

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019



***Presented By***  
**Town of Pittsboro**

## Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2019.

Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water. For more information about this report, or for any questions relating to your drinking water, please call John Poteat, Public Works and Utilities Director, at (919) 542-2530, or Adam Pickett, Pittsboro Water Plant Superintendent, at (919) 542-3530.

## Community Participation

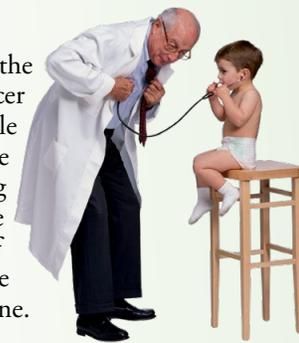
You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the second and fourth MondayS of each month, beginning at 7 p.m., at Town Hall, 635 East St., Pittsboro, North Carolina.

## Where Does My Water Come From?

The Town of Pittsboro's raw water is taken from the Haw River and treated at Pittsboro's Water Treatment Plant. The treatment process consists of a series of steps. First, raw water is drawn from our raw water source and delivered to the Water Treatment Plant. The raw water is mixed rapidly with polyaluminum chloride and ferric sulfate. The addition of these substances causes small particles to adhere to one another, called floc, making them heavy enough to settle into a basin from which the sediment is removed. At this point the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chloramines are then added as a precaution against any bacteria that may be present. (We carefully monitor the amount, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) A caustic solution is used to adjust the final pH and alkalinity. Fluoride (to prevent tooth decay) and orthophosphate (a corrosion inhibitor to protect distribution system pipes) are added before the water is pumped to the distribution system, underground reservoirs, and water towers and into your home or business.

## 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, 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 *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



## Testing for Cryptosporidium

Monitoring of our Source Water indicates the presence of *Cryptosporidium* at a level of 0.1.

*Cryptosporidium* is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

## 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 we 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 (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

We remain vigilant in delivering the best-quality drinking water

## 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 that 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 the 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 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 may also come from gas stations, urban stormwater 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.

## 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.

## Wastewater Report History

The Pittsboro Wastewater Treatment plant (WWTP) was originally constructed in 1977, followed by upgrades in 1988 and 2010. Starting in 2010, the plant began pumping a portion of its effluent water as reclaimed water to the 3M plant in Chatham County. The wastewater plant has a designed capacity to treat 750,000 gallons per day.

### Treatment Process

The raw wastewater enters the WWTP at the influent channel and is screened with a mechanical bar screen. The wastewater gravity flows to the influent wet well that supplies water to the influent pumps for delivery to the plant, and to the equalization pumps for delivery to the equalization storage basins. The wastewater then enters the treatment train via a splitter box that provides equal flow to two parallel biological and clarification units. The clarified water from both units is chemically treated for phosphorus removal and gravity flows to a parkson dynasand filtration unit followed by ultraviolet disinfection. The treated effluent water is then either pumped to the 3M manufacturing facility as reclaimed water or receives post treatment cascade aeration before being discharged to Robeson Creek.

### Biosolids Disposal

Biological solids are removed from the plant daily. These solids are treated with polymer and thickened in a rotary drum thickener. The thickened solids are then stored in two aerobic digesters until land applied by a contracted residuals management company.

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only those substances that were detected in our water. (A complete list of all our analytical results is available upon request.) Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less often 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
<b>1,1,1-Trichloroethane</b> (ppb)	2019	200	200	ND	5–200	No	Discharge from metal degreasing sites and other factories
<b>1,1-Dichloroethylene</b> (ppb)	2019	7	7	ND	5–7	No	Discharge from industrial chemical factories
<b>1,2,4-Trichlorobenzene</b> (ppb)	2019	70	70	ND	0.5–70	No	Discharge from textile-finishing factories
<b>1,2-Dichloroethane</b> (ppb)	2019	5	0	ND	0.5–5	No	Discharge from industrial chemical factories
<b>1,2-Dichloropropane</b> (ppb)	2019	5	0	ND	0.5–5	No	Discharge from industrial chemical factories
<b>Alachlor</b> (ppb)	2019	2	0	ND	0.2–2	No	Runoff from herbicide used on row crops
<b>Arsenic</b> (ppb)	2019	10	0	ND	5–10	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
<b>Atrazine</b> (ppb)	2019	3	3	ND	1–3	No	Runoff from herbicide used on row crops
<b>Barium</b> (ppm)	2019	2	2	ND	0.400–2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Benzene</b> (ppb)	2019	5	0	ND	0.5–5	No	Discharge from factories; Leaching from gas storage tanks and landfills
<b>Beryllium</b>	NA	NA	NA	NA	NA	No	NA
<b>Cadmium</b> (ppb)	2019	5	5	ND	1–5	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints
<b>Carbofuran</b> (ppb)	2019	40	40	ND	0.9–40	No	Leaching of soil fumigant used on rice and alfalfa
<b>Carbon Tetrachloride</b> (ppb)	2019	5	0	ND	0.5–5	No	Discharge from chemical plants and other industrial activities
<b>Chloramines</b> (ppm)	2019	[4]	[4]	3.1	2.0–4.0	No	Water additive used to control microbes
<b>Chlorine</b> (ppm)	2019	[4]	[4]	3.0	2.0–4.0	No	Water additive used to control microbes
<b>Chlorobenzene</b> (ppb)	2019	100	100	ND	0.5–100	No	Discharge from chemical and agricultural chemical factories
<b>Chromium</b> (ppb)	2019	100	100	ND	20–100	No	Discharge from steel and pulp mills; Erosion of natural deposits
<b>Cyanide</b> (ppb)	2019	200	200	ND	50–200	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
<b>Dalapon</b> (ppb)	2019	200	200	ND	1–200	No	Runoff from herbicide used on rights of way
<b>Di(2-ethylhexyl) Adipate</b> (ppb)	2019	400	400	ND	0.6–400	No	Discharge from chemical factories
<b>Dichloromethane</b> (ppb)	2019	5	0	ND	0.5–5	No	Discharge from pharmaceutical and chemical factories
<b>Dinoseb</b> (ppb)	2019	7	7	ND	0.2–7	No	Runoff from herbicide used on soybeans and vegetables
<b>Endrin</b> (ppb)	2019	2	2	ND	0.01–2	No	Residue of banned insecticide
<b>Ethylbenzene</b> (ppb)	2019	700	700	ND	0.5–700	No	Discharge from petroleum refineries
<b>Fluoride</b> (ppm)	2019	4	4	0.65	0.30–1.0	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]–Stage 2</b> (ppb)	2019	60	NA	11	10–60	No	By-product of drinking water disinfection

