

# City of Frederick

## 2017 Customer Confidence Report

### Spanish (Español)

Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúscalo o hable con alguien que lo entienda bien.

### Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies. Last year, we conducted tests for over 80 contaminants. We only detected 13 of those contaminants, and found only 2 at a level higher than the EPA allows. As we informed you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled Violations at the end of the report.)

### Do I need to take special precautions?

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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

### Where does my water come from?

Lake Frederick: (Longitude 98° 53' 11" Latitude 34° 30' 43")

Tom Steed Reservoir: (Longitude 98° 59' 12" Latitude 34° 44' 0")

### Why are there contaminants in my drinking water?

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both

tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity:

microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

### **How can I get involved?**

The Frederick City Council meets on the 2<sup>nd</sup> and 4<sup>th</sup> Tuesdays of each month at 5:30 pm. These meetings are held at the Civic Center located at 110 S. 17<sup>th</sup> Street and are open to the public.

### **Description of Water Treatment Process**

Your water is treated in a "treatment train" (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called "floc," which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in clarifiers and is then disposed of in drying beds. The clear water then moves to the filtration process where the water passes through mixed media filters that remove even smaller particles. A small amount of Sodium Hypochlorite is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community.

### **Additional Information for Lead**

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. Frederick is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

## Additional Information for Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

## Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

| Contaminants  | MCLG<br>or<br>MRDLG | MCL,<br>TT, or<br>MRDL | Detect In<br>Your<br>Water | Range |       | Sample<br>Date | Violation | Typical Source   |
|---|---------------------|------------------------|----------------------------|-------|-------|----------------|-----------|--|
|   |                     |                        |                            | Low   | High  |                |           |  |
| <b>Disinfectants &amp; Disinfection By-Products</b>   |                     |                        |                            |       |       |                |           |  |
| (There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants) |                     |                        |                            |       |       |                |           |  |
| Chlorine (as Cl <sub>2</sub> ) (ppm)  | 4                   | 4                      | 1                          | 1     | 2.2   | 2017           | No        | Water additive used to control microbes  |
| Chlorite (ppm)  | .8                  | 1                      | 1.51                       | .223  | 1.51  | 2017           | Yes       | By-product of drinking water disinfection  |
| Haloacetic Acids (HAA5) (ppb)   | NA                  | 60                     | 35.3                       | 9.5   | 35.3  | 2017           | No        | By-product of drinking water chlorination  |
| TTHMs [Total Trihalomethanes] (ppb)   | NA                  | 80                     | NA                         | 34.9  | 170.4 | 2017           | Yes       | By-product of drinking water disinfection  |
| Total Organic Carbon (% Removal)  | NA                  | TT                     | NA                         | NA    | NA    | 2017           | No        | Naturally present in the environment   |
| <b>Inorganic Contaminants</b>   |                     |                        |                            |       |       |                |           |  |
| Arsenic (ppb)   | 0                   | 10                     | 3.4                        | NA    | NA    | 2012           | No        | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| Barium (ppm)  | 2                   | 2                      | .18                        | NA    | NA    | 2012           | No        | Discharge of drilling wastes; Discharge from metal refineries; Erosion of                              |

|   |               |                  |            | Range      |             |                        |            |   |   |
|---|---------------|------------------|------------|------------|-------------|------------------------|------------|---|---|
| Contaminants                                |               | MCLG             | AL         | Your Water | Sample Date | # Samples Exceeding AL | Exceeds AL | Typical Source  |   |
| <b>Inorganic Contaminants</b>               |               |                  |            |            |             |                        |            |   |   |
| Copper - action level at consumer tap (ppm) |               | MCLG             | AL         | Your Water | Sample Date | # Samples Exceeding AL | Exceeds AL | Typical Source  |   |
|   |               |                  |            |            | 2015        | 0                      | No         | Corrosion of household plumbing systems; Erosion of natural deposits  |   |
| Contaminants                                | MCLG or MRDLG | MCL, TL, or MRDL | Your Water | Low        | High        | Sample Date            | Violation  | Typical Source  |   |
|   |               |                  |            |            |             |                        |            | natural deposits  |   |
| Fluoride (ppm)                              | 4             | 4                | .25        | NA         | NA          | 2012                   | No         | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |   |
| Nitrate [measured as Nitrogen] (ppm)        | 10            | 10               | .53        | .43        | .53         | 2017                   | No         | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits                               |   |
| Radium (combined 226/228) (pCi/L)           | 0             | 5                | .4         | NA         | NA          | 2017                   | No         | Erosion of natural deposits   |   |
| <b>Radioactive Contaminants</b>             |               |                  |            |            |             |                        |            |   |   |
| Alpha emitters (pCi/L)                      |               | 0                | 15         | .737       | NA          | NA                     | 2017       | No  | Erosion of natural deposits             |
| Beta/photon emitters (mrem/yr)              |               | 0                | 4          | 2.95       | NA          | NA                     | 2017       | No  | Decay of natural and man-made deposits. |

| Unit Descriptions |   |
|-------------------|---|
| Term              | Definition  |
| ppm               | ppm: parts per million, or milligrams per liter (mg/L)                    |
| ppb               | ppb: parts per billion, or micrograms per liter (µg/L)                    |
| pCi/L             | pCi/L: picocuries per liter (a measure of radioactivity)                  |
| mrem/yr           | mrem/yr: millirems per year (a measure of radiation absorbed by the body) |
| NA                | NA: not applicable  |
| ND                | ND: Not detected  |
| NR                | NR: Monitoring not required, but recommended.                             |

| Important Drinking Water Definitions |  |
|--------------------------------------|--|
| Term                                 | Definition   |
| MCLG                                 | MCLG: Maximum Contaminant Level Goal: 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. |
| MCL                                  | MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible                             |

| Important Drinking Water Definitions |   |
|--------------------------------------|---|
|                                      | using the best available treatment technology.  |
| TT                                   | TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.  |
| AL                                   | AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.   |
| Variations and Exemptions            | Variations and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.  |
| MRDLG                                | MRDLG: Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants. |
| MRDL                                 | MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.                              |
| MNR                                  | MNR: Monitored Not Regulated  |
| MPL                                  | MPL: State Assigned Maximum Permissible Level   |
|                                      |   |

### Violations Explanation

#### The MCL for TTHM is 80ppb.

TTHM samples taken on 8-22-17 at our DBP01 site (Airport-Industrial park) were 170.4ppb. Samples on the same date at our DBP02 site (21370 COUNTY RD EW 181) were 101.5 ppb.

TTHM samples taken on 11-27-17 at our DBP01 site (Airport-Industrial park) were 136.6ppb. Samples on the same date at our DBP02 site (21370 COUNTY RD EW 181) were 87.5 ppb.

#### The MCL for Chlorite is 1000ppb.

Chlorite samples taken on 12-19-17 at our CLO2-FC site (Allsup's) were 1510ppb and samples taken on the same date at our CLO2-MP site (Dollar General) were 1480ppb.

We found the major contributor to these violations was a problem with our Chlorine Dioxide unit. We had D&F Services whom we purchased the system from come out and make the necessary repairs to the unit. We also began a longer flushing cycle which has helped us achieve compliancy.

**For more information contact:** Jason E. Smith – Water Treatment Supervisor  
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