

Meeting Standards. Surpassing Expectations.

Fayetteville Public Works Commission 2020 Water Quality Report

At PWC, we care deeply about the quality of the water we provide for our customers, and we're proud of the exceptional standards we maintain. Each year we publish a "Water Quality Report" with the results of testing we are required to perform. You can find full details of this report on our website – www.faypwc.com/water-quality-report.

However, we don't test our water just because we "have to." It's part of our unparalleled commitment to provide you with the highest quality drinking water that meets – and surpasses – standard requirements.

Above and Beyond

PWC is proud to be a charter member of the national Partnership for Safe Water. We were the first utility in North Carolina to earn the Environmental Protection Agency (EPA) Director's Award for our extra efforts in providing clean, safe drinking water. And we have received the prestigious recognition for 20 consecutive years.

In 2011, PWC became a Charter Member of the Partnership for Safe Water Distribution System Optimization Program. This program focused on the operation and maintenance of water treatment facilities, water mains and storage tanks. In 2014, when we completed the 18-month self-assessment phase of the program, we were among the first utilities in the country to be recognized for this achievement.

9 Billion Gallons. 150,000 Tests.

To make sure your drinking water is clean and safe, PWC's two Water Treatment Facilities – P.O. Hoffer and Glenville Lake – use advanced technology and proven methods to process the water we provide. In 2020, we treated 9.1 billion gallons of water! To ensure strict compliance with EPA regulations, we continuously monitor our water quality which involves performing more than 150,000 tests a year.

Where Your Water Comes From

All of the water treated by PWC is "surface water." The water processed at our P.O. Hoffer Water Treatment Facility comes from the Cape Fear River. Water processed at our Glenville Lake Facility comes from the Cape Fear River, Big Cross Creek, and the Little Cross Creek Water-Shed, which contains four bodies of water used for water storage – Bonnie Doone Lake, Kornbow Lake, Mintz Pond, and Glenville Lake. Both of our treatment facilities provide water to our general distribution system, so the water you drink is a blend of water we process from all sources.

How is Your Water Treated?

While the treatment process varies slightly at our two water treatment facilities, the basic steps are similar.

The Disinfection Method

PWC uses the disinfection method chloramination, which uses both ammonia and chlorine. Ammonia is added to the water at a carefully controlled level, and the chlorine and ammonia react chemically to produce chloramines. This method inactivates the COVID-19 virus, as well as other coronaviruses. Chloraminated drinking water is perfectly safe for drinking, cooking, bathing and other daily water uses. There are, however, two groups of people who need to take special care with chloraminated water: customers who use drinking water for kidney dialysis machines and fish owners. For more information on chloramination, including special precautions these special groups should take, contact PWC. As an extra measure of safety, the North Carolina Department of Environmental Quality (NCDEQ) requires all water systems using chloramination to suspend the addition of ammonia for a one-month period each year. We do this each March to ensure control of any biological growth that may have occurred in the water distribution system.



The Treatment Process

PWC operations and maintenance staff at our facilities are committed to providing safe, high quality drinking water for our customers. When raw water enters the facility, ferric sulfate is added, causing small particles to adhere to one another. This makes the particles heavy enough to settle out of the water in a sedimentation basin. The water is then filtered through sand and anthracite to remove remaining fine particles. Ammonia and chlorine are added to kill harmful bacteria, protozoans, and viruses. Lime or caustic soda and a corrosion inhibitor are added to minimize the potential for dissolving the lead used in older household plumbing. Fluoride is added as an aid in preventing tooth decay. Both facilities also add powdered activated carbon to reduce substances that produce unpleasant tastes and odors. Treated water proceeds through a series of pumps and storage facilities before being delivered to your home.

An Extra Measure of Concern

PWC adds fluoride to your water supply. Proven as a safe and healthy way to effectively prevent tooth decay, community water fluoridation has been recognized by the U.S. Centers for Disease Control (CDC) as one of ten great public health achievements of the 20th century.

