

## Terms and Definitions

HPUD routinely tests for contaminants in your drinking water as require by Federal and State laws. Unless noted otherwise, the table shows the results of our monitoring for the period from January 1 – December 31, 2018. In this data, you may find terms and abbreviations you are not familiar with. To help you better understand these terms, we have provided the following definitions:

**Action Level (AL)** is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Below Detection Level (BDL)** indicates parameter was below detection limits for the recognized detection method.

**Contaminant** is any physical, chemical, biological, or radiological substance or matter in water, which may or may not be harmful depending upon the concentration.

**Maximum Contaminant Level (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 (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.

**Maximum Residual Disinfectant Level (MRDL)** is 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)** is 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.

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

**Picocuries per Liter (pCi/L)** is a measure of radioactivity in water.

**Secondary Standards** are guidelines pertaining to certain contaminants that may cause cosmetic effects, such as skin or tooth discoloration, or taste, odor, or discoloration in drinking water.

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

**Parts per million (ppm) or milligrams per liter (mg/l)** One part per million is equivalent 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.



## How Can You Get Involved?

Our Board of Commissioners usually meets on the second Monday of each month at 1:30 p.m. at the utility office, located at 3745 Cunningham Road. Customers are always welcome to attend these meetings. Remember that your drinking water comes from area water bodies and it is important to safeguard our water supply.



The Commissioners of Hallsdale-Powell Utility District serve four-year terms. The remaining Commissioners make recommendations to the County Mayor after receiving input from the public. The Mayor selects Commissioners from a list submitted by the Board.

Decisions by the Board on customer complaints brought before them under the District's Customer Complaint Policy may be reviewed by the Utility Management Review Board of the Tennessee Department of Environment and Conservation, pursuant to Section 7-82-702(7) of the Tennessee Code Annotated.

## Water & Public Health

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. We have consistently met all these requirements and continually strive to deliver a high quality product. Our water not only meets, but exceeds, all State and Federal Drinking Water Standards and is safe.

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 healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water hotline at (800) 426-4791.

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

## About Your Water Source

The sources of drinking water, (both tap water and bottled water) include rivers, lakes, streams, ponds, springs, reservoirs 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 are listed in the Table containing our Water Quality Data.

Currently, your public drinking water comes from two sources: The Melton Hill Water Treatment Plant is supplied by surface water taken from Melton Hill Lake in Anderson County. The Norris Water Treatment Plant is supplied by surface water taken from Norris Lake in Union County. The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for all untreated water sources serving our water system.

According to the report, surface water from Melton Hill Lake is determined to be moderately susceptible to potential contamination. The surface water from Norris Lake water supply is determined to be low to moderately susceptible to potential contamination.

An explanation of TDEC's Source Water Assessment Program, susceptibility scorings and the overall report to the U.S. Environmental Protection Agency (EPA) may be viewed online at: <https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html>

## Contact Information

For more information about the data in this report, or to answer specific questions about the quality of your drinking water, please contact Nick Jackson, Plants Manager at (865) 925-3929.

It's up to all of us to help protect our water. As a utility that provides water to this region, it is even a greater responsibility for HPUD. We take this responsibility very seriously, as this report indicates.



We depend on clean water to drink and for many of us our lakes and rivers are an important part of our quality of life, whether it is fishing, boating, swimming or just having a picnic near the water.

We're doing all we can to make sure that people can enjoy this same quality of life for generations to come.

## Información en Español

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

# 2018 Water QUALITY REPORT



## 2018 Water Quality Report

| Microbiological Contaminants           | Violation Y/N | Range or Max Detected | Avg  | Unit | MCLG | MCL | Likely Source of Contamination       |
|--|---------------|-----------------------|------|------|------|-----|--------------------------------------|
| Total Coliform Bacteria                | N             | No Detection          | N/A  | %    | N/A  | N/A | Naturally present in the environment |
| E. Coli                                | N             | No Detection          | N/A  | %    | N/A  | N/A | Human and animal fecal waste         |
| Turbidity (Melton Hill) <sup>1,2</sup> | N             | 0.01 - 0.48           | 0.02 | NTU  | N/A  | TT  | Soil runoff                          |
| Turbidity (Norris) <sup>1,2</sup>      | N             | 0.00 - 0.15           | 0.04 | NTU  | N/A  | TT  | Soil runoff                          |

<sup>1</sup> Turbidity is a measure of the cloudiness of the water.

<sup>2</sup> We met the treatment technique for turbidity with 95 % of monthly samples below the turbidity limit of 0.3 NTU.

