2021 Annual Drinking Water Quality Report
Lincoln County Water System

PWS ID# 01-55-035

The Lincoln County Department of Public Works is 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 where your water comes from, 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 provide 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 Adam Jolicoeur, Water Treatment Plant Superintendent at 704-483-7070.**

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

What the EPA Wants You to Know

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Lincoln County Department of Public Works is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components in houses and businesses. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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

When You Turn on Your Tap, Consider the Source

The water that is treated by this system is from Lake Norman. Additional water is purchased from the City of Lincolnton. Information regarding City of Lincolnton's water quality is available on our website.

http://www.lincolncounty.org/DocumentCenter/View/14569/COL-Water-Quality-Annual-Report-2020?bidId=

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 Lincoln County 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
Lake Norman	Higher	September 9, 2020

The complete SWAP Assessment report for Lincoln County may be viewed on the Web at:
https://www.ncwater.org/SWAP_Reports/NC0155035_SWAP_Report-20200909.pdf
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 (Lincoln County), PWSID (01-55-035), and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

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

Help Protect Your Source Water

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source(s) in several ways: examples of this would be to dispose of chemicals properly; take used motor oil to a recycling center, proper sedimentation and erosion control, volunteer in your community to participate in group efforts to protect your water source, etc.

Water Quality Data Table of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for 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, 2021.** The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than a year old.

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

Important Drinking Water Definitions:

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

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

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

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

Parts per trillion (ppt) or nanograms/Liter (ng/L) - This is equivalent to about thirty seconds out of every million years.

Million Fibers per Liter (MFL) - Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

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

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

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

Maximum Residual Disinfection Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfection Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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.

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.

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.*

Total Organic Carbon (TOC) - has no health effects, however, organics provide a medium for the formation of disinfection byproducts. The TOC compliance criterion applies only to treated water.

Cysts/L – The number of cysts per a liter of water.

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

REVISED TOTAL COLIFORM RULE:

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	1	0	TT*	Naturally present in the environment
E. coli (presence or absence)	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

* 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.

E.coli - Fecal coliforms and E.coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems.

Fecal Indicators (enterococci or coliphage) - Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

Turbidity*

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.07 NTU	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	100% In Compliance	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.

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)	2/2/21	N	N/D	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	2/2/21	N	N/D	N/A	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Nitrate: ***Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.***

Asbestos Contaminant

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Total Asbestos (MFL)	4/6/21	N	N/D		7	7	Decay of asbestos cement water mains; erosion of natural deposits

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90th percentile)	07/2021	0.12	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (90th percentile)	07/2021	N/D	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

Radioactive Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L)	3/13/18	N	N/D	0	15	Erosion of natural deposits
Beta/photon emitters (pCi/L)	3/13/18	N	N/D	0	50 *	Decay of natural and man-made deposits
Combined radium (pCi/L)	3/13/18	N	N/D	0	5	Erosion of natural deposits
Uranium (pCi/L)	3/13/18	N	N/D	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. articles.

Total Organic Carbon (TOC)

Contaminant (units)	TT Violation Y/N	Your Water (RAA) Removal	Range Monthly Ratio Low - High	MCLG	TT	Likely Source of Contamination	Compliance Method ACC#2)
Total Organic Carbon (removal ratio) (TOC)-TREATED	N	1.30	1.15 - 1.38	N/A	TT	Naturally present in the environment	ACC# 2

Alternative Compliance Criteria (ACC) **ACC # 2** Treated Water TOC < 2.0 mg/L

Disinfectant Residuals Summary

	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low	Range High	MRDLG	MRDL	Likely Source
Chlorine (ppm)	2021	N	1.24	0.62	1.77	4	4.0	An additive that is used to control microbes in water

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	Range High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)						N/A	80	Byproduct of drinking water disinfection
B01	2021	N	58	28 - 93				
B02	2021	N	51	19 - 68				
B03	2021	N	59	29 - 95				
B04	2021	N	44	27 - 46				

HAA5 (ppb)						N/A	60	Byproduct of drinking water disinfection
B01	2021	N	43	26 – 52				
B02	2021	N	33	14 - 42				
B03	2021	N	42	29 - 56				
B04	2021	N	38	28 - 39				

For TTHM: ***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.***

For HAA5: ***Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.***

(UCMR 4) Unregulated Contaminant Monitoring Rule 4 Assessment Monitoring

Contaminants and Analytical Results

Unregulated (Clearwell Effluent Samples)

