Meeting Standards. Surpassing Expectations.

Fayetteville Public Works Commission 2018 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.

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 18 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 2018, we treated 9.1 billion gallons of water! To ensure strict compliance with EPA regulations, we continuously monitor our water quality and this 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.

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 Environment and Natural Resources 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 since first detecting 1,4 Dioxane, the levels impacting Fayetteville have continually been lowered.

Since 1,4-Dioxane cannot be removed through our traditional water treatment process, we have partnered with other communities and the North Carolina Department of Environmental Quality (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 is identifying 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 has notified Greensboro, Reidsville and Asheboro to begin monthly monitoring 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/thefactsabout-1-4-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. Again, the complete 2018 Water Quality Report, including testing results, can be found on 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.

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Fayetteville's
HOMETOWN UTILITY
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16707 4/2019

2018 Water Quality Report

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, 2018.** 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.

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
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
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.

2018 Water Quality Report

Source Water Assessment Program

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, and 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 the 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:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Inherent Vulnerability Rating	Contaminant Rating	Susceptibility Rating	SWAP Report Date
Cape Fear River	Higher	Moderate	Higher	August 2017
Glenville Lake	Higher	Lower	Moderate	August 2017

The complete SWAP Assessment report for Public Works Commission 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.

2018 Water Quality Report

TABLE I - FILTERED WATER QUALITY DATA (Regulated)

Data presented in this table are from the most recent testing performed in accordance with Federal and State regulations.

Parameters	Unit	MCL	MCLG	MCL Violation Y/N	Your Water Level	Range of Detected Levels	Date Most Recent Testing Completed (a)	Source
Barium	mg/L	2	2	N	<0.400		1/18	Erosion of natural deposits; discharge of drilling wastes; discharge from metal from refineries
Copper	mg/L	AL-1.3	1.3	N	0.061	<0.05–0.11	9/17	Corrosion of household plumbing systems; erosion of natural deposits leaching from wood preservatives
Fluoride	mg/L	4	4	N	0.709	0.538–0.88	12/18	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum deposits
Lead	ug/L	AL-15	0	N	0.001(a)	0.001–0.004	9/17	Corrosion of household plumbing systems; erosion of natural deposits
Nitrate	mg/L	10	10	N	<1.0		1/18	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Asbestos	MFL	7	7	N	<0.2	N/A	6/11	Decay of asbestos cement water mains; erosion of natural deposits

(a) Lead and Copper action levels are exceeded if the concentrations in more than 10% of tap water samples collected during any monitoring period are greater than the MCL Action Levels shown in the table above.

TABLE II - FILTERED WATER QUALITY DATA (Non-Regulated)

Parameters	Unit	Your Water Detected Levels	SDWR	MCLG	Source
Alkalinity	mg/L	26.6	NS	NS	Erosion of natural deposits, water treatment processes
Hardness	mg/L	34.6	NS	NS	Presence of mineral deposits most commonly calcium and magnesium
Iron	mg/L	<0.20	0.3	NS	Erosion of natural deposits
Manganese	mg/L	<0.01	0.05	NS	Erosion of natural deposits
pH	pH units	7.7	7.0 – 8.65	NS	Measurement of acid or base neutralizing capacities of water
Sodium	mg/L	19.3	NS	NS	Erosion of natural deposits, chemical use in water treatment
Sulfate	mg/L	15.0	250	NS	Erosion of natural deposits, decay or organic matter

2018 Water Quality Report

TABLE III – VOC CONTAMINANTS (Non-Regulated)*

Parameters	Unit	Your Water Detected Levels	Range of Detected Level	Sample Date
Chloroform	ug/L	19.61	15.88 - 30.19	11/18
Bromodichloromethane	ug/L	15.38	9.13 - 23.38	11/18
Bromoform	ug/L	2.86	1.00 – 5.00	11/18
Chlorodibromomethane	ug/L	9.94	5.38 – 15.75	11/18

** These compounds are associated with chlorine disinfection.*

TABLE IV - 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.

