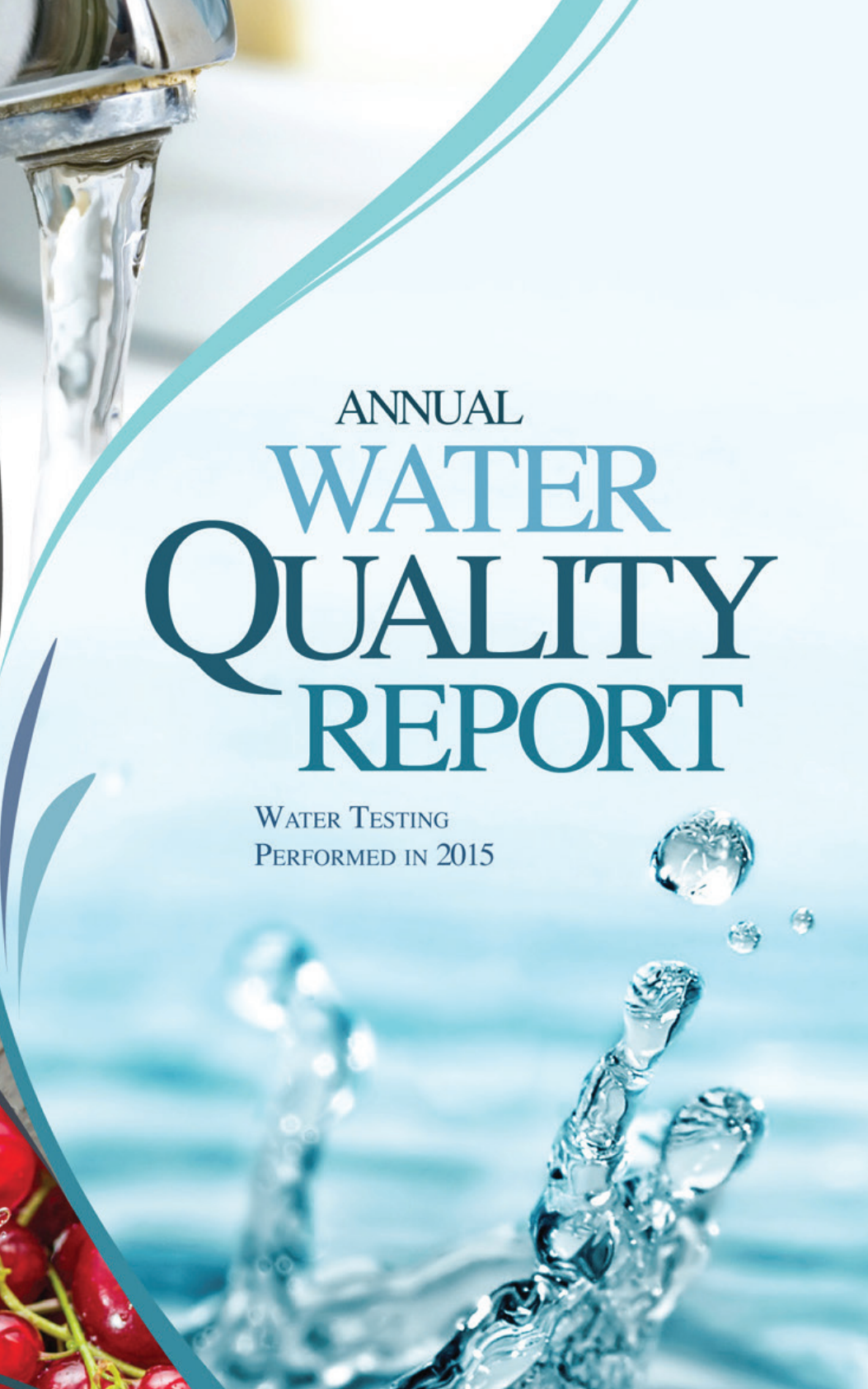
ANNUAL WATER QUALITY REPORT

Water Testing Performed in 2015



TOWN OF PITTSBORO, NORTH CAROLINA 1787

Presented By
Town of Pittsboro

PWS ID#: 0319015

Meeting the Challenge

Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. 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 your homes and businesses. 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 of our water users.

Please remember that we are always available to assist you, should you ever have any questions or concerns about your water.

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 Monday of each month beginning at 7 p.m. at Town Hall, 635 East St. Pittsboro, North Carolina.

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.

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 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.

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 or at www.epa.gov/lead.

Where Does My Water Come From?

The Town of Pittsboro's water is taken from the Haw River and treated at Pittsboro's Water Treatment Plant.

