



2017 Annual Drinking Water Quality Report

West Iredell Water Company



Water System Number: 01-49-158

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies. **If you have any questions about this report or concerns with your water quality, please contact Mike Barr or Sara Moore at (704) 873-1658. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Board of Directors meetings. They are held on the third Tuesday of each month at 7:00 pm at the West Iredell Water Company business office located at 1216 Island Ford Road, unless otherwise notified. Also, the Annual Membership Meeting is held each year on the third Tuesday of April at 7:00 pm.**

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. West Iredell Water Company 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 from 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.

When You Turn on Your Tap, Consider the Source

West Iredell Water Company is a purchase only water system. Our water is purchased from Energy United Water Corporation and the City of Statesville. Energy United Water Corporation purchases surface water from the City of Newton. The two sources of water for the City of Newton are the City Lake and the Jacob Fork River. The City of Statesville's source of water comes from the Lookout Shoals Lake and the South Yadkin River.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), 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 the West Iredell Water Company 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 (PCS's)

Source Name	Susceptibility Rating	SWAP Report Date
Energy United Water / City of Newton (the City Lake & the Jacob Fork River)	Moderate	N/A
City of Statesville (Lookout Shoals Lake)	Moderate	2017
City of Statesville (South Yadkin River)	Moderate	2017

The complete SWAP Assessment report for West Iredell Water Company may be viewed on the Web at:

www.ncwater.org/pws/swap. 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 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: dispose of chemicals properly; take used motor oil to a recycling center, volunteer in your community to participate in group efforts to protect your source, etc.).

Violations that Your Water System Received for the Report Year

Violation that the City of Statesville Received for 2017

Treatment Technique Violations

TT Violation	Explanation	Length of Violation	Steps Taken to Correct the Violation	Health Effects Language
Exceeded Treatment Technique Level for Finished Water Turbidity – April 23 rd , 2017	The Finished Water Turbidity was impacted by a construction project to repair a valve that failed. The excavated area was left open to the elements by the Contractor and was quickly filled with rainwater as a result of a heavy downpour of rain at the Plant. The area was adjacent to the Plant’s High Service Pumps Wet Well and the operation of the pumps caused rainwater to be siphoned into the wet well.	6 Hours	Water was pumped from the area and the Plant’s Operators boosted the residual chlorine levels to prevent contamination from the rainwater. The Standard Operating Procedures was updated and Plant Staff received extra training to prevent a future reoccurrence	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. These symptoms are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice

Water Quality Data Tables 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 the 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, 2017.** 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.

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.

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

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.

Tables of Detected Contaminants (West Iredell Water Co.)

Microbiological Contaminants in the Distribution System - For systems that collect *less than 40* samples per month)

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	ND	0	one positive monthly sample	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> (presence or absence)	N	ND	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive)	Human and animal fecal waste

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	Y N	Statesville – 0.712 Newton – 0.09	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	Soil runoff

* 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	Supplier	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	2017	N	0.77 0.66	(City of Stvle) (Newton)	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Asbestos Contaminant (West Iredell Water Co.)

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	MC LG	MCL	Likely Source of Contamination
Total Asbestos (MFL)	2011 2013	N – WIWC N – Stvle	ND	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	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile) Newton	June 2015	0.289	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm) (90 th percentile) City of Statesville	July 2017	ND	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm) (90 th percentile) Energy United Water	June 2017	0.096	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm) (90 th percentile) West Iredell Water Co.	June 2017	<0.050	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile) Newton	June 2015	<3.0	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Lead (ppb) (90 th percentile) City of Statesville	July 2017	ND	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Lead (ppb) (90 th percentile) Energy United Water	June 2017	<3.0	1	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Lead (ppb) (90 th percentile) West Iredell Water Co.	June 2017	<0.003	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

Total Organic Carbon (TOC)

Contaminant (units)	TT Violation Y/N	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low-High	MCLG	TT	Likely Source of Contamination	Compliance Method (Step 1 or ACC#___)
Total Organic Carbon (removal ratio) (TOC)-TREATED (City of Newton)	N	2.86 ppm	1-2.86	N/A	TT	Naturally present in the environment	ACC 2
Total Organic Carbon (removal ratio) (TOC)-TREATED (City of Statesville)	N	38%	33%-45%	N/A	TT	Naturally present in the environment	ACC 2

Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low/High	SMCL
Sodium (ppm) (City of Newton)	10/04/17	8.89	N/A	N/A
Sulfate (ppm) (City of Newton)	10/04/17	17.5	N/A	250 mg/L
pH (City of Newton)	10/04/17	7.2	N/A	6.5 to 8.5

Cryptosporidium

City of Newton is currently monitoring for *Cryptosporidium* as required by the USEPA. This round of testing began in October 2016 and runs through September 2018. Samples are taken monthly and transported to Charlotte for testing. There has thus been no indication of the contaminant present at the level of detection as set by the USEPA.

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

Disinfectants and Disinfection Byproducts Contaminants

Contaminant (units)	Year Sampled	MCL / MRDL Violation Y/N	Your Water LRAA (Stage 2)	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes] City of Newton	2017	N	40	N/A	80	By-product of drinking water chlorination
TTHM (ppb) [Total Trihalomethanes] City of Statesville	2017	N	53 – B01 51 – B02 47 – B03 39 – B04	N/A	80	By-product of drinking water chlorination
TTHM (ppb) [Total Trihalomethanes] Energy United Water	2017	N	50 – B01 52 – B02 49 – B03 52 – B04	N/A	80	By-product of drinking water chlorination
TTHM (ppb) [Total Trihalomethanes] West Iredell Water Co.	2017	N	49 – B01 50 – B02	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids] City of Newton	2017	N	25	N/A	60	By-product of drinking water disinfection
HAA5 (ppb) [Total Haloacetic Acids] City of Statesville	2017	N	29 – B01 25 – B02 25 – B03 22 – B04	N/A	60	By-product of drinking water disinfection
HAA5 (ppb) [Total Haloacetic Acids] Energy United Water	2017	N	35 – B01 37 – B02 45 – B03 43 – B04	N/A	60	By-product of drinking water disinfection
HAA5 (ppb) [Total Haloacetic Acids] West Iredell Water	2017	N	32 – B01 33 – B02	N/A	60	By-product of drinking water disinfection
Chlorine (ppm) – Style	2017	N	1.64	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Chlorine (ppm) – E.U.	2017	N	1.02	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Chlorine (ppm)– WIWC	2017	N	1.29	MRDLG = 4	MRDL = 4	Water additive used to control microbes

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCL's) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCL's normally do not have any health effects and normally do not affect the safety of your water.