



# ANNUAL DRINKING WATER QUALITY REPORT 2021

City of Hickory, Alexander County, Southeastern Catawba County and  
Town of Catawba  
Public Water System ID: NC0118010, NC0102020, NC2018004, NC0118040

## CITY OF HICKORY

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The City of Hickory is pleased to present you this 2021 edition of the Annual Drinking Water Quality Report. Through proper treatment and system operation, we ensure that the water you receive meets all State and Federal drinking water standards and, in many cases, Hickory's operations go beyond what is required to ensure our water is of the highest quality. **We are pleased to inform you that our system has no violations during the reporting period.** Publication of this report is required by the "Safe Drinking Water Act" under General Statute: 42 U.S.C. § 300f-300j-26 and reflects the continued hard work and dedication of the City of Hickory Public Utilities employees who ensure your water is safe, reliable and of superior quality. **If you have any questions about this report or concerning your water, please contact Shawn Pennell, DS-A, CS-4, Public Utilities Director at (828) 323- 7427 or Wesley Boyd, DW-A, Water Treatment Plant Superintendent, at (828) 323-7530.**

## 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).

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

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 City of Hickory 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

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

Our water source is surface water from Lake Hickory, which is part of the Catawba River. Due to the proximity of Lake Hickory/Catawba River to major roads such as US Hwy 321 and NC Hwy 127 and the potential for contamination due to vehicles, road run-off and development, Lake Hickory/Catawba River has a susceptibility rating of "higher". This does not mean Lake Hickory/ Catawba River has poor water quality. It simply means that potential for contamination is higher than other water bodies that do not have these influences.

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. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of contaminants. **It is important to remember that the presence of these contaminants does not necessarily pose a health risk.**

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. The City of Hickory regularly monitors for contaminants in our drinking water according to federal and state laws. Tables on the following pages of this report reveal the actual test results of our monitoring from the period of January 1, 2021 through December 31, 2021.

The relative susceptibility rating for City of Hickory water was determined by combining the contaminant rating (number and location of PCS's 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 Hickory	Higher	September 2020

The complete SWAP Assessment report for City of Hickory may be viewed on the Web at: [www.ncwater.org/?page=600](http://www.ncwater.org/?page=600) . Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this website may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to [swap@ncdenr.gov](mailto:swap@ncdenr.gov). Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

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

# CITY OF HICKORY

PUBLIC WATER SYSTEM ID: [NC 01-18-010](#)

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, 2021. 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 and is from the most recent monitoring performed in accordance with the regulations.

## Water Quality Data:

### Microbiological Contaminants: 2021

Contaminant (units)	MCL Viol. Y/N	Your Water		MCLG	MCL	Likely Source of Contamination
		Monthly Average	Highest Monthly Average			
Total Coliform Bacteria (presence or absence)	N	0	0	0	No more than 5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	N	0	0	0	0	Human and animal fecal waste

- (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)

## Tables of Detected Contaminants:

### Turbidity

Contaminant (units)	Treatment Technique or Violation Y/N	Your Water	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.119 NTU	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	100%	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.

### Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	1/14/20	N	ND	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

### Nitrate/Nitrite Contaminants

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Nitrate (as Nitrogen) (ppm)	N	ND	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	N	ND	1	1	

### Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	Sept. 2019	0.117	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 <sup>th</sup> percentile)	Sept. 2019	ND	0	0	AL=15	

## Tables of Detected Contaminants (cont.):

### Total Organic Carbon (TOC)

Contaminant	TT Violation Y/N	Your Water (RAA Removal Ratio)	Range Quarterly Removal Ratio Low - High	MCLG (ppm)	TT	Likely Source of Contamination	Compliance Method (Step 1 or ACC#)
Total Organic Carbon (removal ratio) TOC-TREATED	N	2.86	2.86	<2.00	TT	Naturally present in the environment	ACC #2

