct this monitoring (2021). The results from the samples taken were non-detectable for PFOA and PFOS. Recently, (March 2023), MDE established proposed PFAS MCL levels for PFOA and PFOS at 4 PPT (parts per trillion) and identified a Group Hazard Index for 4 additional PFAS compounds. Future regulations would require additional monitoring, as well as certain actions be taken if results are above the PFAS MCL's. EPA will publish final MCL's and requirements for PFAS by year end 2023 or early 2024. Additional information can be found on the MDE website. (mde.maryland.gov/PublicHealth/Pages/PFAS-Landing-Page.aspx)

I am pleased to report that all sampling was completed and reported and results were within the EPA required guidelines for each contaminant. An enormous amount of sampling and reporting is required to ensure clean, safe water is being delivered to the residents of GMRC. Thank you in advance for your attention to this Water Quality Report (CCR) for 2022. If you need additional information or have questions concerning this matter please do not hesitate to contact PSL Management: Thomas Walker: Director of Facilities: 410-319-5024 or Jack Bradshaw (PSL), Plant Superintendent for Water and Wastewater at Glen Meadows Retirement Community. (410-319-5036)

Sincerely,

Jack Bradshaw: Superintendent: Water/Wastewater