



Annual Drinking Water Quality Report for 2018

Our Mission is CLEAR!

January 2019

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Annual Drinking Water Quality Report

Salisbury-Rowan Utilities (SRU) 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 your source water, what it contains, and how it compares to standards set by our 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 providing you with this information. **For questions concerning the report or your water, please contact Alan Fowler, Chemist, Salisbury-Rowan Utilities – (704) 638-5372.**

Este reporte contiene información importante sobre la calidad de agua en su comunidad. Léelo o llame por teléfono al (704) 638-2168 para una traducción en Español, gratis.

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 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 private home plumbing.** Salisbury-Rowan Utilities 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/lead/protect-your-family-exposures-lead#homeleadsafe>

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.

City of Salisbury Annual Drinking Water Quality Report
Reporting Year 2018
(NC 01-80-010)

When You Turn On Your Tap, Consider The Source

Salisbury – Rowan Utilities’ intakes are located on the Rowan – Davie - Davidson County line at the confluence of the South Yadkin River and the Yadkin River. The Yadkin Pee Dee River basin, which has a watershed classification of WS-IV, is the second largest river basin in NC, covering 7,213 square miles of which 50% is forested. Rain that falls on the eastern slopes of the Blue Ridge Mountains in Caldwell, Wilkes, and Surry Counties begins the flow to Salisbury and High Rock Lake. For more information on flow of the Yadkin River, the **USGS web site is www.usgs.org**.

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 Salisbury-Rowan Utilities 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:

Source Name	Susceptibility Rating	SWAP Report Date
YADKIN RIVER	Moderate	September 2017

The complete Source Water Assessment Plan for the City of Salisbury can be viewed at:

http://www.ncwater.org/files/swap/SWAP_Reports/0180010_9_5_2017_85_11.pdf

To request a printed copy of the report, call (919) 707-9098 or email SWAP@ncdenr.gov . Please include the following information when making the request:

PWS System Name & Identification Number

Contact Name

Address

Phone Number

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 Consumer Confidence Report 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.

It is important to understand that a susceptibility rating of even “higher” does not imply poor water quality. Susceptibility is an indication of a water supply’s potential to become contaminated by identified potential contaminant sources within the assessment area.

Protection of drinking water is everyone’s responsibility. SRU offers educational programs for all ages about water concerns including: water and wastewater treatment, recycling, storm water education, and FOG (Fats, Oils and Grease). We also offer presentations about environmental education including medicine and mercury disposal. To schedule a group for an educational experience please contact **704-638-5205 (SRU Administration)**

You can help your community’s drinking water source in several ways: (examples: properly disposing of chemicals; taking used motor oil to a recycling center, volunteering in your community to participate in group efforts to protect your source, etc.)

How Your Water Treatment Plant Works

The Salisbury-Rowan Utilities' Water Treatment Plant uses a pretreatment process called *Actiflo*, which is a high-rate clarification unit. Salisbury treats an annual average of 9.7 million gallons of water per day (MGD). There is off stream storage of 28 MG if the Yadkin River should ever be unsuitable for drinking water. Micro-Sand, Polymer, and Poly-Aluminum Chloride are added to the raw water as it enters the pretreatment units to begin the coagulation process. After mixing, the solids are removed by the pretreatment process. The water is allowed to settle up to 4 hours and then it is filtered. After filtration, Sodium Hypochlorite, Fluoride and Phosphate are added and the pH is adjusted using liquid lime. Fluoride is added to promote stronger teeth, and Phosphate helps to prevent pipe corrosion in the distribution system. Solids that are removed from the raw water are de-watered and eventually reapplied to farmland in Rowan County.

Salisbury-Rowan Utilities' Water Treatment Division is required to test for over 150 contaminants to make sure that the water you drink is safe. 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. **The following regulated contaminants were detected in our *finished* water as analyzed between January 1 and December 31, 2018 unless otherwise noted.** *Finished* water is the water that leaves our treatment plant and is distributed throughout the system to your tap. 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

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Sources of Contamination
Total Coliform Bacteria (presence/absence)	N	0	0	5% of monthly samples are positive	Naturally present in the environment
E-Coli (presence/absence)	N	0	0	If either an original routine samples and/or its repeat samples are E-coli positive, a Tier 1 Violation exists.	Human and animal fecal waste

Turbidity*

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	MCLG	Treatment Technique (TT) Violation if:	Likely Sources of Contamination
Turbidity (NTU)-Highest single turbidity measurement	N	0.13 NTU	N/A	Turbidity > 1 NTU	Soil Runoff
Turbidity (NTU)-Lowest monthly percentage (%) of samples meeting turbidity limits	N	100 %	N/A	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 or equal to 0.3 NTU's

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	6/2017	0.156	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	6/2017	ND	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Out of the 30 homes selected for this test, the 90th Percentile result was Non-Detectable (below the Action Level)

