

# ***2020 Annual Drinking Water Quality Report*** ***Pasquotank County Water Treatment Plant*** Water System Number: **04-70-015**

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 your source(s) of water, 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 David Smithson at (252) 340-9633. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. The Pasquotank County Board of Commissioners meet on the first and third Monday of each month at 7:00 pm in Courtroom C on the second floor of the Pasquotank County Courthouse.**

## **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 \(800-426-4791\)](tel:8004264791).

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 microbial contaminants are available from the [Safe Drinking Water Hotline \(800-426-4791\)](tel:8004264791).

## **Who is Responsible?**

The Safe Drinking Water Act gives the Environmental Protection Agency (EPA) the responsibility for setting national drinking water standards that protect the health of the 250 million people who get their water from public water systems. Other people get their water from private wells which are not subject to Federal Regulations. Since 1974, EPA has set national safety standards for over 80 contaminants that may occur in drinking water.

While EPA and state governments set and enforce standards, local governments and private water suppliers have direct responsibility for the quality of the water that flows to your tap. Water systems test and treat their water, maintain the distribution systems that deliver water to consumers, and report on their water quality to the state. States and EPA provide technical assistance to water suppliers and can take legal action against systems that fail to provide water that meets state and EPA standards.

## **When You Turn on Your Tap, Consider the Source**

The water that is used by this system is Ground Water ... and is located throughout the southeastern portion of Pasquotank County.

|         |         |         |          |         |         |
|---------|---------|---------|----------|---------|---------|
| Well 1  | Well 6  | Well 11 | Well 16  | Well 21 | Well 26 |
| Well 2  | Well 7  | Well 12 | Well 17  | Well 22 | Well 27 |
| Well 3A | Well 8  | Well 13 | Well 18  | Well 23 | Well 28 |
| Well 4  | Well 9  | Well 14 | Well 19A | Well 24 | Well 29 |
| Well 5A | Well 10 | Well 15 | Well 20  | Well 25 | Well 30 |

## **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 Pasquotank County WTP 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 | Source Name | Susceptibility Rating | SWAP Report Date |
|-------------|-----------------------|------------------|-------------|-----------------------|------------------|
| Well 1      | Moderate              | April 2017       | Well 16     | Moderate              | April 2017       |
| Well 2      | Moderate              | April 2017       | Well 17     | Moderate              | April 2017       |
| Well 3A     | Moderate              | April 2017       | Well 18     | Moderate              | April 2017       |
| Well 4      | Moderate              | April 2017       | Well 19A    | Moderate              | April 2017       |
| Well 5A     | Moderate              | April 2017       | Well 20     | Moderate              | April 2017       |
| Well 6      | Moderate              | April 2017       | Well 21     | Moderate              | April 2017       |
| Well 7      | Moderate              | April 2017       | Well 22     | Moderate              | April 2017       |
| Well 8      | Higher                | April 2017       | Well 23     | Moderate              | April 2017       |
| Well 9      | Moderate              | April 2017       | Well 24     | Moderate              | April 2017       |
| Well 10     | Moderate              | April 2017       | Well 25     | Moderate              | April 2017       |
| Well 11     | Moderate              | April 2017       | Well 26     | Moderate              | April 2017       |
| Well 12     | Moderate              | April 2017       | Well 27     | Moderate              | April 2017       |
| Well 13     | Moderate              | April 2017       | Well 28     | Moderate              | April 2017       |
| Well 14     | Moderate              | April 2017       | Well 29     | Moderate              | April 2017       |
| Well 15     | Moderate              | April 2017       | Well 30     | Moderate              | April 2017       |

The complete SWAP Assessment report for Pasquotank County WTP may be viewed on the Web at: [www.ncwater.org/pws/swap](http://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](mailto:swap@ncdenr.gov). Please indicate your system name, number, 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 system’s potential to become contaminated by PCSs in the assessment area.

**2020 Water Characteristics**

The Pasquotank County WTP routinely monitors for over 150 contaminants in your drinking water according to Federal and State laws. The following table 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, 2020.** The EPA and the State allow 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**

The USEPA revised the federal regulations affecting the monitoring of unregulated contaminants at public water systems. The purpose of monitoring for unregulated contaminants in drinking water is to provide data to support the EPA administrator’s decisions concerning whether or not to request these contaminants in the future for public health protection. The Pasquotank County WTP collected unregulated contaminant samples in March 2018 and September 2018. Twenty eight contaminants were included in this list and all detects are listed below.

