

2016 Annual Drinking Water Quality Report

Wilton Water System

PWS ID# "40-39-004"

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about from where your water comes, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information, because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact SGWASA at (919) 575-3367.** We want our valued customers to be informed about their water utility.

What EPA Wants You to Know

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 the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. SGWASA is 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 <http://www.epa.gov/safewater/lead>.

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 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 include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or 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 can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

The water that is used by this system is surface water from Knapp of Reeds impoundment (Holt Lake) and is located off Old Highway 75 just northeast of Butner.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for Wilton Water System was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

| Source Name | Susceptibility Rating | SWAP Report Date |
|---------------------------------------|-----------------------|-------------------|
| Knapp of Reeds Impoundment(Lake Holt) | Lower | February 19, 2010 |

The complete SWAP Assessment report for Wilton Water System may be viewed on the Web at: www.ncwater.org/pws/swap. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, PWSID, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of “higher” does not imply poor water quality, only the systems’ potential to become contaminated by PCS’s in the assessment area.

Violations that Your Water System Received for the Report Year

Wilton Water System was assessed with (0) water quality violations in 2016.

Water Quality Data Table of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2016**. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Important Drinking Water Definitions:

Not-Applicable (N/A) – Information not applicable/not required for that particular water system or for that particular rule.

Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

Parts per million (ppm) or Milligrams per liter (mg/L) - One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.

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

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

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

Maximum Residual Disinfection Level Goal (MRDLG) – 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.

Maximum Residual Disinfection Level (MRDL) – 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.

Locational Running Annual Average (LRAA) – 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.

Maximum Contaminant Level (MCL) - 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) - 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.

Extra Note: MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Microbiological Contaminants

| Contaminant (units) | MCL Violation Y/N | Your Water | MCLG | MCL | Likely Source of Contamination |
|---|-------------------|------------|------|---|--------------------------------------|
| Total Coliform Bacteria (presence or absence) | N | 0 | 0 | one positive monthly sample | Naturally present in the environment |
| Fecal Coliform or E. coli (presence or absence) | N | 0 | 0 | 0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive) | Human and animal fecal waste |

Turbidity*

| Contaminant (units) | Treatment Technique (TT) Violation Y/N | Your Water | MCLG | Treatment Technique (TT) Violation if: | Likely Source of Contamination |
|---|--|------------|------|---|--------------------------------|
| Turbidity (NTU) - Highest single turbidity measurement | N | 3.3 | N/A | Turbidity > 1 NTU | Soil runoff |
| Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits | N | 100% | N/A | Less than 95% of monthly turbidity measurements are ≤ 0.3 NTU | |

* 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.

Inorganic Contaminants

| Contaminant (units) | Sample Date | MCL Violation Y/N | Your Water | Range | | MCLG | MCL | Likely Source of Contamination |
|---------------------------|-------------|-------------------|------------|-----------|------|------|-----|---|
| | | | | Low | High | | | |
| Antimony (ppb) | 08/24/16 | N | ND | NA | | 6 | 6 | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder |
| Arsenic (ppb) | 08/24/16 | N | ND | NA | | 0 | 10 | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes |
| Barium (ppm) | 08/24/16 | N | ND | NA | | 2 | 2 | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Beryllium (ppb) | 08/24/16 | N | ND | NA | | 4 | 4 | Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries |
| Cadmium (ppb) | 08/24/16 | N | ND | NA | | 5 | 5 | Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints |
| Chromium (ppb) | 08/24/16 | N | ND | NA | | 100 | 100 | Discharge from steel and pulp mills; erosion of natural deposits |
| Cyanide (ppb) | 08/24/16 | N | ND | NA | | 200 | 200 | Discharge from steel/metal factories; discharge from plastic and fertilizer factories |
| Fluoride (ppm) | 08/24/16 | N | 0.63 | 0.2 – 1.0 | | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Mercury (inorganic) (ppb) | 08/24/16 | N | ND | NA | | 2 | 2 | Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland |
| Selenium (ppb) | 08/24/16 | N | ND | NA | | 50 | 50 | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines |
| Thallium (ppb) | 08/24/16 | N | ND | NA | | 0.5 | 2 | Leaching from ore-processing sites; discharge from electronics, glass, and drug factories |