Total Organic Carbon

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#2)
Total Organic Carbon (removal ratio) (TOC)-Treated	N	39 %	29 % - 52 %	N/A	TT	Naturally present in the environment	Step #1

Step 1 TOC Removal Requirements

Source Water TOC (mg/L)	Source Water Alkalinity mg/L as CaCO ₃ (in percentages)		
	0-60	>60-120	>120
>2.0-4.0	35.0	25.0	15.0
>4.0-8.0	45.0	35.0	25.0
>8.0	50.0	40.0	30.0

Disinfection 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	1.55	1.03 2.53	4	4.0	Water additive used to control microbes

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)					N/A	80	Byproduct of drinking water disinfection
B01	2018	N	69.5	34.2 – 118.1			
B02	2018	N	41.8	21.2 – 81.6			
B03	2018	N	49.9	25.3 – 91.9			
B04	2018	N	60.8	19.4 – 85.3			
HAA5 (ppb)					N/A	60	Byproduct of drinking water disinfection
B01	2018	N	29.6	23.8 – 35.2			
B02	2018	N	34.5	18.3 – 58.8			
B03	2018	N	32.7	19.0 – 51.9			
B04	2018	N	32.2	19.2 – 58.0			

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.

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Sources of Contamination
				Low	High			
Fluoride (ppm)	Daily	N	0.59	0.41	1.00	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Other Miscellaneous Water Characteristic Contaminants

Contaminant (units)	Sample Date	Your Water	SMCL
Alkalinity (ppm)	Daily	28.1	N/A
Carbon Dioxide (ppm)	Daily	10.4	N/A
Conductivity (micromhos/cm)	Weekly	118.9	N/A
Hardness (ppm)	Daily	29.5	N/A
Iron (ppm)	Daily	0.01	0.3 mg/L
Manganese (ppm)	Daily	0.004	0.05 mg/L
Orthophosphate (ppm)	Daily	0.96	N/A
Sodium (ppm)	Annually	16.07	N/A
pH (standard units)	Daily	7.0	6.5-8.5

Update on SRU Projects

SRU completed the implementation of the AMI (Advanced Metering Infrastructure) project in 2018. With AMI, customers will have the ability to monitor water usage via a free web-based customer service tool called Eye on Water. For more information on how to sign up, visit salisburync.gov/EyeOnWater or call (704) 638-5300.

Upgrades and replacement projects are continuing via SRU's 10-Year Capital Improvement Plan (CIP), which prioritizes and forecasts future capital needs. Complementing the CIP is a newly implemented asset management program for our water and wastewater treatment facilities. This asset management program will be expanded to include water and wastewater distribution and collection assets in the near future.

Also last year, SRU embarked on the initial phase of a multi-year effort to rehabilitate aging gravity sewer lines throughout the system in an effort to reduce inflow and infiltration (I&I). I&I is storm water or groundwater that enters the sanitary sewer system through cracks, joints, manholes, broken cleanouts or cross-connections. High levels of I&I increase treatment costs impact capacities both in the collection system and at the treatment plant, and have the potential to cause a sanitary sewer overflows (SSO).

SRU continues to safeguard and protect your water supply and has been actively involved in Federal Energy Regulatory Commission (FERC) relicensing of the Yadkin (Hydropower) Project; FERC approved the sale and transfer by Alcoa Power of 100% of its ownership interests in the Project and related jurisdictional assets to Cube Hydro Carolinas, LLC

SRU also protects its customers and their water supply during periods of drought by conducting regular monitoring of the water supply to track the flow and volume of the Yadkin River and by encouraging wise use of water. A copy of the water shortage response plan can be found on our webpage at <http://www.salisburync.gov/utilities/>.

Contract Operated Systems:
Town of East Spencer (NC 01-80-060)

The Town of East Spencer (ID# 01-80-060) purchases water from Salisbury-Rowan Utilities. SRU operates and monitors this system as well. Contaminants that were detected between January 1 and December 31, 2018 are listed below:

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Sources of Contamination
Total Coliform Bacteria (presence/absence)	N	0	0	1 positive sample/month	Naturally present in the environment
E-Coli (presence/absence)	N	0	0	If either an original routine samples and/or its repeat samples are E-coli positive, a Tier 1 Violation exists.	Human and animal fecal waste

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)					N/A	80	Byproduct of drinking water disinfection
B01	2018	N	52.8	27.3 – 91.4			
B02	2018	N	55.9	27.4 – 103.4			
HAA5 (ppb)					N/A	60	Byproduct of drinking water disinfection
B01	2018	N	31.1	21.1 – 35.4			
B02	2018	N	36.8	21.1 – 59.2			

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.