Sample Dates 2016	P.O. Hoffer WTF Point of Entry (ug/L)
1/26/17	3.80
2/22/17	4.20
3/16/17	2.30
4/5/17	1.40
5/3/17	0.75
6/20/17	1.90
7/13/17	0.72
8/15/17	0.41
9/19/17	2.80
10/12/17	2.40
11/14/17	2.40
12/11/17	3.60

Sample Dates 2017	P.O. Hoffer WTF Point of Entry (ug/L)
1/10/18	5.80
2/12/18	3.70
3/13/18	2.10
4/11/18	0.77
5/29/18	1.60
6/25/18	1.60
7/23/18	0.70
8/13/18	0.45
9/25/18	0.19
10/17/18	0.32
11/6/18	0.37
12/12/18	0.15

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/

2018 Water Quality Report

TABLE V – TURBIDITY (a)

Parameters	Unit	MCL	Your Water	Average	Range	MCLG Violation	Source
Turbidity	NTU	95% of samples <0.30	100% <0.3 NTU	0.06	0.03 - 0.28	N	Soil runoff

(a) Turbidity is a measure of the cloudiness of the water. PWC monitors it because it is a good indicator of the effectiveness of PWC's filtration system.

TABLE VI – MICROBIOLOGICAL CONTAMINANTS
PWC Surface Water Distribution

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

(a) If a system collecting 40 or more samples per month finds greater than 5% of monthly samples are positive in one month, an assessment is required.

2018 Water Quality Report

TABLE VII – LEAD AND COPPER CONTAMINANTS

Contaminant (units)	Sample Date**	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (mg/L) (90th percentile)	6/17	0.061	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ug/L) (90th percentile)	6/17	0.001	0	0	AL=.015	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. The Public Works Commission 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 (1-800-426-4791), or at http://www.epa.gov/safewater/lead.*

***Contaminants tested every three years.*

TABLE VIII – DISINFECTION BY-PRODUCTS PRECURSORS CONTAMINANTS

Contaminant (units)	Sample Date	MCL/TT Violation Y/N	Your Water	Range Low-High	MCLG	MCL	Compliance Method	Likely Source of Contamination
Total Organic Carbon (ppm) (TOC) – RAW	Monthly	N	N/A	3.3-9.9	N/A	TT	N/A	Naturally present in the environment
TOC Removal Ratio (TOC) – TREATED	Monthly	N	2.08	1.3-2.8	N/A	TT	Alt 4 (SUVA ≤2.0 L/mg-min)	Naturally present in the environment

2018 Water Quality Report

TABLE IX – 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)			55		N/A	80	Byproduct of drinking water disinfection
Location B01	2018	N		40-54	N/A	80	
Location B02	2018	N	Location Code:	42-55	N/A	80	
Location B03	2018	N	B02 – (Waters	43-53	N/A	80	
Location B04	2018	N	Edge Dr.)	41-53	N/A	80	
Location B05	2018	N		41-52	N/A	80	
Location B06	2018	N	Location Code:	42-44	N/A	80	
Location B07	2018	N	B07 (Golfview	44-55	N/A	80	
Location B08	2018	N	Rd.)	37-49	N/A	80	
HAA5 (ppb)			35		N/A	60	Byproduct of drinking water disinfection
Location B01	2018	N		28-32	N/A	60	
Location B02	2018	N	Location Code:	27-33	N/A	60	
Location B03	2018	N	B4 –(Fisher	28-34	N/A	60	
Location B04	2018	N	Rd.)	29-35	N/A	60	
Location B05	2018	N		25-32	N/A	60	
Location B06	2018	N		24-32	N/A	60	
Location B07	2018	N		25-32	N/A	60	
Location B08	2018	N		26-28	N/A	60	

TABLE X – DISINFECTANT RESIDUALS SUMMARY

	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low-High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)*	2018	N	1.27	0.13 – 2.31	4	4	Water additive used to control microbes
Chloramines (ppm)	2018	N	2.79	1.10 – 3.80	4	4	Water additive used to control microbes

**Chlorine disinfection is used only during the month of March each year.*

2018 Water Quality Report

TABLE XI– RADIOLOGICAL CONTAMINANTS

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low - High	MCLG	MCL	Likely Source of Contamination
Gross Alpha (pCi/L)	11-2016	N	3.40	N/A	0	15	Erosion of natural deposits
Gross Beta (pCi/L)	11-2016	N	4.60	N/A	0	50*	Decay of natural and man-made deposits
Radium 226 (pCi/L)	11-2016	N	<1.0	N/A	0	3	Erosion of natural deposits
Radium 228 (pCi/L)	11-2016	N	<1.0	N/A	0	2	Erosion of natural deposits
Uranium 226 (pCi/L)	11-2016	N	<.2.0	N/A	0	20.1	Erosion of natural deposits