Contaminant (units)	Sample Date	Your Water	Range Low	Range High
Manganese (ppb)	5/18	1.4	1.4	
Manganese (ppb)	8/18	0.53	0.53	
Manganese (ppb)	11/18	2.8	2.8	
Manganese (ppb)	2/19	0.64	0.64	

Unregulated (Raw Water Source Samples)

Contaminant (units)	Sample Date	Your Water (average)	Range Low	Range High
Bromide (mg/L)	5/18 8/18 11/18	0.023	0.02 - 0.03	
Total Organic Carbon (ppb)	5/18 8/18 11/18	1834	1582 - 2140	
Total Organic Carbon (ppb)	3/19	1513	1513	

Unregulated (Distribution System Samples)

Bethel Pump Station (Interconnection with the City of Lincolnton)

Contaminant (units)	Sample Date	Your Water	Range Low	Range High
Manganese (ppb)	8/18	1.0	1.0	
Manganese (ppb)	11/18	0.49	0.49	
Manganese (ppb)	2/19	0.40	0.40	

(B01) Union Elementary

Contaminant (units)	Sample Date	Your Water (average)	Range Low	Range High
Monochloroacetic Acid (ppb)	5/18 8/18 11/18	3.6	ND – 4.8	
Monobromoacetic Acid (ppb)	5/18 8/18 11/18	0.10	ND - .30	
Dichloroacetic Acid (ppb)	5/18 8/18 11/18	21.7	21 - 22	
Trichloroacetic Acid (ppb)	5/18 8/18 11/18	22.7	22 - 23	
Bromochloroacetic Acid (ppb)	5/18 8/18 11/18	4.7	3.2 – 6.1	
Dibromoacetic Acid (ppb)	5/18 8/18 11/18	0.36	ND - .57	

Bromodichloroacetic Acid (ppb)	5/18 8/18 11/18	4.17	2.8 – 5.1
Chlorodibromoacetic Acid (ppb)	5/18 8/18 11/18	0.34	ND - 0.54
Tribromoacetic Acid (ppb)	5/18 8/18 11/18	ND	N/A
Total Haloacetic Acids (ppb)	5/18 8/18 11/18	47	45 - 50
Total Haloacetic Acids UCMR4 (ppb)	5/18 8/18 11/18	56	52 - 60
Total Haloacetic Acids – Br (ppb)	5/18 8/18 11/18	9.4	6.3 - 12

(B01) Union Elementary

Contaminant (units)	Sample Date	Your Water (average)	Range Low High
Monochloroacetic Acid (ppb)	2/19	ND	N/A
Monobromoacetic Acid (ppb)	2/19	ND	N/A
Dichloroacetic Acid (ppb)	2/19	14	14
Trichloroacetic Acid (ppb)	2/19	17	17
Bromochloroacetic Acid (ppb)	2/19	2.3	2.3
Dibromoacetic Acid (ppb)	2/19	ND	N/A
Bromodichloroacetic Acid (ppb)	2/19	2.1	2.1
Chlorodibromoacetic Acid (ppb)	2/19	ND	N/A
Tribromoacetic Acid (ppb)	2/19	ND	N/A
Total Haloacetic Acids (ppb)	2/19	31	31
Total Haloacetic Acids UCMR4 (ppb)	2/19	35	35
Total Haloacetic Acids – Br (ppb)	2/19	4.3	4.3

(B02) North 321 Fire Dept.

Contaminant (units)	Sample Date	Your Water (average)	Range Low High
Monochloroacetic Acid (ppb)	5/18 8/18 11/18	2.67	ND – 5.1
Monobromoacetic Acid (ppb)	5/18 8/18 11/18	ND	N/A
Dichloroacetic Acid (ppb)	5/18 8/18 11/18	21.3	18 - 24
Trichloroacetic Acid (ppb)	5/18 8/18 11/18	19.7	16 - 23
Bromochloroacetic Acid (ppb)	5/18 8/18 11/18	3.5	2.6 – 4.4

Dibromoacetic Acid (ppb)	5/18 8/18 11/18	ND	N/A
Bromodichloroacetic Acid (ppb)	5/18 8/18 11/18	3.1	2.1 – 4.0
Chlorodibromoacetic Acid (ppb)	5/18 8/18 11/18	0.1	ND - 0.3
Tribromoacetic Acid (ppb)	5/18 8/18 11/18	ND	N/A
Total Haloacetic Acids (ppb)	5/18 8/18 11/18	44	34 - 49
Total Haloacetic Acids UCMR4 (ppb)	5/18 8/18 11/18	50	39 - 56
Total Haloacetic Acids – Br (ppb)	5/18 8/18 11/18	6.7	4.7 – 8.5

(B02) North 321 Fire Dept.