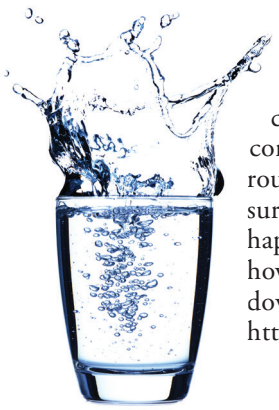
The water treatment process consists of a series of steps. First, raw water (untreated) is withdrawn from our Haw River water source and pumped to the Water Treatment Plant. The raw water is then rapidly mixed with poly-aluminum chloride and ferric sulfate. The addition of these coagulants causes small particles and impurities in the water to stick together to form bigger particles, called "floc." After rapid mixing, the water flows into the flocculation basins where the velocity of water is reduced and the floc particles have time to increase in size. This makes them heavy enough to settle to the bottom of the sedimentation basin from which the sediment is collected and removed. At this point, the clear water is filtered through layers of fine anthracite coal and silicate sand. The filters are used to remove any remaining microscopic particles and microorganisms. Then the water is disinfected to protect it against bacteria. The Pittsboro water system uses a combination of chlorine and ammonia called "chloramines" to disinfect the water. We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of the water without compromising taste. Last, sodium hydroxide (to adjust the final pH and alkalinity), fluoride (to support good dental health), and orthophosphate (a corrosion inhibitor that protects pipes and plumbing) are added before the water is delivered to the distribution system, water towers, and into your home or business.

Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation over the past year. 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 necessarily 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 there 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, download this informative pamphlet: http://goo.gl/KpTmXv.

Water Conservation

You can play a role in conserving water and save 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.

The Town of Pittsboro is currently working on water efficiency planning and design to reduce potable water demand as our population grows.

QUESTIONS?

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.

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes like disposable diapers, creams and lotions, and personal hygiene products including nonbiodegradable wipes.

Wastewater Report

History

The Pittsboro Wastewater Treatment plant was originally constructed in 1977 followed by upgrades in 1988 and 2010. In 1988 an additional aeration basin, clarifier, filters, mechanical bar screen, and UV system were added. In 2010 a plant upgrade provided new EQ storage basins, pumps, a new UV disinfection system, and other equipment improvements. In April of 2010 the Town of Pittsboro began supplying the 3M Corporation reclaimed water for its manufacturing operations in Chatham County.

The Town of Pittsboro has a permitted total discharge capacity of 3.22MGD (million gallons per day). The current treatment plant is designed to process up to 0.75MGD, and is discharged into Robeson Creek. The remainder of the permitted capacity of 2.47 MGD is reserved for future use with a discharge point at the Haw River.

The collection system consists of an estimate of 12 miles of sewer mains. There were no collection system overflows for 2015.

Treatment Process

The wastewater enters the WWTP at the influent channel and is screened for larger trash items with a mechanical bar screen. The wastewater then flows to the influent wet well supplying water to the influent pumps for delivery to the plant, as well as EQ pumps for delivery to the EQ storage basins. The water enters two identical treatment trains for biological treatment and clarification. Excess peak flow is diverted to the EQ basins for storage and returned to the plant overnight. The clarified water from both units is chemically treated for phosphorus and flows to the filtration units followed by UV disinfection. The treated effluent is either pumped to the 3M manufacturing facility as reclaimed water, or re-aerated and discharged to Robeson Creek.

Biosolids Disposal

Biological solids are removed from the plant on a daily basis, treated with polymer, and thickened with a rotary drum thickener. The solids are then land applied as fertilizer for animal feed crops.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires 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
Arsenic (ppb)	2015	10	0	ND	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Atrazine (ppb)	2015	3	3	ND	NA	No	Runoff from herbicide used on row crops
Barium (ppm)	2015	2	2	ND	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Benzene (ppb)	2015	5	0	ND	0–3	No	Discharge from factories; Leaching from gas storage tanks and landfills
Cadmium (ppb)	2015	5	5	ND	NA	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints
Chloramines (ppm)	2015	[4]	[4]	3.2	2.0–4.0	No	Water additive used to control microbes
Chlorine (ppm)	2015	[4]	[4]	3.1	2.0–4.0	No	Water additive used to control microbes
Chromium (ppb)	2015	100	100	ND	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Cyanide (ppb)	2015	200	200	ND	0–100	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fecal coliform and *E. coli* (# positive samples)	2015	0	0	0	NA	No	Human and animal fecal waste
Fluoride (ppm)	2015	4	4	0.53	0.0001–1.0	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2015	60	NA	11	5–50	No	By-product of drinking water disinfection
Simazine (ppb)	2015	4	4	ND	0–0.5	No	Herbicide runoff
TTHMs [Total Trihalomethanes] (ppb)	2015	80	NA	26	10–65	No	By-product of drinking water disinfection
Total Coliform Bacteria (# positive samples)	2015	1 positive monthly sample	0	NA	NA	No	Naturally present in the environment
Total Organic Carbon [TOC][1] (removal ratio)	2015	TT	NA	1.6	1.0–3.0	No	Naturally present in the environment
Turbidity[2] (NTU)	2015	TT = 1 NTU	NA	0.20	0.02–0.20	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2015	TT = 95% of samples < 0.3 NTU	NA	100	NA	No	Soil runoff

Tap water samples were 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)	2015	1.3	1.3	NA	NA	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2015	15	0	NA	0/28	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
Color (ppm)	2015	15	NA	10	0–20	No	Naturally occurring organic materials
Fluoride (ppm)	2015	2.0	NA	0.60	0.10–1.0	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Iron (ppb)	2015	300	NA	10	5–300	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2015	50	NA	10	5–50	No	Leaching from natural deposits
pH (Units)	2015	6.5–8.5	NA	7.5	7.0–7.5	No	Naturally occurring

[1] Depending on the TOC in our source water, the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If we do not achieve that % removal, there is an alternative % removal. If we fail to meet the alternative % 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 that 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 By-products 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 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).

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 taste and odor.

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