**Note: The MCL for beta/photon emitters is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.*

TABLE XII - Treatment Technique Violations

TT Violation	Explanation	Length of Violation	Steps Taken to Correct the Violation	Health Effects Language
Giardia	See Note Below	1 day	See Note Below	See Note Below

As you were previously notified on February 19, 2018, our system did not meet the treatment technique requirements for Giardia Lamblia at our Glenville Lake Water Treatment Facility on January 6, 2018, when multiple water main breaks caused low water pressure in our system.

2018 Water Quality Report

TABLE XIII - Unregulated Contaminant Monitoring Rule 4 – Distribution System

Sample Site BO1 (Gristmill)	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromochloroacetic acid	8.75	9.27	11.1	2.42	ug/L
Bromodichloroacetic acid	9.07	6.5	8.58	2.71	ug/L
Chlorodibromoacetic acid	2.94	1.47	5.71	0.624	ug/L
Dibromoacetic acid	2.61	1.76	5.3	0.464	ug/L
Dichloroacetic acid	12.2	19	15.3	7.72	ug/L
Monobromoacetic acid	0.585	0.445	0.549	<0.30	ug/L
Monochloroacetic acid	<2.0	<2.0	<2.0	<2.0	ug/L
Tribromoacetic acid	<2.0	<2.0	<2.0	<2.0	ug/L
Trichloroacetic acid	13	9.01	7.19	4.16	ug/L

Sample Site BO2 (Waters Edge)	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromochloroacetic acid	7.16	9.97	10.9	2.43	ug/L
Bromodichloroacetic acid	8.26	6.86	8.41	2.75	ug/L
Chlorodibromoacetic acid	2.71	1.5	5.46	0.636	ug/L
Dibromoacetic acid	1.9	1.82	5.03	0.477	ug/L
Dichloroacetic acid	12	20.4	15.08	7.48	ug/L
Monobromoacetic acid	0.538	0.469	0.471	<0.30	ug/L
Monochloroacetic acid	<2.0	<2.0	<2.0	<2.0	ug/L
Tribromoacetic acid	<2.0	<2.0	<2.0	<2.0	ug/L
Trichloroacetic acid	14.3	10.2	7.76	4.15	ug/L

Sample Site BO3 (Gillis Hill)	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromochloroacetic acid	11	9.34	12	2.43	ug/L
Bromodichloroacetic acid	12.8	6.27	8.59	2.75	ug/L
Chlorodibromoacetic acid	4.56	1.48	5.39	0.636	ug/L
Dibromoacetic acid	3.45	1.86	5.59	0.477	ug/L
Dichloroacetic acid	12.9	18.8	16.6	7.48	ug/L
Monobromoacetic acid	0.804	<0.30	<0.30	<0.30	ug/L
Monochloroacetic acid	<2.0	<2.0	<2.0	<2.0	ug/L
Tribromoacetic acid	<2.0	<2.0	<2.0	<2.0	ug/L
Trichloroacetic acid	14.5	8.23	7.33	4.15	ug/L

Sample Site BO4 (Fisher Rd)	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromochloroacetic acid	10.2	9.29	10.8	2.47	ug/L
Bromodichloroacetic acid	10.4	6.8	8.53	2.86	ug/L
Chlorodibromoacetic acid	3.57	1.23	5.37	0.67	ug/L
Dibromoacetic acid	3.38	1.58	5.26	0.479	ug/L
Dichloroacetic acid	10.8	19.7	13.7	7.41	ug/L
Monobromoacetic acid	0.661	0.58	0.577	<0.300	ug/L
Monochloroacetic acid	<2.0	<2.0	<2.0	<2.00	ug/L
Tribromoacetic acid	<2.0	<2.0	<2.0	<2.00	ug/L
Trichloroacetic acid	11.1	11.6	7.17	4.14	ug/L

