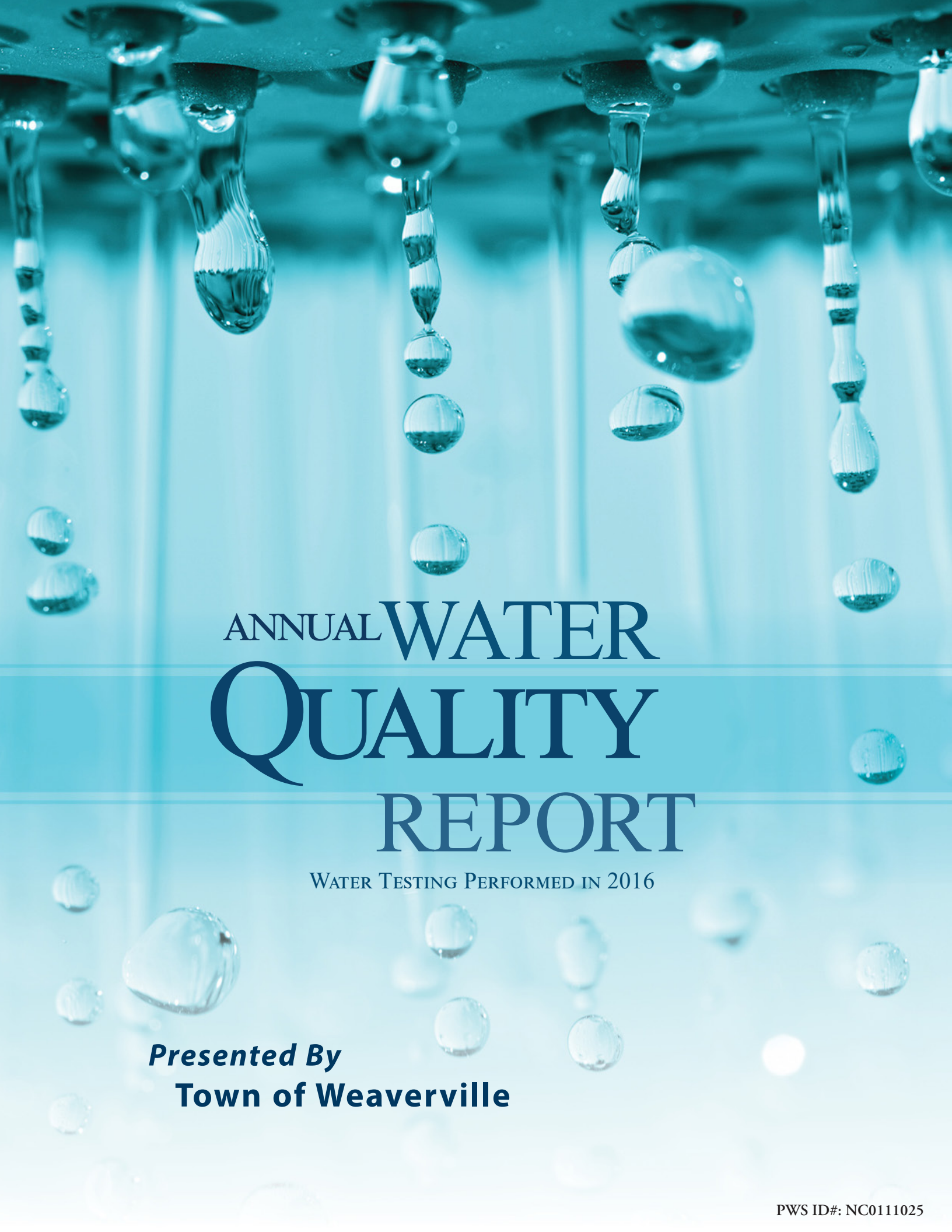


ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2016

Presented By

Town of Weaverville

PWS ID#: NC0111025

We've Come a Long Way

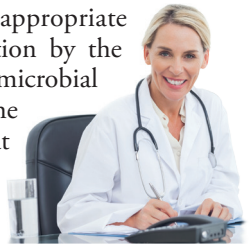
Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

Public Meetings

Questions regarding water quality should be directed to the Lawrence T. Sprinkle Jr Water Treatment Facility treatment staff at (828) 658-2417. Questions regarding billing should be directed to Town Hall Administration at (828) 645-7116. Water connections, water leaks, and questions about water distribution should be directed to the Town of Weaverville Public Works Department at (828) 645-0606. Information regarding Town Council meetings and other Town of Weaverville events should be directed to Town Hall Administration. An electronic version of this Consumer Confidence Report and other information can be found at http://www.weavervillenc.org.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 adults, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by the *Cryptosporidium* parasite and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 land or through the ground, it dissolves naturally occurring minerals; in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

- **Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

- **Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban storm-water runoff, and septic systems;

- **Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

Swap is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

The NC Department of Environment and Natural Resources conducted assessments of water sources across North Carolina. Assessment ratings of Higher, Moderate, or Lower were assigned to each source. It is important to know that a "Higher" rating does not imply bad water quality. It is a gauge of the water source's potential to become contaminated.

Complete SWAP reports for our system may be viewed online at: http://www.ncwater.org/files/swap/SWAP_Reports/0111025_8_20_2015_11_17.pdf.

According to the Source Water Assessment, the Ivy River source had a susceptibility rating of "Higher."