Nitrate/Nitrite Contaminants

| Contaminant (units) | Sample Date | MCL Violation Y/N | Your Water | Range | | MCLG | MCL | Likely Source of Contamination |
|-----------------------------|-------------|-------------------|------------|-------|------|------|-----|---|
| | | | | Low | High | | | |
| Nitrate (as Nitrogen) (ppm) | 08/24/16 | N | ND | N/A | | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Nitrite (as Nitrogen) (ppm) | 08/24/16 | N | ND | N/A | | 1 | 1 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |

Unregulated Inorganic Contaminants

| Contaminant (units) | Sample Date | Your Water (average) | Range | |
|---------------------|-------------|----------------------|-------|------|
| | | | Low | High |
| Nickel (ppm) | 08/24/16 | ND | NA | |
| Sodium (ppm) | 08/24/16 | 24.7 | NA | |

Volatile Organic Chemical (VOC) Contaminants

| Contaminant (units) | Sample Date | MCL Violation Y/N | Your Water | Range | | MCLG | MCL | Likely Source of Contamination |
|----------------------------|-------------|-------------------|------------|-------|------|------|-----|---|
| | | | | Low | High | | | |
| Benzene (ppb) | 08/24/16 | N | ND | | | 0 | 5 | Discharge from factories; leaching from gas storage tanks and landfills |
| Carbon tetrachloride (ppb) | 08/24/16 | N | ND | | | 0 | 5 | Discharge from chemical plants and other industrial activities |
| Chlorobenzene (ppb) | 08/24/16 | N | ND | | | 100 | 100 | Discharge from chemical and agricultural chemical factories |
| o-Dichlorobenzene (ppb) | 08/24/16 | N | ND | | | 600 | 600 | Discharge from industrial chemical factories |

| | | | | | | | |
|----------------------------------|----------|---|----|--|-----|-----|---|
| p-Dichlorobenzene (ppb) | 08/24/16 | N | ND | | 75 | 75 | Discharge from industrial chemical factories |
| 1,2 – Dichloroethane (ppb) | 08/24/16 | N | ND | | 0 | 5 | Discharge from industrial chemical factories |
| 1,1 – Dichloroethylene (ppb) | 08/24/16 | N | ND | | 7 | 7 | Discharge from industrial chemical factories |
| cis-1,2-Dichloroethylene (ppb) | 08/24/16 | N | ND | | 70 | 70 | Discharge from industrial chemical factories |
| trans-1,2-Dichloroethylene (ppb) | 08/24/16 | N | ND | | 100 | 100 | Discharge from industrial chemical factories |
| Dichloromethane (ppb) | 08/24/16 | N | ND | | 0 | 5 | Discharge from pharmaceutical and chemical factories |
| 1,2-Dichloropropane (ppb) | 08/24/16 | N | ND | | 0 | 5 | Discharge from industrial chemical factories |
| Ethylbenzene (ppb) | 08/24/16 | N | ND | | 700 | 700 | Discharge from petroleum refineries |
| Styrene (ppb) | 08/24/16 | N | ND | | 100 | 100 | Discharge from rubber and plastic factories; leaching from landfills |
| Tetrachloroethylene (ppb) | 08/24/16 | N | ND | | 0 | 5 | Discharge from factories and dry cleaners |
| 1,2,4 –Trichlorobenzene (ppb) | 08/24/16 | N | ND | | 70 | 70 | Discharge from textile-finishing factories |
| 1,1,1 – Trichloroethane (ppb) | 08/24/16 | N | ND | | 200 | 200 | Discharge from metal degreasing sites and other factories |
| 1,1,2 –Trichloroethane (ppb) | 08/24/16 | N | ND | | 3 | 5 | Discharge from industrial chemical factories |
| Trichloroethylene (ppb) | 08/24/16 | N | ND | | 0 | 5 | Discharge from metal degreasing sites and other factories |
| Toluene (ppm) | 08/24/16 | N | ND | | 1 | 1 | Discharge from petroleum factories |
| Vinyl Chloride (ppb) | 08/24/16 | N | ND | | 0 | 2 | Leaching from PVC piping; discharge from plastics factories |
| Xylenes (Total) (ppm) | 08/24/16 | N | ND | | 10 | 10 | Discharge from petroleum factories; discharge from chemical factories |