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	6/2016	0.110	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	6/2016	3.0	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Out of the 10 homes selected for this test the 90th Percentile result was 3.0 ppb Lead (below the Action Level)

Contract Operated Systems:
Town of China Grove (NC 01-80-040)

The Town of China Grove (ID# 01-80-040) purchases water from Salisbury-Rowan Utilities. SRU operates and monitors this system as well. Contaminants that were detected between January 1 and December 31, 2018 are listed below:

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Sources of Contamination
Total Coliform Bacteria (presence/absence)	N	0	0	1 positive sample/month	Naturally present in the environment
E-Coli (presence/absence)	N	0	0	If either an original routine samples and/or its repeat samples are E-coli positive, a Tier 1 Violation exists.	Human and animal fecal waste

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)					N/A	80	Byproduct of drinking water disinfection
B01	2018	N	46.0	25.3 – 80.1			
B02	2018	N	64.6	28.1 – 114.8			
HAA5 (ppb)					N/A	60	Byproduct of drinking water disinfection
B01	2018	N	32.1	28.2 – 46.4			
B02	2018	N	30.8	24.0 – 39.3			

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.

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	6/2016	ND	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	6/2016	10	2	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Out of the 10 homes selected for this test, the 90th percentile result was 10.0 ppb Lead (below the Action Level)

Contract Operated Systems:
North East Rowan County (NC 20-80-082)

The Northeast Rowan County Water System (ID# 20-80-082) purchases water from Salisbury-Rowan Utilities. SRU operates and monitors this system as well. Contaminants that were detected between January 1 and December 31, 2018 are listed below:

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Sources of Contamination
Total Coliform Bacteria (presence/absence)	N	0	0	1 positive sample/month	Naturally present in the environment
E-Coli (presence/absence)	N	0	0	If either an original routine samples and/or its repeat samples are E-coli positive, a Tier 1 Violation exists.	Human and animal fecal waste

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)					N/A	80	Byproduct of drinking water disinfection
B01	2018	N	N/A	73.4 – 109.4			
HAA5 (ppb)					N/A	60	Byproduct of drinking water disinfection
B01	2018	N	N/A	22.6 – 63.6			

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.

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	10/2018	0.161	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	10/2018	57.0	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Out of the 10 homes selected for this test, the 90th Percentile result was 57.0 ppb Lead (above the Action Level)

Key to Unit Abbreviations

Mg/L or ppm	Milligram per liter or parts per million. One part per million or milligram per liter is like a single penny in \$10,000.
Ug/l or ppb	Micrograms per liter or parts per billion. One part per billion or microgram per liter is like a single penny in \$10,000,000.
MCL	Maximum Contaminant Level: 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.
MCLG	Maximum Contaminant Level Goal: 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.
AL	Action Level: the concentration of a contaminant that triggers treatment or other requirements that a water system must follow.
TT	Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.
NTU	Nephelometric Turbidity Units. Turbidity in excess of 5 NTU is just noticeable to the average person.
N/A	Non-Applicable. Information not applicable/not required for that particular water system or for that particular rule

ND	Non Detectable. Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.
MRT	Maximum Residence Time. Location in the distribution system where water age is the greatest.
MRDL	Maximum Residual Disinfection 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 Disinfection Level Goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
LRAA	Locational Running Annual Average. The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfection Byproducts Rule.
MFL	Million Fibers per Liter. Million Fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
PCi/l	PicoCuries/Liter. Picocuries per liter is a measure of the radioactivity in water.
SMCL	Secondary Maximum Contaminant Level. The SMCL has no known health effects, primarily aesthetics.

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.

Salisbury-Rowan Utilities (SRU) Contacts

<u>SRU Administration</u>	1 Water Street	(704) 638-5205
<u>Water Plant Supervisor</u>	Jeff Parker	(704) 638-4480
<u>Water Quality Concerns</u>	Water Lab	(704) 638-5372
<u>Water Bills & Service Reconnection</u>	Customer Service	(704) 638-5300
<u>Line Leaks</u>	Systems Maintenance	(704) 638-5390
<u>Emergencies (after hours)</u>		(704) 638-5339
<u>New Service Connections</u>	Development Services	(704) 638-5208
<u>Facility Tours, Civic Club & Class Room Presentations</u>	SRU Administration	(704) 638-4476

City of Salisbury website at www.salisburync.gov

1. Concernimientos sobre la calidad de su agua?

Si usted nota un cambio en el sabor, olor o color de su agua, llame al (704) 638-5372 de 8:30am - 5:00 pm

2. Cuenta/factura de agua o conexion de servicio?

Si tiene una pregunta sobre su cuenta/factura de agua o si su agua ha sido desconectada llame al (704) 638-5208

3. Nuevo servicio / Conexion

Si acaba de trasladarse a una nueva casa y necesita servicio de agua llame al (704) 638-5208

4. Emergencias y escape de agua, despues de las 5 pm

Si ve que hay agua que esta saliendo del piso, o poca presion de agua

En su casa u otros problemas que no pueden esperar hasta las horas regulares que son de 8:30 am – 5: 00 pm , llame al (704) 638-5339