Sample Site BO5 (Blackwell)	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromochloroacetic acid	3.98	6.5	11	1.78	ug/L
Bromodichloroacetic acid	3.31	3.27	7.33	1.75	ug/L
Chlorodibromoacetic acid	0.536	0.512	3.43	0.391	ug/L
Dibromoacetic acid	0.538	0.843	4.12	<0.300	ug/L
Dichloroacetic acid	17.9	26.5	21.7	9.51	ug/L
Monobromoacetic acid	<0.300	<0.300	0.358	<0.300	ug/L
Monochloroacetic acid	2.25	<2.0	<2.0	<2.00	ug/L
Tribromoacetic acid	<2.0	<2.0	<2.0	<2.00	ug/L
Trichloroacetic acid	24.5	14.3	8.95	5.06	ug/L

Sample Site BO6 (Grip)	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromochloroacetic acid	8.75	6.55	11.8	2.11	ug/L
Bromodichloroacetic acid	9.02	3.47	7.98	1.94	ug/L
Chlorodibromoacetic acid	2.3	0.717	4.22	0.436	ug/L
Dibromoacetic acid	1.98	1.06	4.84	0.348	ug/L
Dichloroacetic acid	17.1	23.1	19.9	11	ug/L
Monobromoacetic acid	0.567	<0.300	<0.300	<0.300	ug/L
Monochloroacetic acid	2.18	<2.0	<2.0	<2.00	ug/L
Tribromoacetic acid	<2.0	<2.0	<2.0	<2.00	ug/L
Trichloroacetic acid	21.5	10.6	8.5	5.51	ug/L

Sample Site BO7 (Golfview)	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromochloroacetic acid	9.24	9.53	11.2	2.63	ug/L
Bromodichloroacetic acid	11.5	6.35	8.47	2.89	ug/L
Chlorodibromoacetic acid	3.83	1.52	5.28	0.738	ug/L
Dibromoacetic acid	2.7	1.87	5.35	0.534	ug/L
Dichloroacetic acid	10.8	18.2	14.8	7.79	ug/L
Monobromoacetic acid	0.685	0.473	0.386	<0.300	ug/L
Monochloroacetic acid	<2.0	<2.0	<2.0	<2.00	ug/L
Tribromoacetic acid	<2.0	<2.0	<2.0	<2.00	ug/L
Trichloroacetic acid	12.4	8.01	6.92	3.84	ug/L

Sample Site BO8 (Morganton Rd)	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromochloroacetic acid	6.49	9.68	10.4	2.59	ug/L
Bromodichloroacetic acid	7.41	7.62	8.15	2.77	ug/L
Chlorodibromoacetic acid	3.09	1.52	5.54	0.671	ug/L
Dibromoacetic acid	2.23	1.59	4.97	0.515	ug/L
Dichloroacetic acid	9.09	20.4	13.9	8.71	ug/L
Monobromoacetic acid	0.528	0.547	0.514	<0.30	ug/L
Monochloroacetic acid	<2.0	<2.0	<2.0	<2.0	ug/L
Tribromoacetic acid	<2.0	<2.0	<2.0	<2.0	ug/L
Trichloroacetic acid	9.64	12.3	7.14	4.19	ug/L

TABLE XV - Unregulated Contaminant Monitoring Rule 4 – Glenville Lake WTF

Entry Point	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Manganese	0.987	2.33	5.58	1.3	ug/L
Quinoline	0.02	0.0359	0.0266	<0.0200	ug/L

Source Water	3/19/2018	6/6/2018	9/10/2018	12/3/2018	Units
Bromide	22	72.8	31.1	<20.0	ug/L
Total Organic Carbon	3540	7990	2280	1420	ug/L

TABLE XV - Unregulated Contaminant Monitoring Rule 4 – P.O. Hoffer WTF

Entry Point	3/19/2018	6/6/2018	9/10/2018	12/2/2018	Units
Manganese	1.16	3.13	23	0.936	ug/L
Quinoline	0.0223		0.0533	<0.0200	ug/L

Source Water	3/19/2018	6/6/2018	9/10/2018	12/2/2018	Units
Bromide	144	83.3	34	<20.0	ug/L
Total Organic Carbon	6570	8690	2110	1790	ug/L

CRYPTOSPORIDIUM

PWC monitored for Cryptosporidium in Glenville Lake during 2018. The highest concentration was 0.09 oocysts/liter in April 2018. In 2017, the highest concentration found in the Cape Fear River was 0.09 oocysts/liter in April 2017. Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. 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-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.