Our Water is Safe to Drink

PWC annually tests for 118 elements and contaminants regulated by the EPA. PWC meets or surpasses all the standard requirements annually. We understand that news reports about 1,4-Dioxane cause concerns about the safety of our drinking water. While 1,4-Dioxane has been detected in the Cape Fear River as well as other areas in our region, state and nation, the Environmental Protection Agency (EPA) currently has no standards for 1,4-Dioxane and has not yet issued regulated safe limits. PWC monitors levels monthly and levels remain below the EPA advisory lifetime health goal (minimal risk level) for drinking water.

Since 1,4-Dioxane cannot be removed through our traditional water treatment process, we have partnered with other communities and NCDEQ to get this compound regulated and out of the Cape Fear River. This is the fastest and most effective way to remove the contaminants. We have helped fund research which has identified its sources in order to reduce or eliminate it so there will be no long-term exposure to our customers. As a result of this partnership, NCDEQ requires Greensboro, Reidsville and Asheboro to monitor monthly for 1,4-Dioxane in their wastewater treatment facility discharges. Going forward, NCDEQ staff will use the data collected to determine the need for effluent limits to be established in the discharge permits for each of these three upstream municipalities. NCDEQ will establish limits as needed to protect the surface waters for their designated uses.

You can find additional information on our website: www.faypwc.com/thefacts/about1-4-dioxane/

Conserve and Protect

PWC works hard to provide all of our customers with clean, safe, good-tasting water. We are also committed to conservation and environmentally sound practices when it comes to our water supply. The PWC Watershed Management Program helps protect watersheds (four lakes and a pond, including areas that are part of our drinking water supply) through sound land management practices, water quality monitoring, and educational outreach. What's more, we encourage our customers to conserve our precious, "finite" water supply by providing water-saving tips and incentive programs. Our Odd-Even schedule for outdoor watering with sprinklers conserves water and helps us be better prepared for drought conditions. For more information, including conservation tips and incentives, visit our website.

Your Drinking Water

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 those with cancer undergoing chemotherapy, those who have undergone organ transplants, persons 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).

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. Fayetteville PWC 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 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 can also come from gas stations, urban stormwater 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.

Fayetteville PWC Water Not Affected by GenX

With recent GenX reports, we understand the concern about safe drinking water. Please know that Fayetteville PWC water is safe and meets or exceeds all current EPA standards for safe drinking water. GenX found in the Cape Fear River is below the PWC/Fayetteville service area and has not affected your drinking water. Recent tests confirm GenX is not in Fayetteville PWC drinking water. State testing results are available at the NC Dept. of Environmental Quality website.

For the full report visit
www.faypwc.com/water-quality-report/

PWC
Fayetteville's
HOME/TOWN UTILITY
www.faypwc.com

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We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each 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 USEPA and the State of North Carolina 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.

Key to Abbreviations

MCL	Maximum Contaminant Level – The highest level of contaminant that is allowed in drinking water
MCLG	Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected risk to health
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.
AL	Action Level – The concentration of a contaminant which triggers a treatment or other requirement which a water system must follow.
TT	Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.
pCi/L	picoCuries per liter (a measure of radioactivity)
mrem/yr	Millirems per year (a measure of radiation absorbed by the body)
mg/L	Milligrams per liter. One part per million corresponds to one minute in two years or a single penny in \$10,000.
SDWR	Secondary Drinking Water Regulations (State Options). State regulatory agencies make the determination about whether a limit applies to controlling parameters that primarily affect the aesthetic qualities of drinking water.
NTU	Nephelometric Turbidity Units, a measure of the suspended material in water.
NS	No Standard
ug/L	Micrograms per liter. One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
TTHM	Total Trihalomethanes
THAA	Total Haloacetic Acid
N/A	Not Applicable – Information not applicable/not required for that particular water system or for that particular rule.
MFL	Million Fibers per Liter – A measure of the presence of asbestos fibers that are longer than 10 micrometers.
VOC	Volatile Organic Compounds
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
LRAA	Locational Running Annual Average is 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.
nanograms/L	One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
picograms/L	One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

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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 Chris Smith at (910) 483-1382. We want our valued customers to be informed about their water utility. If you want to learn more, please visit our website at www.faypwc.com.**

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).

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WHEN YOU TURN ON YOUR TAP, CONSIDER THE SOURCE

The Cape Fear River is the primary source for our system and is used at the P.O. Hoffer and at the Glenville Lake facilities. Glenville Lake also utilizes the Glenville Lake for a water source as well.