### Disinfectant Residuals Summary: 2021

Disinfectant	MRDL Violation Y/N	Your Water (highest RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
			Low	High			
Chlorine (ppm)	N	1.24	0.2	1.85	4	4	Water additive used to control microbes

### Disinfectants and Disinfection Byproducts Contaminants: 2021

Location Code	MCL Violation	Your Water (Highest LRAA)	Range		MCLG	MCL	Likely Source of Contamination
			Low	High			
TTHM's (ppb) – Total Trihalomethanes							
B01	NO	33	18	45	N/A	80	Byproduct of drinking water disinfection
B02	NO	54	26	75	N/A	80	Byproduct of drinking water disinfection
B03	NO	31	16	44	N/A	80	Byproduct of drinking water disinfection
B04	NO	52	26	68	N/A	80	Byproduct of drinking water disinfection
B05	NO	58	30	77	N/A	80	Byproduct of drinking water disinfection
B06	NO	38	22	51	N/A	80	Byproduct of drinking water disinfection
B07	NO	32	17	43	N/A	80	Byproduct of drinking water disinfection
B08	NO	30	16	43	N/A	80	Byproduct of drinking water disinfection
HAA5 (ppb) – Haloacetic acids							
B01	NO	21	16	25	N/A	60	Byproduct of drinking water disinfection
B02	NO	30	21	39	N/A	60	Byproduct of drinking water disinfection
B03	NO	17	15	18	N/A	60	Byproduct of drinking water disinfection
B04	NO	26	20	30	N/A	60	Byproduct of drinking water disinfection
B05	NO	26	22	33	N/A	60	Byproduct of drinking water disinfection
B06	NO	21	16	24	N/A	60	Byproduct of drinking water disinfection
B07	NO	18	14	20	N/A	60	Byproduct of drinking water disinfection
B08	NO	17	14	20	N/A	60	Byproduct of drinking water disinfection

- **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.

### Other Miscellaneous Water Characteristics Contaminants

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.

Contaminant (units)	Sample Date	Your Water	Range		SMCL
			Low	High	
Sodium (mg/L)	1/14/21	18.3	N/A	N/A	N/A
Sulfate (mg/L)	1/14/21	ND	N/A	N/A	250
pH (SU)	1/14/21	6.6	N/A	N/A	6.5 to 8.5
Alkalinity (mg/L CaCO <sub>3</sub> )	1/14/21	15.6	N/A	N/A	N/A
Hardness (mg/L CaCO <sub>3</sub> )	1/14/21	14.8	N/A	N/A	N/A
Iron (mg/L)	1/14/21	0.02	N/A	N/A	0.3

# Alexander County

Public Water System ID: [NC 01-02-020](#)

## Water Quality Data:

### Microbiological Contaminants: 2021

Contaminant (units)	MCL Viol. Y/N	Your Water		MCLG	MCL	Likely Source of Contamination
		Monthly Average	Highest Monthly Average			
Total Coliform Bacteria (presence or absence)	N	0	0	0	1 positive sample	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	N	0	0	0	0	Human and animal fecal waste

- (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)

### Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	July 2019	.072	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 <sup>th</sup> percentile)	July 2019	ND	0	0	AL=15	

### Disinfectant Residuals Summary: 2021

Disinfectant	MRDL Violation Y/N	Your Water (highest RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
			Low	High			
Chlorine (ppm)	N	1.03	0.27	1.54	4	4	Water additive used to control microbes

### Disinfectants and Disinfection Byproducts Contaminants: 2021

Location Code	MCL Violation	Your Water (Highest LRAA)	Range		MCLG	MCL	Likely Source of Contamination
			Low	High			
TTHM's (ppb) – Total Trihalomethanes							
B01	NO	42	22	54	N/A	80	Byproduct of drinking water disinfection
B02	NO	46	24	56	N/A	80	Byproduct of drinking water disinfection
B03	NO	47	24	60	N/A	80	Byproduct of drinking water disinfection
B04	NO	41	22	52	N/A	80	Byproduct of drinking water disinfection
HAA5 (ppb) – Haloacetic acids							
B01	NO	26	20	29	N/A	60	Byproduct of drinking water disinfection
B02	NO	27	19	34	N/A	60	Byproduct of drinking water disinfection
B03	NO	28	21	33	N/A	60	Byproduct of drinking water disinfection
B04	NO	23	18	27	N/A	60	Byproduct of drinking water disinfection

- 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.