Contaminant (units)	Sample Date	Your Water (average)	Range Low High
Monochloroacetic Acid (ppb)	2/19	ND	N/A
Monobromoacetic Acid (ppb)	2/19	ND	N/A
Dichloroacetic Acid (ppb)	2/19	8.7	8.7
Trichloroacetic Acid (ppb)	2/19	8.7	8.7
Bromochloroacetic Acid (ppb)	2/19	2.1	2.1
Dibromoacetic Acid (ppb)	2/19	ND	N/A
Bromodichloroacetic Acid (ppb)	2/19	1.8	1.8
Chlorodibromoacetic Acid (ppb)	2/19	ND	N/A
Tribromoacetic Acid (ppb)	2/19	ND	N/A
Total Haloacetic Acids (ppb)	2/19	17	17
Total Haloacetic Acids UCMR4 (ppb)	2/19	21	21
Total Haloacetic Acids – Br (ppb)	2/19	3.9	3.9

(B03) North Brook Elementary

Contaminant (units)	Sample Date	Your Water (average)	Range Low High
Monochloroacetic Acid (ppb)	5/18 8/18 11/18	1.36	ND – 4.1
Monobromoacetic Acid (ppb)	5/18 8/18 11/18	0.11	ND – 0.32
Dichloroacetic Acid (ppb)	5/18 8/18 11/18	21.7	21 - 22
Trichloroacetic Acid (ppb)	5/18 8/18 11/18	22	22 - 23
Bromochloroacetic Acid (ppb)	5/18 8/18 11/18	4.7	3.1 – 6.3

Dibromoacetic Acid (ppb)	5/18 8/18 11/18	0.37	ND – 0.63
Bromodichloroacetic Acid (ppb)	5/18 8/18 11/18	4.2	2.9 – 5.4
Chlorodibromoacetic Acid (ppb)	5/18 8/18 11/18	0.36	ND - 0.61
Tribromoacetic Acid (ppb)	5/18 8/18 11/18	ND	N/A
Total Haloacetic Acids (ppb)	5/18 8/18 11/18	46	44 - 48
Total Haloacetic Acids UCMR4 (ppb)	5/18 8/18 11/18	55	49 - 58
Total Haloacetic Acids – Br (ppb)	5/18 8/18 11/18	9.8	6.3 - 13

B03) North Brook Elementary

Contaminant (units)	Sample Date	Your Water (average)	Range Low High
Monochloroacetic Acid (ppb)	2/19	ND	N/A
Monobromoacetic Acid (ppb)	2/19	ND	N/A
Dichloroacetic Acid (ppb)	2/19	14	14
Trichloroacetic Acid (ppb)	2/19	16	16
Bromochloroacetic Acid (ppb)	2/19	2.2	2.2
Dibromoacetic Acid (ppb)	2/19	ND	N/A
Bromodichloroacetic Acid (ppb)	2/19	2.1	2.1
Chlorodibromoacetic Acid (ppb)	2/19	ND	N/A
Tribromoacetic Acid (ppb)	2/19	ND	N/A
Total Haloacetic Acids (ppb)	2/19	30	30
Total Haloacetic Acids UCMR4 (ppb)	2/19	34	34
Total Haloacetic Acids – Br (ppb)	2/19	4.3	4.3

(B04) Verdict Ridge Golf Course

Contaminant (units)	Sample Date	Your Water (average)	Range Low High
Monochloroacetic Acid (ppb)	5/18 8/18 11/18	1.23	ND – 3.7
Monobromoacetic Acid (ppb)	5/18 8/18 11/18	ND	N/A
Dichloroacetic Acid (ppb)	5/18 8/18 11/18	18	18 - 18
Trichloroacetic Acid (ppb)	5/18 8/18 11/18	20	19 - 21

Bromochloroacetic Acid (ppb)	5/18 8/18 11/18	4.5	2.5 – 6.0
Dibromoacetic Acid (ppb)	5/18 8/18 11/18	0.40	ND – 0.65
Bromodichloroacetic Acid (ppb)	5/18 8/18 11/18	4	2.4 – 5.3
Chlorodibromoacetic Acid (ppb)	5/18 8/18 11/18	0.39	ND – 0.65
Tribromoacetic Acid (ppb)	5/18 8/18 11/18	ND	N/A
Total Haloacetic Acids (ppb)	5/18 8/18 11/18	40	39 - 41
Total Haloacetic Acids UCMR4 (ppb)	5/18 8/18 11/18	49	44 - 52
Total Haloacetic Acids – Br (ppb)	5/18 8/18 11/18	9.6	4.9 - 13