### Unregulated Contaminants

| Contaminant (units)                       | Sample Date           | Your Water                                   | Range |      |
|-------------------------------------------|-----------------------|----------------------------------------------|-------|------|
|                                           |                       |                                              | Low   | High |
| Bromide (ppb)                             | 3/22/2018<br>9/5/2018 | 267<br>326                                   | N/A   |      |
| Total Organic Carbon (ppb)                | 3/22/2018<br>9/5/2018 | 4590<br>4670                                 | N/A   |      |
| Manganese (ppb)                           | 3/22/2018<br>9/5/2018 | 6.48<br>5.34                                 | N/A   |      |
| Bromochloroacetic Acid (ppb)<br>B01-B04   | 3/22/2018<br>9/5/2018 | 6.56,7.03,6.97,7.50<br>.536,.602,< 0.30,.682 | N/A   |      |
| Bromodichloroacetic Acid (ppb)<br>B01-B04 | 3/22/2018<br>9/5/2018 | 1.85,2.02,2.02,2.30<br>.777,.628,.728,.640   | N/A   |      |
| Chlorodibromoacetic Acid (ppb)<br>B01-B04 | 3/22/2018<br>9/5/2018 | .911,.995,1.01,1.33<br>.414,.370,.420,.385   | N/A   |      |
| Dibromoacetic Acid (ppb)<br>B01-B04       | 3/22/2018<br>9/5/2018 | 5.31,5.81,5.86,6.97<br>.452,.668,.372,.654   | N/A   |      |
| Dichloroacetic Acid (ppb)<br>B01-B04      | 3/22/2018<br>9/5/2018 | 5.25,5.48,5.42,5.47<br>.740,.970,.506,.902   | N/A   |      |
| Monobromoacetic Acid (ppb)<br>B01-B04     | 3/22/2018             | .787,.901,.861,.958                          | N/A   |      |
| Monochloroacetic Acid (ppb)<br>B01-B04    | 3/22/2018             | < 2.0,2.35,< 2.0,2.69                        | N/A   |      |
| Trichloroacetic Acid (ppb)<br>B01-B04     | 3/22/2018<br>9/5/2018 | 1.61,1.75,1.75,1.83<br>.844,.628,.669,.611   | N/A   |      |

### Microbiological Quality

Bacterial and other harmful organisms are removed by physical processes and disinfection chemicals. The federal MCL for total coliform is the presence in 5% of the monthly samples. [In 2020 Pasquotank County WTP did not detect the presence of total coliform bacteria.](#)

### Disinfectant Residuals Summary

|                   | Year Sampled | MRDL Violation Y/N | Your Water (highest RAA) | Range |      | MRDLG | MRDL | Likely Source of Contamination          |
|-------------------|--------------|--------------------|--------------------------|-------|------|-------|------|-----------------------------------------|
|                   |              |                    |                          | Low   | High |       |      |                                         |
| Chlorine (ppm)    | 2020         | N                  | 3.90                     | 0.50  | 2.82 | 4     | 4.0  | Water additive used to control microbes |
| Chloramines (ppm) | 2020         | N                  | 4.00                     | 1.00  | 2.63 |       |      |                                         |

### Radiological Quality

Radiological quality was tested in July 2015. Test results are as follows. [Gross Alpha, Uranium, Radium 226 and Radium 228 were not detected.](#) Radiological testing is not due again until July 2021.

### Lead & Copper

**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.**

Pasquotank County WTP 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 Federal Lead & Copper Rule mandates a household testing program in accordance with the 1994 Lead & Copper Rule. According to the rule, 90% of the samples from high risk homes in Pasquotank County cannot exceed 0.015 mg/l lead and 1.3 mg/l copper. [In 2018 samples taken from high risk homes, the 90<sup>th</sup> percentile results were .003 mg/l of lead and .120 mg/l copper.](#) The next round of lead & copper sampling is due in 2021.

### Organic Compounds

There are a number of organic compounds that are of concern in drinking water. This group includes volatile organic compounds that vaporize easily called VOC's, synthetic organic compounds including pesticides and herbicides called SOC's and compounds that occur as a by-product when water is disinfected.

**SOC's** were tested biannually in 2020. Testing included 26 regulated compounds. Test results showed all compounds tested were below the detection limit. SOC's are due to be tested again in 2023.

**VOC's** were tested quarterly in 2020. There were a total of 21 regulated compounds tested. First quarter detects are listed below. There were no detects in subsequent quarters. VOC's are due to be tested quarterly in 2021.

| Contaminant     | Required Reporting Limit (R.R.L.) | Quantified Results | Allowable Limits |
|-----------------|-----------------------------------|--------------------|------------------|
| Xylenes (Total) | 0.0005 mg/l                       | 0.0125 mg/l        | 10.00 mg/l       |
| Toluene         | 0.0005 mg/l                       | 0.0020 mg/l        | 0.700 mg/l       |

### **Inorganic Compounds / Nitrate & Nitrite**

Nitrate, Nitrite and 17 compounds were tested in March of 2018. All tested below the detection limit with exception of the following. Inorganic Compounds testing is not due again until March 2021.

| Contaminant | Result    | MCL           |
|-------------|-----------|---------------|
| Fluoride    | .52 mg/l  | 4.00 mg/l     |
| Sodium      | 72.5 mg/l | Not Regulated |

### **THM's (Trihalomethanes) & HAA5 (Haloacetic Acids)**

Under the new stage II DBP (Disinfect By-Product) Rule, which became effective in October 2013, we are required to collect and analyze 2 target distribution samples annually. Results for samples collected in July 2020 average as follows.

| Sample I.D. | TTHM result (mg/l)<br>MCL = 0.080 mg/l | HAA5 result (mg/l)<br>MCL = 0.060 mg/l |
|-------------|----------------------------------------|----------------------------------------|
| B01         | 0.0189                                 | 0.0043                                 |
| B02         | 0.0182                                 | 0.0095                                 |

### **Terms and Definitions**

In this report you may find terms and abbreviations that may not be familiar to you. To help you better understand these terms we have provided the following definitions.

**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.

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

**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.

**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.

**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

**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.