# Southeastern Catawba County

Public Water System ID: [NC 20-18-004](#)

## Water Quality Data:

### Microbiological Contaminants: 2021

Contaminant (units)	MCL Viol. Y/N	Your Water		MCLG	MCL	Likely Source of Contamination
		Monthly Average	Highest Monthly Average			
Total Coliform Bacteria (presence or absence)	N	0	0	0	1 positive sample	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	N	0	0	0	0	Human and animal fecal waste

- (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)

### Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	Aug. 2020	ND	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 <sup>th</sup> percentile)	Aug. 2020	ND	0	0	AL=15	

### Disinfectant Residuals Summary: 2021

Disinfectant	MRDL Violation Y/N	Your Water (highest RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
			Low	High			
Chlorine (ppm)	N	0.50	0.21	0.92	4	4	Water additive used to control microbes

### Disinfectants and Disinfection Byproducts Contaminants: 2021

Location Code	MCL Violation	Your Water (Highest LRAA)	Range		MCLG	MCL	Likely Source of Contamination
			Low	High			
TTHM's (ppb) – Total Trihalomethanes							
B01	NO	56	28	74	N/A	80	Byproduct of drinking water disinfection
B02	NO	49	24	63	N/A	80	Byproduct of drinking water disinfection
HAA5 (ppb) – Haloacetic acids							
B01	NO	25	21	27	N/A	60	Byproduct of drinking water disinfection
B02	NO	24	18	29	N/A	60	Byproduct of drinking water disinfection

- 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.

# Town of Catawba

Public Water System ID: [NC 01-18-040](#)

## Water Quality Data:

### Microbiological Contaminants: 2021

Contaminant (units)	MCL Viol. Y/N	Your Water		MCLG	MCL	Likely Source of Contamination
		Monthly Average	Highest Monthly Average			
Total Coliform Bacteria (presence or absence)	N	0	0	0	1 positive sample	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	N	0	0	0	0	Human and animal fecal waste

- (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)

### Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	Aug. 2019	ND	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 <sup>th</sup> percentile)	Aug. 2019	ND	0	0	AL=15	

### Disinfectant Residuals Summary: 2021

Disinfectant	MRDL Violation Y/N	Your Water (highest RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
			Low	High			
Chlorine (ppm)	N	0.63	0.29	1.07	4	4	Water additive used to control microbes

### Disinfectants and Disinfection Byproducts Contaminants: 2021

Location Code	MCL Violation	Your Water (Highest LRAA)	Range		MCLG	MCL	Likely Source of Contamination
			Low	High			
TTHM's (ppb) – Total Trihalomethanes							
B01	NO	57	25	84	N/A	80	Byproduct of drinking water disinfection
B02	NO	49	22	67	N/A	80	Byproduct of drinking water disinfection
HAA5 (ppb) – Haloacetic acids							
B01	NO	22	19	25	N/A	60	Byproduct of drinking water disinfection
B02	NO	26	19	30	N/A	60	Byproduct of drinking water disinfection

- 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.



## 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 per liter (ng/L)** - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Parts per quadrillion (ppq) or Picograms per liter (pg/L)** - One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

**Picocuries per liter (pCi/L)** - Picocuries per liter is a measure of the radioactivity in water.

**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 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.

**Running Annual Average (RAA)** – The average of sample analytical results during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.