(B04) Verdict Ridge Golf Course

Contaminant (units)	Sample Date	Your Water (average)	Range Low High
Monochloroacetic Acid (ppb)	2/19	ND	N/A
Monobromoacetic Acid (ppb)	2/19	ND	N/A
Dichloroacetic Acid (ppb)	2/19	12	12
Trichloroacetic Acid (ppb)	2/19	14	14
Bromochloroacetic Acid (ppb)	2/19	1.9	1.9
Dibromoacetic Acid (ppb)	2/19	ND	N/A
Bromodichloroacetic Acid (ppb)	2/19	1.9	1.9
Chlorodibromoacetic Acid (ppb)	2/19	ND	N/A
Tribromoacetic Acid (ppb)	2/19	ND	N/A
Total Haloacetic Acids (ppb)	2/19	27	27
Total Haloacetic Acids UCMR4 (ppb)	2/19	30	30
Total Haloacetic Acids – Br (ppb)	2/19	3.8	3.8

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	2/2/21	N	ND	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

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	Range High	SMCL
Iron (ppm)	2/2/21	N/D	N/A		0.3 mg/L
Manganese (ppm)	2/2/21	N/D	N/A		0.05 mg/L
Nickel (ppm)	2/2/21	N/D	N/A		N/A
Sodium (ppm)	2/2/21	16.3	N/A		N/A
Sulfate (ppm)	2/2/21	25.7	N/A		250 mg/L
pH	2/2/21	7.00	N/A		6.5 to 8.5

Cryptosporidium / Giardia

To comply with the Long Term 2 Enhanced Surface Water Treatment (LT2) Rule, the Lincoln County Water Treatment Plant has been monthly monitoring for Cryptosporidium and Giardia in the source water (Lake Norman).

During testing all samples for Cryptosporidium (oocysts/L) were found at not detected levels.

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. 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.

Giardia	Sample Date
0.1 (cysts/L)	2/18
0.1 (cysts/L)	4/18

Unregulated Contaminants:
Gen X/ PFOS & PFAS
4/20/2020

PFOA stands for perfluorooctanoic acid while PFOS stands for perfluorooctanesulfonic acid, both are part of a class of compounds called perfluoroalkyl substances (PFAS). Due to their capacity to deter water and grease, these synthetic compounds are used for industrial and consumer applications such as nonstick coatings and firefighting foams.

GenX is a human-made, unregulated chemical that is a byproduct of the process of manufacturing mentioned above, in the PFAS family of chemicals.

There is currently no federal legal standard regulating the maximum allowable levels of any PFAS in drinking water. The Environmental Protection Agency (EPA) has set a drinking water health advisory level of 70 parts per trillion (ppt) for two PFAS chemicals called PFOA and PFOS. N.C. DHHS has set a health goal for GenX, in drinking water, at 140 nanograms per liter (ng/L) or parts per trillion (ppt). Both these levels are recommendations based on currently available research data, and it is believed a very low risk of developing health effects would be expected over a lifetime of exposure to these three particular PFAS, below levels indicated.

PFAS informational resources:
https://ncpfastnetwork.com/faqs/
https://www.epa.gov/pfas/basic-information-pfas

Summary of findings:

Sum of PFOS and PFOA
The sum of PFOA and PFOS was 1.7 ppt. This represents 2.4% of the EPA's health advisory level of 70 ppt for PFOA+PFOS

GenX
GenX was not detected above its reporting limit.

Total PFAS
The total concentration was 9.2 ppt.

RL= Reporting Level

Analyte Name	Abbreviation	CAS Registry	Concentration (ppt)	RL (ppt)
Fluoroalkyl sulfonamides (FASAs)				
Perfluorobutane sulfonamide	PFBSA	30334-69-1	<RL	1
Perfluorohexane sulfonamide	PFHxSA	41997-13-1	<RL	1
Perfluorooctane sulfonamide	PFOSA	754-91-6	<RL	1
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	2355-31-9	<RL	1
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	2991-50-6	<RL	5
Fluorotelomer Sulfonates				
4:2 Fluorotelomer sulfonic acid	4:2 PFS	757124-72-4	<RL	1
6:2 Fluorotelomer sulfonic acid	6:2 PFS	27619-97-2	<RL	1
8:2 Fluorotelomer sulfonic acid	8:2 PFS	39108-34-4	<RL	1
10:2 Fluorotelomer sulfonic acid	10:2 PFS	120226-60-0	<RL	1
Perfluoroalkylcarboxylic acids (PFCAs)				