Lead and Copper Contaminants

| Contaminant (units) | Sample Date | Your Water | # of sites found above the AL | MCLG | MCL | Likely Source of Contamination |
|--|-------------|------------|-------------------------------|------|--------|--|
| Copper (ppm) (90 th percentile) | 9-27-16 | 0.675 | 0 | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead (ppb) (90 th percentile) | 9-27-16 | ND | 0 | 0 | AL=15 | Corrosion of household plumbing systems, erosion of natural deposits |

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. Wilton water system is 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 <http://www.epa.gov/safewater/lead>

Radiological Contaminants

| Contaminant (units) | Sample Date | MCL Violation Y/N | Your Water | MCLG | MCL | Likely Source of Contamination |
|------------------------|-------------|-------------------|------------|------|------|--|
| Alpha emitters (pCi/l) | 2/02/17 | N | ND | 0 | 15 | Erosion of natural deposits |
| Uranium (pCi/l) | 2/02/17 | N | ND | 0 | 20.1 | Erosion of natural deposits |
| Radium 226 (pCi/l) | 2/02/17 | N | ND | 0 | 3 | Decay of natural and man-made deposits |
| Radium 228 (pCi/l) | 2/02/17 | N | 1.0 | 0 | 2 | Erosion of natural deposits |

Disinfection By-Product Precursors Contaminants

| Contaminant (units) | Sample Date | MCL/TT Violation Y/N | Your Water | Range | | MCLG | MCL | Likely Source of Contamination |
|---|-------------|----------------------|------------|-------|------|------|-----|--------------------------------------|
| | | | | Low | High | | | |
| Total Organic Carbon (ppm) (TOCs)-RAW | Monthly | N | 9.04 | 7.26 | 11.6 | N/A | TT | Naturally present in the environment |
| Total Organic Carbon (ppm) (TOCs)-TREATED | Monthly | N | 3.15 | 1.92 | 4.44 | N/A | TT | Naturally present in the environment |

Step 1 TOC Removal Requirements

| Source Water TOC (mg/L) | Source Water Alkalinity mg/L as CaCO ₃ in percentages | | |
|-------------------------|--|----------|-------|
| | 0 – 60 | 60 – 120 | > 120 |
| 2.0 – 4.0 | 35.0 | 25.0 | 15.0 |
| 4.0 – 8.0 | 45.0 | 35.0 | 25.0 |
| > 8.0 | 50.0 | 40.0 | 30.0 |

Total Organic Carbon (TOC) Removal

| Contaminant (units) | TT Violation Y/N | Your Water (RAA Removal Ratio) | Range Monthly Removal Ratio Low - High | MCLG | TT | Likely Source of Contamination | Compliance Method (Step 1 or ACC#_) |
|--|------------------|--------------------------------|--|------|----|--------------------------------------|-------------------------------------|
| Total Organic Carbon (removal ratio) (TOC)-TREATED | N | 1.33 | 1.1 – 1.58 | N/A | TT | Naturally present in the environment | STEP 1 |

Note: 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 that, we are in violation of a Treatment Technique.

