

2016 Water Quality Summary

**Frankford Water Department
5 Main Street
Frankford, DE 19945
PWS ID# DE0000242**

Important Information About Your Drinking Water

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source is groundwater, drawn from the Columbia aquifer.

Dear Customer:

Each spring, we provide our customers with a report on water quality for the prior year. We encourage you to read this report to learn about the results of testing conducted and water samples collected during 2016.

This report has been prepared to familiarize you with the characteristics of the water system, including your source of supply, the quality of treated water, substances present in the water, and the maximum levels of those compounds permitted by state or federal regulations. We hope this report demonstrates our commitment to continually improve the water treatment process and protect our water resources.

If you have any questions about this report or would like more information about your water quality, please contact Gregory Welch at 302-732-9424.

You may also contact the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at (800) 426-4791 for additional information about drinking water regulatory programs.

We invite you to become involved in decisions affecting your drinking water by sharing your comments and concerns. Thank you for allowing us the opportunity to serve you.

The Water Treatment Process

To provide you with quality drinking water, reliable treatment methods are used to eliminate or minimize the effects of contaminants that may be present in source waters. Water quality is monitored at each wellfield and throughout the distribution system to determine that state and federal primary water quality standards are met.

Groundwater from wells first passes through layers of soil, sand and gravel, which act as a natural filter. Groundwater comes from an underground source of water known as an aquifer. In some cases

groundwater supplies may be disinfected with chlorine to destroy bacteria that may be present and protect against microbial contaminants before being pumped into the distribution system. The level of this additive is monitored daily to ensure the proper dosage is being added. In some cases, pH correction and filtration are utilized.

Samples of treated and untreated water are taken regularly to assure that the required level of drinking water quality is maintained and that samples comply with state and federal standards for quality and safety.

A Word of Caution

Our treatment system is designed and operated to produce water that is in compliance with all state and federal drinking water standards. Many substances and microscopic organisms found in water may be a concern if they occur at high concentrations. For some contaminants, Maximum Contaminant Levels (MCL) have not been set because the EPA has not determined at what level they pose a public health risk. This is often because a reliable detection method is unavailable and/or because the contaminant is rarely found in treated water.

Some naturally occurring organisms commonly found in the natural water supplies may not be eliminated during the treatment process. This means that even a well-run system may contain low levels of microscopic organisms. The levels, however, are normally of little concern to healthy individuals. It should be noted, however, that under certain circumstances, these organisms might amplify to serious levels within a customer's own water supply system.

All customers, including residential, commercial and industrial customers, and other large facilities such as schools, hospitals and hotels/motel, should follow appropriate procedures for maintaining their own internal plumbing systems and appliances. If you have any concerns about these matters, please call the EPA Safe Drinking Water Hotline at (800) 426-4791.

Why There May Be Contaminants in the Country's Water Supply

Sources of drinking water in the United States (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over land or through the ground, it dissolves naturally occurring minerals and in some cases, radioactive materials, and can pick up substances resulting from the presence of animal or human activity. Contaminants that may be present in source waters include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, livestock and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from storm water runoff, wastewater discharges, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.

Organic contaminants, including natural, synthetic and volatile organic chemicals, which are by-products of nature and industrial processes and petroleum production and can also, come from gas stations, storm water runoff and septic systems.

Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

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 EPA's **Safe Drinking Water Hotline at (800) 426-4791**.

In order to ensure that tap water is safe to drink, the EPA and the State Division of Public Health (DPH) prescribe regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. DPH also provides monitoring schedules and establishes sampling requirements for water utilities in order to maintain compliance with the Safe Drinking Water Act monitoring requirements.

For Your Safety—A Message for People with Compromised Immune Systems

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 microbial contaminants are available from the EPA's **Safe Drinking Water Hotline at (800) 426-4791**.

