

Annual
WATER
QUALITY
REPORT

Reporting Year 2013



Presented By
Town of Clayton

PWS ID#: 03-51-020

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2013. Over the years, we have dedicated ourselves to providing drinking water that meets all state and federal standards and we continually strive to deliver the best-quality drinking water to you, our customers. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of new regulations and the goals of water conservation and community education while continuing to serve the needs of all our water users. Thanks again for your continued support as we work to provide you with high-quality drinking water in these tough economic times.

Please remember that we are always available to assist you, and we encourage you to share with us your thoughts about the information provided in this report. Should you ever have any questions or concerns about your water, feel free to contact us. After all, well-informed customers are our best allies.

Community Participation

Additional information can be obtained, or your comments received, at the monthly Town Council meetings, which you are welcome to attend. These meetings are held on the first and third Mondays of every month at 6:30 p.m. at the Clayton Center Council Chambers, 111 East Second Street, Clayton, North Carolina.

Source Water Assessment

According to the completed Source Water Assessment, the susceptibility rating for our source water was determined to be in the moderate category. The susceptibility rating does not refer to the actual water quality but rather to the potential of the source water to become contaminated. Information about the Source Water Assessment can be obtained by contacting the Public Water Supply Section by e-mail at SWAP@ncmail.net, or by regular mail at SWAP, Public Water Supply Section, 1634 Mail Service Center, Raleigh, North Carolina, 27699-1634. You may also contact the source water assessment staff by phone at (919) 715-2633.

Where Does My Water Come From?

The Town of Clayton relies on Johnston County Utilities for its source water. The water treatment facility is located a half-mile east of the Town of Wilson's Mills. Johnston County Public Utilities' source water is surface water from the Neuse River. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed Web site at www.epa.gov/surf/.

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.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to try and ensure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. Annual inspections and testing of each backflow device will ensure that it is providing maximum protection for a continually safe water supply.

For more information, review the Cross-Connection Control Manual from the U.S. EPA's Web site at <http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectioncontrol/index.cfm>. You can also call the 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/safewater/lead.

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>.

QUESTIONS?

For more information about this report or for any questions relating to your drinking water, please contact Byron W. Poelman, Utility Service Superintendent, at (919) 553-1530 or bpoelman@townofclaytonnc.org.



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 expensive repairs.

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.

About Our Violation

During July 2013, samples taken indicated high levels for HAAs in the public drinking water system, resulting in an exceedance of the MCL. We have already resampled and received results that are well under the MCL and have taken steps to ensure that adequate monitoring will be performed in the future to minimize the possibility of exceeding the MCL, or if similar results are received we will be ready to take any action necessary to bring the system back into compliance as quickly as possible. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Sampling Results

During the past year, there have been hundreds of water samples analyzed in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected, both in the Town of Clayton water system and in the Johnston County Public Utilities' water system, our water provider. We feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The state requires us to monitor 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]	Town of Clayton		Johnston County		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Chloramines (ppm)	2013	[4]	[4]	2.04 (Average)	0.10–5.50	2.83 (RAA)	0.89–3.84	No	Water additive used to control microbes
Chlorine (ppm)	2013	[4]	[4]	1.9	1.1–2.7	3.21 (Average)	0.26–3.62	No	Water additive used to control microbes
Fluoride (ppm)	2013	4	4	NA	NA	0.59	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA]–Stage 1 ² (ppb)	2013	60	NA	38 (RAA)	22–77	35 (RAA)	15.3–81.5	Yes	By-product of drinking water disinfection
Haloacetic Acids [HAA]–Stage 2 ³ (ppb)	2013	60	NA	29	12–29	NA	NA	No	By-product of drinking water disinfection
Mercury [inorganic] (ppb)	2013	2	2	NA	NA	1	NA	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
Simazine (ppb)	2013	4	4	NA	NA	0.375	0.24–0.51	No	Herbicide runoff
TTHMs [Total Trihalomethanes]–Stage 1 ⁴ (ppb)	2013	80	NA	47 (RAA)	30–85	48 (RAA)	12.4–97	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 ³ (ppb)	2013	80	NA	44	34–44	NA	NA	No	By-product of drinking water disinfection
Toluene (ppm)	2013	1	1	NA	NA	0.0008	ND–0.0008	No	Discharge from petroleum factories
Total Organic Carbon [TOC] ⁵ (removal ratio)	2013	TT	NA	NA	NA	1.34	1.16–1.49	No	Naturally present in the environment
Turbidity ⁶ (NTU)	2013	TT=1 NTU	NA	NA	NA	0.167	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT=95% of samples <0.3 NTU	NA	NA	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	Town of Clayton		Johnston County		VIOLATION	TYPICAL SOURCE		
		AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES			AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL
Copper (ppm)	2011	1.3	1.3	0.118	0/30	0.088 ⁷	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES⁸

				Town of Clayton		Johnston County			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
pH (Units)	2013	6.5–8.5	NA	7.59 (Average)	6.88–8.46	6.8	NA	No	Naturally occurring

UNREGULATED SUBSTANCES (JOHNSTON COUNTY)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2013	29.3	NA	NA

¹The MCL for beta particles is 4 mrem/year. The EPA considers 50 pCi/L to be the level of concern for beta particles

²Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

³Only 1 set of quarterly samples were collected in 2013 for HAAs (Stage 2) and TTHMs (Stage 2), per requirements. Amount Detected is the highest detected level from all samples taken.

⁴Some 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.

⁵Depending 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.

⁶Turbidity is a measure of the cloudiness of the water. It is monitored 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.

⁷Sampled in 2012.

⁸Secondary contaminants are substances that affect taste, odor, and/or color of drinking water. These aesthetic contaminants normally do not have any health effects and normally do not affect the safety of your water.

Definitions

AL (Action Level): The concentration of a contaminant which, 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.

pCi/L (picocuries per liter): A measure of radioactivity.

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).

RAA: Running annual average.

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

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