Disinfectant Residuals Summary

| | Year Sampled | MRDL Violation Y/N | Your Water (highest RAA) | Range | | MRDLG | MRDL | Likely Source of Contamination |
|-------------------|--------------|--------------------|--------------------------|-------|------|-------|------|---|
| | | | | Low | High | | | |
| Chloramines (ppm) | 2016 | N | .33 | 0.1 | .88 | 4 | 4.0 | Water additive used to control microbes |
| Chlorine (ppm) | 2016 | N | 0.45 | 0.04 | 2.16 | 4 | 4.0 | Water additive used to control microbes |

Stage 2 Disinfection Byproduct Compliance - Based upon Locational Running Annual Average (LRAA)

| Disinfection Byproduct | Year Sampled | MCL Violation Y/N | Your Water (highest LRAA) | Range | | MCLG | MCL | Likely Source of Contamination |
|------------------------|--------------|-------------------|---------------------------|-------|------|------|-----|--|
| | | | | Low | High | | | |
| TTHM (ppb) | | | | | | N/A | 80 | Byproduct of drinking water disinfection |
| Location Code: B02 | 2016 | N | 74 | 47 | 74 | | | |
| HAA5 (ppb) | | | | | | N/A | 60 | Byproduct of drinking water disinfection |
| Location Code: B02 | 2016 | N | 33 | 20 | 33 | | | |

Some 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.

Some people who drink water containing 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.

Secondary Contaminants, required by the NC Public Water Supply Section, are substances that affect the 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.

Other Miscellaneous Water Characteristics Contaminants

| Contaminant (units) | Sample Date | Your Water | Range | | SMCL |
|---------------------|-------------|------------|-------|------|------------|
| | | | Low | High | |
| Iron (ppm) | 08/24/16 | ND | NA | | 0.3 mg/L |
| Manganese (ppm) | 08/24/16 | 0.038 | NA | | 0.05 mg/L |
| Nickel (ppm) | 08/24/16 | ND | NA | | N/A |
| Sodium (ppm) | 08/24/16 | 24.7 | NA | | N/A |
| Sulfate (ppm) | 08/24/16 | 33 | NA | | 250 mg/L |
| pH | 08/24/16 | 7.48 | NA | | 6.5 to 8.5 |

Unregulated Contaminants UCMR3

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of the unregulated contaminants in drinking water and whether future regulations are warranted.

| Contaminant (units) | Sample Date | Sample Point | RDL | Your water (AVG) | RANGE | | SMCL |
|---------------------|-------------|--------------|------|------------------|-------|------|---|
| | | | | | LOW | HIGH | |
| Chromium, ug/L | 12/08/15 | EP | 0.2 | 0.50 | 0.30 | 0.70 | Naturally-occurring element: used in making steel and other alloys. Chromium-3 or -6 are used for chrome plating, dyes and pigments, leather tanning and wood preservation. |
| Chromium, ug/L | 12/08/15 | MRT | 0.2 | 0.45 | 0.40 | 0.50 | |
| Chromium(VI), ug/L | 12/08/15 | EP | 0.03 | 0.32 | 0.27 | 0.38 | Naturally-occurring element: used in making steel and other alloys. Chromium-3 or -6 are used for chrome plating, dyes and pigments, leather tanning and wood preservation. |
| Chromium(VI), ug/L | 12/08/15 | MRT | 0.03 | 0.31 | 0.25 | 0.41 | |
| Strontium, ug/L | 12/08/15 | EP | 0.3 | 32 | 28.7 | 35.4 | Naturally-occurring element :historically, commercial use of strontium has been in the face plate glass of cathode-ray tube televisions to block x-ray emission |
| Strontium, ug/L | 12/08/15 | MRT | 0.3 | 32 | 30.1 | 35.2 | |
| Chlorate, ug/L | 12/08/15 | EP | 20 | 187 | 88 | 310 | Agricultural defoliant or desiccant; used in the production of chlorine dioxide. |
| Chlorate, ug/L | 12/08/15 | MRT | 20 | 176 | 84 | 270 | |

EP = Entry point to distribution system

MRT = Distribution sample at maximum residence time

Thank you for allowing us to continue to provide your family with clean, quality drinking water. Should you have any questions, concerns or complaints about this report or concerning your water utility, please feel free to call SGWASA at 919-575-3367, or write us at: SGWASA, 415 Central Ave., Suite B, Butner, NC, 27509.