Perfluorobutanoic acid	PFBA	375-22-4	<RL	1
Perfluoropentanoic acid	PFPeA	2706-90-3	2.2	2
Perfluorohexanoic acid	PFHxA	307-24-4	3.1	2
Perfluoroheptanoic acid	PFHpA	375-85-9	2.2	1
Perfluorooctanoic acid	PFOA 3	35-67-1	1.7	1
Perfluorononanoic acid	PFNA	375-95-1	<RL	5
Perfluorodecanoic acid	PFDA	335-76-2	<RL	5
Perfluoroundecanoic acid	PFUnDA	2058-94-8	<RL	1
Perfluorododecanoic acid	PFDoDA	307-55-1	<RL	1
Perfluorotridecanoic acid	PFTrDA	72629-94-8	<RL	2
Perfluorohexadecanoic acid	PFHxDA	67905-19-5	<RL	10

Perfluoroalkylether Acids (PFEAs)

Perfluoro-2-methoxyacetic acid	PFMOAA	674-13-5	<RL	5
Perfluoro-2-methoxypropanoic acid	PMPA	377-73-1	<RL	1
Perfluoro(3,5-dioxahexanoic) acid	PFO2HxA	39492-88-1	<RL	1
Perfluoro-2-ethoxypropanoic acid	PEPA	267239-61-2	<RL	1
1,1,2,2-tetrafluoro-2-(1,2,2,2-tetrafluoroethoxy) ethane sulfonic acid	NVHOS	N/A	<RL	1
Perfluoro(3,5,7-trioxaoctanoic) acid	PFO3OA	39492-89-2	<RL	1
Perfluoro-2-propoxypropanoic acid	GenX	13252-13-6	<RL	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid	PFO4DA	39492-90-5	<RL	1
Dodecafluoro-3H-4,8-dioxanonanoic acid	ADONA	958445-44-8	<RL	1
Propanoic acid, 3-[1-[difluoro(1,2,2,2-tetrafluoroethoxy)methyl-1,2,2,2-tetrafluoroethoxy]-2,2,3,3-tetrafluoro-	Hydro-EVE acid	773804-62-9	<RL	1
Ethanesulfonic acid, 2-[1-[difluoro[(1,2,2-trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-	Nafion byproduct 1	29311-67-9	<RL	1
Perfluoro(3,5,7,9,11-pentaoxadodecanoic) acid	PFO5DoDA	39492-91-6	<RL	2
Ethanesulfonic acid, 2-[1-[difluoro(1,2,2,2-tetrafluoroethoxy)methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-	Nafion byproduct 2	749836-20-2	<RL	1
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	F-53B (Major)	73606-19-6	<RL	1
11-chloroeicosafluoro-3-oxanonane-1-sulfonate	F-53B (Minor)	83329-89-9	<RL	1

Perfluoroalkylsulfonic Acids (PFSAs)

Perfluorobutanesulfonic acid	PFBS	375-73-5	<RL	1
Perfluoropentanesulfonic acid	PFPeS	2706-91-4	<RL	1
Perfluorohexanesulfonic acid	PFHxS	355-46-4	<RL	2
Perfluoroheptanesulfonic acid	PFHpS	375-92-8	<RL	1
Perfluorooctanesulfonic acid	PFOS	1763-23-1	<RL	1
Perfluorononanesulfonic acid	PFNS	68259-12-1	<RL	1
Perfluorodecanesulfonic acid	PFDS	2806-15-7	<RL	10
Perfluorododecanesulfonic acid	PFDoS	79780-39-5	<RL	10

Zwitterions

N-(3-dimethylaminopropan-1-yl)perfluoro-1-hexane-sulfonamide	N-AP-FHxSA	50598-28-2	<RL	5
N-[3-(perfluoro-1-hexanesulfonamido)propan-1-yl]-N,N,N-trimethylammonium	N-TAmP-FHxSA	38850-51-0	<RL	1
N-(carboxymethyl)-N,N-dimethyl-N-[3-(1H,1H,2H,2H-perfluoro-1-octanesulfonamido)propan-1-yl]ammonium	N-CMAmP-6:2FOSA (6:2 FTAB)	34455-29-3	<RL	2