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Heptachlor</b> (ppt)	2019	400	0	ND	40–400	No	Residue of banned pesticide
<b>Hexachlorocyclopentadiene</b> (ppb)	2019	50	50	ND	0.1–50	No	Discharge from chemical factories
<b>Methoxychlor</b> (ppb)	2019	40	40	ND	0.1–40	No	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
<b>Oxamyl [Vydate]</b> (ppb)	2019	200	200	ND	1.0–200	No	Runoff/leaching from insecticide used on apples, potatoes, and tomatoes
<b>Picloram</b> (ppb)	2019	500	500	ND	0.1–500	No	Herbicide runoff
<b>Simazine</b> (ppb)	2019	4	4	ND	0.047–4	No	Herbicide runoff
<b>Styrene</b> (ppb)	2019	100	100	ND	0.5–100	No	Discharge from rubber and plastic factories; Leaching from landfills
<b>TTHMs [Total Trihalomethanes]–Stage 2</b> (ppb)	2019	80	NA	33	10–80	No	By-product of drinking water disinfection
<b>Tetrachloroethylene</b> (ppb)	2019	5	0	ND	0.5–5	No	Discharge from factories and dry cleaners
<b>Toluene</b> (ppm)	2019	1	1	ND	0.0005–1.0	No	Discharge from petroleum factories
<b>Total Organic Carbon [TOC]</b> <sup>1</sup> (removal ratio)	2019	TT	NA	1.4	1.0–3.0	No	Naturally present in the environment
<b>Toxaphene</b> (ppb)	2019	3	0	ND	1–3	No	Runoff/leaching from insecticide used on cotton and cattle
<b>Trichloroethylene</b> (ppb)	2019	5	0	ND	0.5–5	No	Discharge from metal degreasing sites and other factories
<b>Turbidity</b> <sup>2</sup> (NTU)	2019	TT = 1 NTU	NA	0.25	0.02–0.25	No	Soil runoff
<b>Turbidity</b> (Lowest monthly percent of samples meeting limit)	2019	TT	NA	NA	NA	No	Soil runoff
<b>Vinyl Chloride</b> (ppb)	2019	2	0	ND	0.5–2	No	Leaching from PVC piping; Discharge from plastics factories
<b>Xylenes</b> (ppm)	2019	10	10	ND	0.0005–10	No	Discharge from petroleum factories; Discharge from chemical factories
<b>cis-1,2-Dichloroethylene</b> (ppb)	2019	70	70	ND	0.5–70	No	Discharge from industrial chemical factories
<b>o-Dichlorobenzene</b> (ppb)	2019	600	600	ND	5–600	No	Discharge from industrial chemical factories
<b>p-Dichlorobenzene</b> (ppb)	2019	75	75	ND	5–75	No	Discharge from industrial chemical factories
<b>trans-1,2-Dichloroethylene</b> (ppb)	2019	100	100	ND	0.5–100	No	Discharge from industrial chemical factories

## SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Color</b> (ppm)	2019	15	NA	4	1–15	No	Naturally occurring organic materials
<b>Iron</b> (ppb)	2019	300	NA	20	10–50	No	Leaching from natural deposits; Industrial wastes
<b>Manganese</b> (ppb)	2019	50	NA	10	1–50	No	Leaching from natural deposits
<b>pH</b> (Units)	2019	6.5–8.5	NA	7.5	7.2–8.0	No	Naturally occurring

<sup>1</sup> 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.

<sup>2</sup> 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

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

**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 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 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).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**ppt (parts per trillion):** One part substance per trillion parts water (or nanograms per liter).

**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):** These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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