

Northwest Water Treatment Plant Analysis

Listed below are the results of water quality sampling performed from January 1, 2018, to December 31, 2018.

Questions and Comments: Contact Glenn Walker, Water Resources Manager, 910-371-3490 or glenn.walker@brunswickcountync.gov

REGULATED ORGANIC CHEMICALS	EPA's MCL	EPA's MCLG	Brunswick County Amount Detected	Range		Violation Y/N	Source of Contaminant
				Low	High		
Turbidity	Treatment Technique Limit of 1.0 ntu	N/A	Average 0.040 ntu	% of samples ≤ 0.3 ntu		N	Soil Runoff
			Maximum 0.355 ntu	99.9%			
Raw Water TOC	Treatment Technique Minimum 45% Removal Efficiency	N/A	Average 8.517 ppm	6.1	11.3	N	Naturally Present in the Environment
Finish Water TOC		N/A	Average 3.367 ppm	2.8	4.0		
Total Organic Carbon (TOC)		N/A	Removal Efficiency Average 59.2%	47%	68%		
pH	6.8 - 8.5	N/A	7.2	7.1 - 8.3		N	By-Product of Caustic Addition
REGULATED INORGANIC CHEMICALS	EPA's MCL	EPA's MCLG	Brunswick County Amount Detected	Range Low	Range High	Violation Y/N	Source of Contaminant
Chlorite	1.0 ppm	0.8 ppm	Average 0.71 ppm	0.61	0.82	N	By-Product of Disinfection
Chlorine Dioxide	0.8 ppm	0.8 ppm	Average 0.12 ppm	0.00	0.19	N	Water Additive Used to Control Microbes
Fluoride	4 ppm	4 ppm	Average 0.58 ppm	0.0	1.1	N	Water Additive which Promotes Strong Teeth
Orthophosphate	17 ppm	N/A	Average 1.57 ppm	1.41	2.4	N	Water Additive Used to Control Corrosion
Total Chlorine	4 ppm	4 ppm	Average Minimum 2.81 ppm	1.1	3.0	N	Water Additive Used to Control Microbes
Monochloramine Disinfectant Residual	4 ppm	4 ppm	Average 2.44 ppm	0.0	2.99	N	Water Additive Used to Control Microbes
UNREGULATED SUBSTANCES	EPA's MCL	EPA's MCLG	Brunswick County Amount Detected	Range Low	Range High	Violation Y/N	Source of Contaminant
1, 4 Dioxane	Non Regulated	N/A	Average 1.62 ppb	0.51	3.4	N	Purifying Agent in Pharmaceuticals and By-Product of PET Plastic Production
Hardness	Non Regulated	N/A	Average 24.1 ppm	19.1	34	N	Part of the Treatment Process, Erosion of Natural Deposits
Iron	Non Regulated	N/A	Average 0.014 ppm	0.005	0.15	N	Part of the Treatment Process, Erosion of Natural Deposits
Manganese	Non Regulated	N/A	Average 0.018 ppm	0.008	0.73	N	Part of the Treatment Process, Erosion of Natural Deposits
Free Ammonia	Non Regulated	N/A	Average 0.067 ppm	0.0	0.13	N	Water Additive Used to Control Microbes
Sodium	Non Regulated	N/A	20.3 ppm	N/A		N	Part of the Treatment Process, Erosion of Natural Deposits
CRYPTOSPORIDIUM - Cape Fear River 2017		N/A	0.0 oocyst	0.0	0.0	N	Naturally Present in the Environment
UNREGULATED PFAS SUBSTANCES	EPA's MCL	EPA's MCLG	Brunswick County Amount Detected	Range Low	Range High	Violation Y/N	Source of Contaminant
perfluorobutanesulfonic acid (PFBS)	Non Regulated	N/A	3.62 ppt	<2	4.74	N	By-Product of Chemical Manufacturer
perfluorohexanoic acid (PFHxA)	Non Regulated	N/A	14.8 ppt	1.73	37.1	N	By-Product of Chemical Manufacturer
perfluoro-2-propoxypropanoic acid (GenX)	Non Regulated	N/A	9.91 ppt	<2	38	N	By-Product of Chemical Manufacturer
perfluoroheptanoic acid (PFHpA)	Non Regulated	N/A	15 ppt	1.58	37.7	N	By-Product of Chemical Manufacturer
perfluorohexanesulfonic acid (PFHxS)	Non Regulated	N/A	4.67 ppt	<2	8.32	N	By-Product of Chemical Manufacturer
perfluorooctanoic acid (PFOA)	Non Regulated	N/A	8.28 ppt	2.57	14.4	N	By-Product of Chemical Manufacturer
perfluorononanoic acid (PFNA)	Non Regulated	N/A	2.07 ppt	<2	3.63	N	By-Product of Chemical Manufacturer
perfluorooctanesulfonic acid (PFOS)	Non Regulated	N/A	11.7 ppt	3.36	19.3	N	By-Product of Chemical Manufacturer
perfluorodecanoic acid (PFDA)	Non Regulated	N/A	1.92 ppt	<2	3.04	N	By-Product of Chemical Manufacturer