SOURCE WATER ASSESSMENT PROGRAM (SWAP) RESULTS

The North Carolina Department of Environmental Quality (DEQ), 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 Fayetteville Public Works Commission 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:

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SUSCEPTIBILITY OF SOURCES TO POTENTIAL CONTAMINANT SOURCES (PCSS)

Source Name	Susceptibility Rating	SWAP Report Date
Cape Fear River	Higher	September 2020
Glenville Lake	Higher	September 2020

The complete SWAP Assessment report for Fayetteville PWC may be viewed on the Web at: <https://www.ncwater.org/?page=600> 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, 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.

HELP PROTECT YOUR SOURCE WATER

Protection of drinking water is everyone’s responsibility. We have a robust and proactive watershed management program that helps protect our valuable water resources. Please visit <https://www.faypwc.com/watershed-protection> for more information. You can help protect your community’s drinking water source(s) in several ways: by disposing of chemicals properly; taking used motor oil to a recycling center, volunteering in your community to participate in group efforts to protect your source, etc.).

VIOLATIONS THAT YOUR WATER SYSTEM RECEIVED FOR THE REPORT YEAR

During 2020, or during any compliance period that ended in 2020, we received a violation that covered the time period of September 14, 2020. We have revised our operating procedures to assure this does not happen again.

TREATMENT TECHNIQUE VIOLATIONS

TT Violation	Explanation	Length of Violation	Steps Taken to Correct the Violation	Health Effects Language
Revised Total Coliform Rule	We failed to collect a downstream sample after of positive sample was collected at 2336 Carbine Road, Fayetteville.	AUGUST 2020	We performed a Level 1 Assessment and revised our operating procedures.	* See Chart Below

2020 Tier 1 Assessment	Citation
Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.	40 CFR 141.153(h)(7)(i)(A)
During the past year we were required to conduct one (1) Level 1 assessment. This Level 1 assessment was completed in accordance to regulation. In addition, we were required to take corrective action of updating of our sampling protocol and we have completed all these actions. The assessment was required due a positive coliform sample that was collected from a location at the end of a water main. As per regulations, repeat sampling must be performed from the original location, one upstream, and one downstream location. Staff was unable to collect the downstream sample due to the location of the original sample. In the event a sample cannot be collected, in	40 CFR 141.153(h)(7)(i)(B)

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compliance with this rule, staff must contact the Regional Office for additional guidance in the future. This language was added to the Standard Operating Procedures (SOP) manual and staff was trained on proper procedures to ensure future compliance of this rule.

NOTICE TO THE PUBLIC - IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Violation Awareness Date: **September 14th, 2020**

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the compliance period specified in the table below, we ['did not monitor or test' or 'did not complete all monitoring or testing'] for the contaminants listed and therefore cannot be sure of the quality of your drinking water during that time.

CONTAMINANT GROUP**	FACILITY ID NO./ SAMPLE POINT ID	COMPLIANCE PERIOD BEGIN DATE	NUMBER OF SAMPLES/ SAMPLING FREQUENCY	WHEN SAMPLES WERE TAKEN (Returned to Compliance)
TOTAL COLIFORM BACTERIA	1057	AUGUST 27TH 2020	1	AUGUST 28 TH 2020

(BA) Total Coliform Bacteria – includes testing for Total Coliform bacteria and Fecal/E.coli bacteria. Testing for Fecal/E.coli bacteria is required if total coliform is present in the sample.

What should I do? There is nothing you need to do at this time.

What is being done? We performed a Level 1 Assessment and revised our Operating Procedures to address proper sampling techniques when a repeat sample is required at the physical end of a main to prevent future reoccurrences.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

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Tables of Detected Contaminants

REVISED TOTAL COLIFORM RULE:

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N/A	1*	N/A	TT*	Naturally present in the environment
<i>E. coli</i> (presence or absence)	N	N	0	<p>Routine and repeat samples are total coliform-positive, and either is <i>E. coli</i>-positive or system fails to take repeat samples following <i>E. coli</i>-positive routine sample or system fails to analyze total coliform-positive repeat sample for <i>E. coli</i></p> <p><u>Note:</u> If either an original routine sample and/or its repeat samples(s) are <i>E. coli</i> positive, a Tier 1 violation exists.</p>	Human and animal fecal waste

* Subsequent sampling resulted in a negative result. We collect 120 samples in the distribution system each month.