To contact Tidewater Utilities, Inc., please call:
1-302-734-7500 (Local)
1-877-720-9272 (Customer Service)

Special Considerations Regarding Children, Pregnant Women, Nursing Mothers, and Others

Children may receive a slightly higher amount of contaminant present in the water than do adults, on a body weight basis, because they may drink a greater amount of water per pound of body weight than do adults. For this reason, reproductive or developmental effects are used for calculating a drinking water standard if these effects occur at lower levels than other health effects of concern. If there is insufficient toxicity information for a chemical (for example, lack of data on reproductive or developmental effects), an extra uncertainty factor may be incorporated into the calculation of the drinking water standard, thus making the standard more stringent, to account for additional uncertainties regarding these effects. In the cases of lead and nitrate, effects on infants and children are the health endpoints upon which the standards are based.

Lead in drinking water

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. Frankford Water Department 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 at www.epa.gov/safewater/lead.

What the Numbers Mean To You: The table shows the results of our monitoring during 2016. The EPA requires monitoring of numerous drinking water contaminants. Those listed are the only contaminants detected. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Definitions & Abbreviations used below: **Primary Standards:** Standards which relate to public health. **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:** 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 using the best available treatment technology. **PPB:** Parts per Billion. **PPM:** Parts per Million. **N/A:** Not Applicable. **ND:** None Detectable at testing limit. **pCi/l:** Picocuries per Liter. A measure of radioactivity in water. **Std:** Standard Units **RUL:** Recommended Upper Limit **AL:** Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. **<:** Less Than. **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. **MRDLG:** Maximum Residual Disinfectant 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 contamination.

Keep Pharmaceuticals and Personal Care Products (PPCPs) Out of Our Drinking Water

Where do PPCPs come from?

Pharmaceuticals and personal care products, known in the water industry as PPCPs, are a group of compounds consisting of human and veterinary drugs (prescription or over the counter) and consumer products, such as fragrance, lotions, sun-screens, house cleaning products, and others. PPCPs can be introduced into the environment in several ways, including:

- Flushing unused medications down the toilet or sink.
- Rinsing personal hygiene and household cleaning products down the drain.
- Excreting unabsorbed medications into the sewage system.
- Farm animals excreting veterinary drugs, including hormones and antibiotics, into fields where they run off into lakes and streams.
- Commercial improper disposal methods.

For Proper Disposal of PPCPs, the following Federal Guidelines are provided:

- Do not flush prescription drugs down the toilet or drain unless the label or accompanying patient information specifically instructs you to do so. For information on drugs that should be flushed visit the FDA's website at: www.fda.gov
- To dispose of prescription drugs not labeled to be flushed, you may be able to take advantage of community drug take-back programs or other programs that collect drugs at a central location for proper disposal. Call your city or county government's household trash and recycling service and ask if a drug take-back program is available in your community.

If a drug take-back or collection program is not available:

1. Take your prescription drugs out of their original containers.
2. Mix drugs with an undesirable substance, such as cat litter or used coffee grounds.
3. Put the mixture into a disposable container with a lid, such as an empty margarine tub, or sealable bag and place in the trash.

| Parameter | Units | MCL | MCLG | Highest Level Detected | Range | Major Sources in Drinking Water | MCL Violation Yes/No |
|-----------------------------------|-------|-----|------|------------------------|-----------------|--|----------------------|
| INORGANIC CHEMICALS | | | | | | | |
| Barium | ppm | 2 | 2 | 0.0749 | 0.0749 - 0.0749 | Erosion of natural deposits | No |
| Chromium | ppb | 100 | 100 | 0.8 | 0.8 - 0.8 | Discharge from steel and pulp mills | No |
| Nickel | ppb | 100 | 100 | 0.5 | 0.5 - 0.5 | Occurs naturally in soil | No |
| VOLATILE ORGANIC CHEMICALS | | | | | | | |
| Methyl <i>tert</i> Butyl Ether | ppb | 10 | 0 | 0.61 | 0.61 - 0.61 | Leaching from gas storage tanks | No |
| DISINFECTION BY-PRODUCTS | | | | | | | |
| Total Haloacetic Acids | ppb | 60 | N/A | 34 | 2 - 34 | Byproduct of drinking water disinfection | No |
| Total Trihalomethanes | ppb | 80 | N/A | 75 | 55.2 - 104.9 | Byproduct of drinking water disinfection | No |
| Chlorine | ppm | 4.0 | N/A | 0.7 | 0.4 - 0.7 | Drinking water treatment | No |