Our Asheville emergency supply was assigned a rating of "Higher" for the Mills River source, a rating of "Moderate" for the North Fork source, a rating of "Higher" for the French Broad source and a rating of "Lower" for the Bee Tree Reservoir source. Asheville's Swap report can be found at this link: http://www.ncwater.org/files/swap/SWAP_Reports/0111010_7_3_2015_17_22.pdf.

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Water Treatment Process

Our source (raw) water comes from a flowing river. Flowing river conditions can, and sometimes do, change dramatically during the treatment process. Certified treatment operators monitor, adjust chemical applications, and routinely test numerous sampling points throughout the treatment process. Water treatment plants and processes vary in design, depending on the source water supply to be treated. Our process consists of a unique Up Flow Clarification chamber prior to the conventionally designed treatment process.

First, raw untreated water is pumped from our river water source. This water is tested to determine treatment application requirements. Coagulant chemical treatment is applied to the raw water prior to the Up Flow process. Coagulant chemical treatment creates a chemical "snow" in the water, called "floc," which settles naturally to produce a filtering effect on the water. Effluent from the Up Flow Process is evaluated, and any additional treatment application requirement is determined.

This further treated water enters settling basins, where natural settling of the remaining floc particles results in cleaner prefiltered water. The settled water is then filtered through engineered filtration beds to provide a quality water that is ready for final treatment. Final treatment includes mandated chlorine, corrosion inhibitor, and pH adjustments.

The Lawrence T. Sprinkle Jr Water Treatment Facility does not add fluoride in its treatment process.

Lead in Home Plumbing

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. We are 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 www.epa.gov/lead.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Jared T. Duncan, Lawrence T. Sprinkle Jr Water Treatment Facility Superintendent/ORC, at (828) 658-2417.

Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation. The water there has been described as being corrosive; images of corroded batteries and warning labels on bottles of acids come to mind. But is corrosive water bad?

Corrosive water can be defined as a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at an excessive rate. There are a few contributing factors but, generally speaking, corrosive water has a pH of less than 7 (the lower the pH, the more acidic, or corrosive, the water becomes). (By this definition, many natural waterways throughout the country can be described as corrosive.) While all plumbing will be somewhat affected over time by the water it carries, corrosive water will damage plumbing much more rapidly than water with low corrosivity.

By itself, corrosive water is not a health concern; your morning glass of orange juice is considerably more corrosive than the typical lake or river. What is of concern is that exposure in drinking water to elevated levels of the dissolved metals increases adverse health risks. And therein lies the problem.

Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. Rest assured that we routinely monitor our water to make sure that what happened in Flint never happens here. For more information on how corrosivity impacts water quality, you can download this informative pamphlet: http://goo.gl/KpTmXv.

What type of container is best for storing water?

Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, do not use any container with markings on the recycle symbol showing "7 PC" (code for BPA). You could also consider using stainless steel or aluminum with BPA-free liners.

How much emergency water should I keep?

Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can survive only 1 week without water.

How long can I store drinking water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria before it was filled with tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

How long does it take a water supplier to produce one glass of drinking water?

It could take up to 45 minutes to produce a single glass of drinking water.

How many community water systems are there in the U.S.?

About 53,000 public water systems across the United States process 34 billion gallons of water per day for home and commercial use. Eighty-five percent of the population is served by these systems.

Where Does My Water Come From?

Our source water is the Ivy River, which has two forks that combine at the Highway 19/23 (new I-26) bridge. One fork originates in Madison County and the other in Buncombe County. Both forks have many feeder streams, and the watershed drainage area above our intake covers 120 square miles. The Town of Weaverville maintains connections with Asheville-Buncombe Regional Water Authority and the Town of Mars Hill Water System for emergency supply. We are committed to ensuring the highest quality drinking water and providing a safe and dependable supply.

Test Results

Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents substances that were detected; our goal is to keep all detects below their respective maximum allowed levels.

The State allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2016	[4]	[4]	1.24	0.17–1.83	No	Water additive used to control microbes
Fecal Indicators [enterococci or coliphage] (# positive samples)	2016	TT	NA	ND	NA	No	Human and animal fecal waste
Fecal coliform and *E. coli* (# positive samples)	2016	0	0	ND	NA	No	Human and animal fecal waste
Haloacetic Acids [HAA] (ppb)	2016	60	NA	27	12–37	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2016	80	NA	44	8–77	No	By-product of drinking water disinfection
Total Coliform Bacteria (positive samples)	2016	TT	NA	ND	NA	No	Naturally present in the environment
Total Organic Carbon [TOC][1] (removal ratio)	2016	TT	NA	1.00	1.0-2.86	No	Naturally present in the environment
Turbidity[2] (NTU)	2016	TT = 1	NA	0.07	0.04–0.07	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2016	TT = 95% of samples < or = 0.3 NTU	NA	100	NA	No	Soil runoff

Tap Water Samples Collected for Lead and Copper Analyses from Sample Sites Throughout the Community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2014	1.3	1.3	ND	0/22	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2014	15	0	ND	0/22	No	Corrosion of household plumbing systems; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
pH (Units)	2016	6.5–8.5	NA	7.6	7.4–7.7	No	Naturally occurring

[1] Depending on the TOC in our source water, the system MUST have a certain percentage removal of TOC or must achieve alternative compliance criteria. If we do not achieve that percentage removal, there is an alternative percentage removal. If we fail to meet the alternative percentage removal, we are in violation of a Treatment Technique.

[2] 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. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

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.

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.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the 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 contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter, µg/L).

ppm (parts per million): One part substance per million parts water (or milligrams per liter, mg/L).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

SMCL (Secondary Maximum Contaminant Level): SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

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