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	0.27 NTU	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.

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INORGANIC CONTAMINANTS

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Antimony (ppb)	1/20	N	ND	N/A	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	1/20	N	ND	N/A	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	1/20	N	ND	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	1/20	N	ND	N/A	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium (ppb)	1/20	N	ND	N/A	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	1/20	N	ND	N/A	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide (ppb)	1/20	N	ND	N/A	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	1/20	N	0.76 mg/L	0.41 - 1.23 mg/L	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (inorganic) (ppb)	1/20	N	ND	N/A	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Selenium (ppb)	1/20	N	ND	N/A	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium (ppb)	1/20	N	ND	N/A	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 Low High	MCLG	MCL	Likely Source of Contamination
Nitrate (as Nitrogen) (ppm)	1/20	N	ND	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	1/20	N	ND	N/A	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

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ASBESTOS CONTAMINANT

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Total Asbestos (MFL)	1/20	N	ND	N/A	7	7	Decay of asbestos cement water mains; erosion of natural deposits

LEAD AND COPPER CONTAMINANTS

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	8/20	ND	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	8/20	ND	1	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

RADIOLOGICAL CONTAMINANTS

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L)	11/16	N	ND	N/A	0	15	Erosion of natural deposits
Beta/photon emitters (pCi/L)	11/16	N	ND	N/A	0	50 *	Decay of natural and man-made deposits
Combined radium (pCi/L)	11/16	N	ND	N/A	0	5	Erosion of natural deposits
Uranium (pCi/L)	11/16	N	ND	N/A	0	20.1	Erosion of natural deposits

TOTAL ORGANIC CARBON (TOC)

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	70%	High	N/A	TT	Naturally present in the environment	ACC 4

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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	2.82	1.64	3.82	4	4.0	Water additive used to control microbes
Chloramines (ppm)	2020	N	2.89	2.01	3.36	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 Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)							Byproduct of drinking water disinfection <i>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.</i>
Location B01	2020	N	44 Location Code: B03 – Gillis Hill Rd	23 – 48	N/A	80	
Location B02	2020	N		24 – 50	N/A	80	
Location B03	2020	N		26 – 61	N/A	80	
Location B04	2020	N		24 – 51	N/A	80	
Location B05	2020	N		19 – 55	N/A	80	
Location B06	2020	N		18- 60	N/A	80	
Location B07	2020	N		25 – 53	N/A	80	
Location B08	2020	N		20 - 46	N/A	80	
HAA5 (ppb)							Byproduct of drinking water disinfection <i>Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.</i>
Location B01	2020	N	39 Location Code: B01 – 6561 Gristmill Road	14 – 31	N/A	60	
Location B02	2020	N		14 – 36	N/A	60	
Location B03	2020	N		14 – 42	N/A	60	
Location B04	2020	N		14 – 33	N/A	60	
Location B05	2020	N		14 – 34	N/A	60	
Location B06	2020	N		19 – 42	N/A	60	
Location B07	2020	N		15 – 36	N/A	60	
Location B08	2020	N		13 - 34	N/A	60	

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCLs 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 Low High	SMCL
Iron (ppm)	1/2020	ND	N/A	0.3 mg/L

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Manganese (ppm)	1/2020	0.003	ND – 0.003	0.05 mg/L
Nickel (ppm)	1/2020	ND	N/A	N/A
Sodium (ppm)	1/2020	37.9	37.9	N/A
Sulfate (ppm)	1/2020	32	32.0	250 mg/L
pH	1/2020 – 12/2020	7.6	7.2 – 8.2	6.5 to 8.5

1,4-DIOXANE (Unregulated)

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determine the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted. Although, the EPA has not set a Maximum Contaminant Level for 1,4-dioxane, they have issued an advisory lifetime health goal of less than 35 ug/L for drinking water.