| Disinfectants          | Violation Y/N | Range or Max Detected | AVG   | UNIT | MCLG | MCL  | Likely Source of Contamination  |
|------------------------|---------------|-----------------------|-------|------|------|------|---|
| Chlorine (Melton Hill) | N             | 1.1 - 2.2             | 1.6   | ppm  | 4    | 4    | Used in water treatment to control microbes   |
| Chlorine (Norris)      | N             | 0.8 - 2.3             | 1.7   | ppm  | 4    | 4    | Used in water treatment to control microbes   |
| Inorganic Contaminants | Violation Y/N | Range or Max Detected | Avg   | Unit | MCLG | MCL  | Likely Source of Contamination  |
| Aluminum               | N             | ND - 0.045            | N/A   | ppm  | N/A  | 0.01 | Erosion from natural deposits   |
| Arsenic                | N             | ND - 0.0005           | N/A   | ppm  | N/S  | 0.01 | Erosion from natural deposits   |
| Chloride               | N             | 6.3 - 10.2            | 8.25  | ppm  | N/A  | 250  | Runoff, leaching from natural deposits  |
| Fluoride               | N             | 0.5 - 0.56            | 0.5   | ppm  | 4    | 4    | Erosion from natural deposits; water additive which promotes strong teeth                   |
| Nitrate (Melton Hill)  | N             | 0.865                 | N/A   | ppm  | 10   | 10   | Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits |
| Nitrate (Norris)       | N             | 0.75                  | N/A   | ppm  | 10   | 10   | Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits |
| Silver                 | N             | None Detected         | N/A   | ppm  | N/A  | N/A  | Naturally present in the environment  |
| Sodium                 | N             | 2.85 - 9.70           | 6.28  | ppm  | N/A  | N/A  | Erosion of natural deposits, used in water treatment  |
| Sulfate                | N             | 7.1 - 22              | 13.9  | ppm  | N/A  | 250  | Naturally present in the environment  |
| Total Dissolved Solids | N             | 153 - 166             | 160   | ppm  | N/A  | 500  | Runoff, leaching from natural deposits  |
| Zinc                   | N             | 0.0056 - 0.0064       | 0.006 | ppm  | N/A  | 5    | Erosion from natural deposits   |

| Disinfection By-Products            | Violation Y/N | Range or Max                                    | Avg  | Unit | MCLG | MCL | Likely Source of Contamination            |
|-------------------------------------|---------------|---|------|------|------|-----|---|
| Chlorite (Water Plant)              | N             | 0.07 - 0.7                                      | 0.37 | ppm  | 0.8  | 1   | By-product of drinking water disinfection |
| Chlorite (Distribution System)      | N             | 0.19 - 0.36                                     | 0.28 | ppm  | 0.8  | 1   | By-product of drinking water disinfection |
| Total Trihalomethanes <sup>3</sup>  | N             | Individual Site Range: 4 - 56<br>LRAA Max 53    | N/A  | ppb  | N/A  | 80  | By-product of drinking water chlorination |
| Total Haloacetic Acids <sup>3</sup> | N             | Individual Site Range: 11 - 76<br>LRAA Max 59.5 | N/A  | ppb  | N/A  | 60  | By-product of drinking water chlorination |

<sup>3</sup> Some people who drink water containing Trihalomethanes or Haloacetic Acids 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.

| Total Organic Carbon (TOC)              | Violation Y/N | Range or Max | AVG | UNIT | MCLG | MCL | Likely Source of Contamination       |
|---|---------------|--------------|-----|------|------|-----|--------------------------------------|
| Total Organic Carbon (raw)              | N             | 1.6 - 2.4    | 1.8 | ppm  | N/A  | TT  | Naturally present in the environment |
| Total Organic Carbon (tap) <sup>4</sup> | N             | 1.0 - 1.5    | 1.2 | ppm  | N/A  | TT  | Naturally present in the environment |

<sup>4</sup> We met the Treatment Technique requirement for Total Organic Carbon in 2016.

| Cryptosporidium  | Violation Y/N | Range or Max                    | AVG  | UNIT      | MCLG | MCL | Likely Source of Contamination       |
|------------------|---------------|---------------------------------|------|-----------|------|-----|--------------------------------------|
| Melton Hill Lake | N             | 0 - 1.0 oocysts/ L <sup>5</sup> | 0.33 | Oocyst/ L | N/A  | N/A | Naturally present in the environment |
| Norris Lake      | N             | None Detected                   | N/A  | Oocyst/ L | N/A  | N/A | Naturally present in the environment |

<sup>5</sup> Cryptosporidium results shown above are from source water monitoring and not treated drinking water. Both of HPUD's plants utilize membrane filtration technology in addition to multiple disinfection processes to achieve and exceed the EPA's recommendations for the inactivation and removal of Cryptosporidium in your drinking water. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

| Radionuclides                           | Violation Y/N | Range or Max       | AVG  | UNIT   | MCLG | MCL      | Likely Source of Contamination       |
|---|---------------|--------------------|------|--------|------|----------|--------------------------------------|
| Gross Alpha (Melton Hill)               | N             | No Detection       | N/A  | pCi/ L | N/A  | 15 pCi/L | Naturally present in the environment |
| Gross Alpha (Norris)                    | N             | 0.792 pCi/ L       | 0.79 | pCi/ L | N/A  | 15 pCi/L | Naturally present in the environment |
| Combined Radium (226/228) (Melton Hill) | N             | 0.74 - 1.08 pCi/ L | 0.91 | pCi/ L | N/A  | 5 pCi/ L | Naturally present in the environment |
| Combined Radium (226/228) (Norris)      | N             | None Detected      | N/A  | pCi/ L | N/A  | 5 pCi/ L | Naturally present in the environment |

| Lead and Copper   | Violation Y/N | Range        | Unit | 90th% | MCLG | MCL     | Likely Source of Contamination          |
|-------------------|---------------|--------------|------|-------|------|---------|---|
| Copper            | N             | 0.018 - 0.71 | ppm  | 0.42  | 1.3  | AL= 1.3 | Corrosion of household plumbing systems |
| Lead <sup>6</sup> | N             | 0.5 - 7.90   | ppb  | 2     | N/A  | AL= 15  | Corrosion of household plumbing systems |

<sup>6</sup> 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 material and components associated with service lines and home plumbing. HPUD is responsible for providing high quality drinking water at the customer tap, but cannot control the variety of materials used in home plumbing. 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 [www.epa.gov/safewater/lead](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.