| Parameter | Units | Action Level | MCLG | 90th Percentile | # Sites Over AL | Major Sources in Drinking Water | AL Exceedance Yes/No |
|-----------|-------|--------------|------|-----------------|-----------------|---------------------------------|----------------------|
| Lead* | ppb | AL = 15 | 0 | 9.0 | 1 | Corrosion of household plumbing | No |
| Copper* | ppm | AL = 1.3 | 1.3 | 0.107 | 0 | Corrosion of household plumbing | No |

SECONDARY STANDARDS (Non-Health Related)

| Parameter | Units | RUL | Average | Range |
|------------|-------|-----------|---------|-------|
| Sodium | ppm | N/A | 88.9 | 88.9 |
| pH | std | 6.5 - 8.5 | 6.9 | 6.9 |
| Chloride | ppm | 250 | 80 | 80 |
| Alkalinity | ppm | N/A | 88.2 | 88.2 |
| Sulfate | ppm | 250 | 20.8 | 2.08 |
| Manganese | ppb | 50 | 0.6 | 0.6 |

*2015 Data.

Last year, we incurred a violation because we failed to provide you, our drinking water customers and the State, our annual report that informs you about the quality of our drinking water and characterizes the risks from exposure to contaminants detected in our drinking water. The report was submitted on July 11, 2016 and the violation was resolved on that day.

Source Water Assessment Program (SWAP)

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that source water assessment be performed for all sources of public drinking water in each state. Because of this, each state was required to develop a Source Water Assessment Plan (SWAP). The State of Delaware's SWAP was developed and approved by the United States Environmental Protection Agency in October 1999.

This assessment has been performed using the methods specified in the State of Delaware's Source Water Assessment Plan. The assessment consists of these four critical steps:

- Delineation of source water areas;
- Determination of the vulnerability of a well or intake to contamination;
- Identification of existing and potential sources of contamination; and
- Determination of the susceptibility of the source water area to contamination.

Susceptibility Determination

The key part of a source water assessment is the determination of the likelihood that a particular public water supply system will capture contaminants at concentrations of concern. This analysis, termed susceptibility determination, combines the source water protection area delineation, the vulnerability determination for the wells, the contaminant source inventory, and the water quality information to yield a relative susceptibility for the public water system. Each individual water source is rated for each of the eight contaminant categories on a scale ranging from no susceptibility, low, medium to high, having been documented as having exceeded drinking-water standards.

| | SOURCE WATER ASSESSMENT - Overall Susceptibility Ratings | | | | | | | |
|--|--|-----------|------------------------|------------|----------------|--------|--------|------------------|
| Contaminant Category | Nutrients | Pathogens | Petroleum Hydrocarbons | Pesticides | Other Organics | PCBs | Metals | Other Inorganics |
| Susceptibility (Low, Medium, High or NS) | High | Medium | Very High | High | High | Medium | Medium | High |

Susceptibility Chart Definitions

NS - Not susceptible

Other Inorganic - Mineral-based, man-made and naturally occurring, compounds such as fluoride and chloride.

Metals - A chemical element, may also be found as a free element in nature, such as iron and manganese.

Nutrients - Compounds such as phosphorus and nitrogen that aid in the growth of organisms.

Other Organics - Chemical compounds containing carbon such as PCE and TCE.

Pathogens - Organisms such as bacteria and viruses.

Pesticides - Man-made chemicals used to control pests and weeds such as Atrazine.

Petroleum Hydrocarbons - Primary constituents in oil, gasoline, diesel, and a variety of solvents.

Polychlorinated Biphenyls (PCB) - Man-made, organic chemicals used in industrial and commercial applications.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination to source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels.

The Division of Public Health, in conjunction with the Department of Natural Resources and Environmental Control, has conducted source water assessments for nearly all community water systems in the state. Contact Tidewater Utilities at (800) 523-7224 regarding availability and how to obtain a copy of this assessment. You may also review this at <http://delawaresourcewater.org/assessments/>.