Sample Dates 2019	P.O. Hoffer WTF Point of Entry (ug/L)
1/16/19	0.38
2/6/19	0.65
3/19/19	0.42
4/10/19	0.38
5/21/19	0.70
6/12/19	2.00
7/16/19	0.30
8/21/19	0.94
9/11/19	3.50
10/24/19	2.40
11/13/19	3.10
12/9/19	1.10

Sample Dates 2020	P.O. Hoffer WTF Point of Entry (ug/L)
1/8/20	0.98
2/17/20	0.54
3/10/20	0.79
4/15/20	0.62
5/11/20	0.29
6/24/20	0.18
7/20/20	0.35
8/26/20	0.24
9/28/20	0.25
10/14/20	0.50
11/11/20	1.10
12/17/20	<0.07

PWC meets or surpasses all the standard requirements annually. While 1,4-Dioxane has been detected in the Cape Fear River as well as other areas in our region, state and nation, the Environmental Protection Agency (EPA) currently has no standards for 1,4-Dioxane and has not yet issued regulated safe limits. If the EPA believed 1,4 Dioxane was an immediate threat, a directive would have been issued. Since 1,4-Dioxane cannot be removed through our traditional water treatment process, we have partnered with other communities to research and identify its sources to reduce or eliminate it so there will be no long-term exposure to our customers. You can find additional information on our website: www.faypwc.com/the-facts-about-1-4-dioxane/

CRYPTOSPORIDIUM

Our system monitored for *Cryptosporidium* and did not find detect any in our source. *Cryptosporidium* is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-

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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.

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that have been in use since the 1940s and are (or have been) found in many consumer products like cookware, food packaging, and stain repellants. PFAS manufacturing and processing facilities, airports, and military installations that use firefighting foams are some of the main sources of PFAS. PFAS may be released into the air, soil, and water, including sources of drinking water. Perfluorooctanesulfonic acid (PFOA) and Perfluorooctanoic acid (PFOS) are the most studied PFAS chemicals and have been voluntarily phased out by industry, though they are still persistent in the environment.

Recent testing has detected PFOA and PFOS in Fayetteville's drinking water. While perfluorinated chemicals have been detected, our water is below the EPA's *health advisory level* for the combination of PFOS and PFOA of 70 parts per trillion (ppt). The table below shows our monitoring results for combined PFOS and PFOA at PWC's water treatment Point of Entry (POE). POE refers to water that has undergone all treatment steps at the water treatment facilities, and is ready to be pumped to you, our customer.

EPA issues *health advisories*, which are based on the best available peer-reviewed studies about the health effects of the unregulated chemicals. *Health advisories* provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's *health advisories* are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water.

Fayetteville PWC is working to stay ahead of the science, as these substances continue to be measured at ever smaller concentrations. With modern laboratory methods, these substances can now be measured down to parts per trillion concentrations. For comparison, 1 part per trillion is approximately the equivalent of one drop of water in 10 million gallons of water. PWC reports the formal results of regulatory testing and unregulated contaminant monitoring in our annual Consumer Confidence Report, which provides an annual summary of water system operations and water quality management throughout the water system.

The table below shows the total concentration of the 42 PFAS unregulated compounds for which PWC monitors quarterly, as well as the total concentration of the combination of PFOS and PFOA, which although unregulated, does have an EPA Health Advisory level of 70 ppt.

Date	P.O. Hoffer Point of Entry Total PFAS (ppt)	EPA Health Advisory Level PFOS + PFOA (ppt)	P.O. Hoffer Point of Entry PFOA + PFOS (ppt)	EPA Health Advisory Exceeded		Date	Glenville Lake Point of Entry Total PFAS (ppt)	EPA Health Advisory Level PFOS + PFOA (ppt)	Glenville Lake Point of Entry PFOA + PFOS (ppt)	EPA Health Advisory Exceeded
01/2020	62.56	70	15.02	No		01/2020	83.27	70	37.52	No
04/2020	58.38	70	18.49	No		04/2020	81.90	70	37.54	No
07/2020	73.30	70	25.73	No		07/2020	85.39	70	40.01	No
10/2020	36.94	70	13.54	No		10/2020	52.47	70	25.94	No