Northwest WTP monitored for Cryptosporidium in 2017 and did not detect any oocysts in 12 samples taken from our raw water supply.

Cryptosporidium is a microbial parasite which is found in surface water throughout the U.S. Although Cryptosporidium can be removed by filtration, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring of the source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. The Northwest WTP takes precautions to kill and remove Cryptosporidium oocyst by using Chlorine Dioxide as a pre-oxidant disinfectant in our raw water supply line and then again applying Chlorine Dioxide just prior to filtration. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immunocompromised people have more difficulty and are at greater risk of developing severe, life-threatening illness. Immunocompromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. Cryptosporidium must be ingested for it to cause disease, and it may be spread through means other than drinking water.

HWY 211 Groundwater Treatment Plant Analysis

Questions and Comments: Contact Jeremy Sexton, Water Resources Superintendent, 910-454-0512 or jeremy.sexton@brunswickcountync.gov

	EPA's MCL	EPA's MCLG	Brunswick County Amount Detected	Range High	Low	Violation Y/N	Source of Contaminant
UNREGULATED SUBSTANCES							
Turbidity	Non Regulated	N/A	Average 0.11 ntu	0.04	1.4	N	Part of the Treatment Process, Erosion of Natural Deposits
pH	Non Regulated	N/A	-----	6.9	8.2	N	Part of the Treatment Process
CO2	Non Regulated	N/A	7.1 ppm	3.0	14	N	Part of the Treatment Process
Alkalinity	Non Regulated	N/A	40 ppm	24	124	N	Part of the Treatment Process, Erosion of Natural Deposits
Hardness	Non Regulated	N/A	111 ppm	73	189	N	Part of the Treatment Process, Erosion of Natural Deposits
Iron	Non Regulated	N/A	0.02 ppm	0	.18	N	Part of the Treatment Process, Erosion of Natural Deposits
Chloride	Non Regulated	N/A	21 ppm	18	24	N	Part of the Treatment Process, Erosion of Natural Deposits
Free Ammonia	Non Regulated	N/A	0.02 ppm	0	0.11	N	Water Additive Used to Control Microbes
REGULATED INORGANIC CHEMICALS			Brunswick County Amount Detected	Range Low	High	Violation Y/N	Source of Contaminant
Fluoride	4 ppm	4 ppm	0.53 ppm	0.1	1.0	N	Water Additive Used to Promote Strong Teeth
Orthophosphate	17 ppm	N/A	1.4 ppm	0.72	2.2	N	Water Additive Used to Control Corrosion
Total Chlorine	4 ppm	4 ppm	2.8 ppm	1.8	3.4	N	Water Additive Used to Control Microbes
Monochloramine	4 ppm	4 ppm	2.8 ppm	2.7	3.0	N	Water Additive Used to Control Microbes

There were no violations this year.

Distribution System Analysis
YOUR DATA HERE