

***Annual Drinking Water Quality Report***  
***City of Pigeon Forge Water System***  
***CCR (Consumer Confidence Report)***

We're pleased to present to you the **2022** Annual Water Quality Report. This report is designed to inform you about the Water quality 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 primary source of water is Douglas Lake. We also have a surface water intake located on Waldens Creek, and in addition, we can purchase water from the City of Sevierville.

Your water, which is surface water, comes from Douglas Lake. Our goal is to protect our water from contaminants and we have worked with the State to determine the vulnerability of our water supply to contamination. The Tennessee Department of Environment and Conservation (TDEC), has prepared a Source Water Assessment Program (SWAP) Report for the water supplies serving water to this water system. Our water was rated as moderately susceptible to potential contamination. A plan is available for your review at the Water Plant Office, located at 2432 Library Drive. The Source Water Assessment Plan can also be viewed online at <https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html> .

I'm pleased to report that our drinking water is safe and meets federal and state requirements. This report shows our water quality and what it means.

If you have any questions about this report or concerning your water utility, please contact **Kevin McMahan (plant superintendent) at 865-453-1275** .We want our valued customers to be informed about their water utility. Opportunity for public participation is typically available at regularly scheduled City Council meetings held in the main auditorium room of the City Hall office complex at 5:30 p.m. the second and fourth Monday of each month.

Pigeon Forge water system routinely monitors for constituents in your drinking water according to Federal and State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st, **2022**. Drinking water, including bottled 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. 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**.

Este informe contiene informacion importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

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.

Contaminants that may be present in source water:

- Microbial contaminants, such as viruses and bacteria, which 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 stormwater 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 stormwater 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 stormwater runoff and septic systems.
- 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 and the Tennessee Department of Environment and Conservation prescribe regulations which 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.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify problems and to correct any problems that were found during these assessments. During the past year we were required to conduct (1) Level 1 assessment. Level 1 assessment was completed. We were required to take (0) corrective actions.

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 **1-800-426-4791**.

In the table found in this report, 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:

*Below Detection Level (BDL)* – laboratory analysis indicated that the constituent was not detected.

*Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.

*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.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

*Treatment Technique (TT)* - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

*Maximum Contaminant Level* - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

*Maximum Residual Disinfection Level (MRDL)* – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.

*Maximum Residual Disinfectant Level Goal (MRDLG)* – 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.

*LT2SWTR* – Long Term 2 Surface Water Treatment Rule.

*IDSE* – Initial Distribution System Evaluation.

*Level 1 Assessment*- A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

*Level 2 Assessment*- A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E.coli* MCL violation has occurred and /or why total coliform bacteria have been found in our water system on multiple occasions.

*PQL* – Practical Quantitation Limit

*ug/L* – micrograms per liter

*TTHM* – Total trihalomethanes

*THAA* – Total halo-acetic acid

We would like to take this opportunity to remind everyone of the responsibility to protect our source waters and waterways. Please use proper disposal methods for used motor oil and household chemicals, including Pharmaceuticals and Personal Care Products (PPCPs). Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of Tennessee's waterways by disposing in one of our permanent pharmaceutical take back bins. There are over 250 take back bins located across the state, to find a convenient location please visit: <http://tdeconline.tn.gov/rxtakeback/>

## Water Quality Data

| Contaminant                       | MCLG in CCR units | MCL in CCR Units         | Level found in CCR Units   | Number of samples exceeding Action Level | Range of detections | Violation | Date of sample  | Typical source of Contaminant   |
|-----------------------------------|-------------------|--------------------------|----------------------------|--|---------------------|-----------|-----------------|---|
| Total Coliform Bacteria*          | 0                 | TT (5% positive monthly) | Present (2 samples)        |  | 2 of 180            | No        | 2022            | Naturally present in the environment  |
| Turbidity** (ntu)                 | N/A               | TT (95% <0.3ntu)         | 0.09 ntu<br>0.02 Avg.      |  | 0.01 to 0.09        | No        | 2022            | Soil runoff   |
| TOC***                            | N/A               | TT                       | 38.0% Removal<br>1.08 Avg. |  | 0.94 to 1.17        | No        | 2022            | Precursor for control of disinfection by-products   |
| Copper (ppm)                      | 1.3               | AL=1.3 ppm               | 90%=<br>0.135              | 0 of 30                                  | 0.0121 to 0.2280    | No        | 9/03/2020       | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives                    |
| Fluoride**** (ppm)                | 4                 | 4 ppm                    | 0.41 Avg.                  |  | 0.12 to 0.71        | No        | Daily in 2022   | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Lead***** (ppb)                   | 0                 | AL=15 ppb                | 90%=ND                     | 0 of 30                                  | ND to 3.04          | No        | 9/03/2020       | Corrosion of household plumbing systems; Erosion of natural deposits  |
| Sodium (ppm)                      | N/A               | N/A                      | 14.8                       |  |                     | No        | 1/24/22         | Naturally present in the environment  |
| Trihalomethanes***** (ppb)        | N/A               | 80 ppb                   | 45.019 Avg.                |  | 33.9 to 62.2 ppb    | No        | 4 qtrs. In 2022 | By-product of drinking water chlorination   |
| Total Haloacetic Acids***** (ppb) | N/A               | 60 ppb                   | 26.99 Avg.                 |  | 19.4 to 33.0 ppb    | No        | 4 qtrs. In 2022 | By-product of drinking water chlorination   |
| Chlorine (ppm)                    | MRDL<br>4.0 ppm   | MRDLG<br>4.0 ppm         | 2.80 ppm                   |  | 1.00 to 2.80 ppm    | No        | 2022            | Disinfectants are necessary to control microbial contaminants   |

**About the data:** Most of the data presented in this table is from testing done between 1 Jan-31 Dec 2022. We monitor for some contaminants less than once per year, and for those contaminants, the date of the last sample is shown in the table.

Our water system was required to test for Cryptosporidium, a microbial parasite, for a period of twenty four (24) months. Testing began in October, 2016, and ended in September, 2018. 1 samples tested positive for cryptosporidium, in CY2018. Bin concentration highest mean of 0.008, classification of 1.

\*Total Coliform Bacteria = 2 samples during 2022 were positive.

\*\*Turbidity = 0 samples during 2022 exceeded 0.3 NTU. We met the treatment technique for turbidity with 100% of monthly samples below the turbidity limit of 0.3 NTU. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Turbidity in excess of 5 NTU's (Nephelometric Turbidity Units) is just noticeable to the average person.

\*\*\*TOC (Total Organic Carbon) = During calendar year 2022, our system was required to achieve a 35% reduction in TOC (Total Organic Carbon).

Our annual average reduction for calendar year 2022 was 38.0%. With treated or source water TOC being < 3.0mg/L, we met the Treatment Technique requirement for Total Organic Carbon in 2022.

\*\*\*\*Fluoride = Tracer study executed in September, 2007, to perform IDSE, in compliance with LT2SWTR.

\*\*\*\*\*Lead = Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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. The Pigeon Forge 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 the 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 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>. During the most recent round of lead and copper testing, 0 out of 30 households sampled contained concentrations exceeding the action level.

\*\*\*\*\*TTHM = Years average 45.019 PPB. Range = 33.9 to 62.2 PPB. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

\*\*\*\*\*THAA = Years average 26.99 PPB. Range = 19.4 to 33.0 PPB.

## Unregulated Contaminants

### UCMR4 (Unregulated Contaminants Monitoring Rule 4)

| Unregulated Contaminants * | Violation Yes/No | Level Detected | Range of Detections | Date of Sample   | Unit of Measurement | MCLG | MCL |
|----------------------------|------------------|----------------|---------------------|--|---------------------|------|-----|
| Anatoxin                   | No               | Avg. 0.010     | 0.010               | Week 2 and Week 4 in June, July, August, and September, 2019 | ug/L                | N/A  | N/A |
| Cylindrospermopsin         | No               | Avg. 0.030     | 0.030               | Week 2 and Week 4 in June, July, August, and September, 2019 | ug/L                | N/A  | N/A |
| Total Microcystins         | No               | Avg. 0.0875    | 0 to 0.10           | Week 2 and Week 4 in June, July, August, and September, 2019 | ug/L                | N/A  | N/A |

| <b>UCMR4 AM2</b>   |                                  |
|--|----------------------------------|
| Samples analyzed by Pace Analytical for months of Feb, May, August and November 2020 |                                  |
| <b>PARAMETER</b>   | <b>RANGE LEVEL DETECTED</b>      |
| Total Halo acetic Acids  | 17.1 - 28.7 ppb (Average 23.33)  |
| HAA9 Group   | 19.8 - 31.4 ppb (Average 26.244) |
| Total Brominated HAAs  | 2.3 - 3.8 ppb (Average 2.93)     |

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. For additional information call the Safe Drinking Water Hotline at (800) 426-4791.