

FROM NATURE...



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*Important information regarding changes to Billing  
Refer to section- Billing Pages 4-5*

# Water Quality Report 2017

FROM NATURE...



*Quality Water*

*Important information regarding changes to Billing  
Refer to section- Billing Pages 4-5*

**Yes BBCUD Customers, there is lots of news about your water. Please read BBCUD News from beginning to end. You will be informed of the [2017 Water Quality Report](#), what you need to do to help protect your water and the water of future generations to come, BBCUD policies/procedures and a whole lot more.**

Well, there is so much to tell you it's hard to decide where to begin. So, I guess the best place would be in the beginning.

### **History of Water Sources**

Did you know that you are drinking the same water that your ancestors drank from the beginning of time? Yes! You heard me right. The water that exists on this planet is the same water that existed from day one. There is not one drop more and there is not one drop less. So, the next time you drink a glass of water just imagine who may have drank this water before you, maybe Elvis or George Washington, and then think about how many people will drink this water after you.

I know what a lot of you are thinking. Why is there so much talk about conserving water, droughts, etc. since the amount of water on this planet has not changed since day one. Well, not only has the population of living beings that require water to sustain life has grown tremendously but so has the amount of water that each person consumes/uses daily. For example, in the early 1900's the average person consumed/used approximately 5 gallons a day and now a person consumes/uses approximately 65 gallons a day.

The quality of source waters (rivers, springs, wells, etc.) is being destroyed. So now think, the amount of water on this planet is the same but the quality of that water has been drastically reduced over the past 100 years. Now, it goes without saying that we cannot make water sources, so we need to take care of the ones that we have.

**They are a precious commodity that was given to us in the beginning and we need to protect them till the end.**

### **Your Water Source**

Your water, which is surface water, comes from the **[South Holston River](#)**.



Our goal is to protect our water from contaminants and we are working with the State to determine the vulnerability of our water source to **potential** contamination.

The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the untreated water sources serving this water system. The SWAP Report assesses the susceptibility of untreated water sources to **potential** contamination. To ensure safe drinking water all public water systems treat and routinely test their water. Water sources have been rated as reasonably susceptible, moderately susceptible or slightly susceptible based on geologic factors and human activities in the vicinity of the water source. The Bristol Bluff City Utility District sources rated as moderately susceptible to potential contamination.

An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings and the overall TDEC report to EPA [www.tn.gov/environment/dws/dwassess.shtml](http://www.tn.gov/environment/dws/dwassess.shtml) or you may contact the Water System to obtain copies of specific assessments.

Well, BBCUD is asking you to help protect the water sources. For example, do not pour motor oil onto the ground. Please make sure that it is disposed of properly. Next, make sure that all prescription medications that are no longer needed are not discarded into the trash, poured down a drain, etc. Please seek advice from your doctor or pharmacist on how to properly dispose of any and all medicines. These are just a few examples. To learn more about water sources and how to protect them, please visit State of Tennessee Division of Water Pollution website at [www.tennessee.gov/environment/wpc/](http://www.tennessee.gov/environment/wpc/).

Please every time you drink a good cold, quality glass of water remember that you need to do your part so that millions of people can drink that same glass of water for years to come.

### **Protect Your Potable Water Supply**

Well, it's time to talk about protecting your potable water supply from your own self. That's correct **You** pose a great danger to yourself and potentially to everyone connected to BBCUD water system by way of a cross connection.

A cross connection is a connection that can potentially allow contaminants to enter the potable water supply by way of backsiphonage or backpressure. Backsiphonage occurs when the pressure of the potable water supply decreases and causes water to be drawn backwards (like a straw). Back pressure occurs when the pressure on the customers plumbing increases to the point that it is higher than the pressure of potable water supply.

Let's discuss one of the most common and frequently operated cross connections. It is the garden hose. Yes, a garden hose can kill. Let me give you a few examples. First, you are going to do some yard work. You hate to

weed eat so you are going to mix up some weed/grass killer in your sprayer. You place the required dosage of poison in the tank. Next, you put the end of the water hose into the tank and begin to fill. Your kid, etc. comes outside and is asking you where his or her bike is, etc. and you are not paying attention that the end of the hose is submerged. You have created a cross connection.

Then, a large line break occurs that causes the pressure to drop drastically. The pressure drop causes a suction affect, referred to as backsiphonage, that draws the mixture from the tank back through the hose (like a straw), into your plumbing and potentially into the distribution system.

Next, the break is repaired and the pressure is returned. It pushes the mixture of water and poison back into plumbing system. Then when a person turns on their faucet to get a drink of water and instead of just water they ingest a mixture of water and grass/weed killer. Submerging the end of the water hose while filling a swimming pool, yard ponds, watering toughs, etc. could potentially contaminate the potable water supply with bacteria, etc. Never, allow the end of a water hose to be submerged, always keep an air gap separation.

Next, install vacuum breakers on all spigots. Vacuum breakers work well for backsiphonage situations but not with back-pressure. Vacuum breakers are in- expensive, they are very dependable, easily installed and can be bought at local hardware stores.

Another common cross connection found in rural areas is individuals that have an auxiliary water supply (well, spring, etc.) on their property while being connected to a community water system. This type of cross connection is an example of a backflow that can occur from backpressure due to the pressure created by a spring/well pump and is also subject to backflow from backsiphonage.

Individuals that have an auxiliary water supply (well, spring, etc.) shall maintain a physical air gap separation. This means that the well or spring can not be connected to the plumbing system being supplied by the potable water system at no time and if this can't be accomplished then a backflow preventer (reduced pressure principal detector assembly) shall be installed at the meter per BBCUD specifications.

Many customers believe that their well, spring, etc. is of good quality and poses no harm/threat to the BBCUD potable water system. Well, an individual that has drunk from well/spring for many years could potentially have become immune to the contaminants that are contained within the auxiliary supply. Also, a well/spring/etc. can test negative for bacteria one day and the next day test positive.

The State of Tennessee Division of Water Supply mandates that all community water systems adopt a cross connection ordinance/policy and implement an ongoing cross connection program. The ordinance/policy and program has

to be submitted to the State of Tennessee for approval prior to being adopted by the governing body (BBCUD Commissioners). Please request a copy of BBCUD Cross Connection Policy to learn more about requirements, etc.

If you would like to learn more about cross connections, how to prevent them, etc. then visit the environmental Protection Agency at [www.epa.gov/safewater/crossconnectioncontrol/](http://www.epa.gov/safewater/crossconnectioncontrol/) and the State of Tennessee Department of Environment Division of Water Supply at [www.tennessee.gov/environment/dws/pdf/crossconnection.pdf](http://www.tennessee.gov/environment/dws/pdf/crossconnection.pdf). Also, to learn about actual cross connection incidents that have resulted with illness and/or death then visit the Backflow Prevention Tech Zone at [www.backflowpreventiontechzone.com/](http://www.backflowpreventiontechzone.com/).

BBCUD has and is currently installing single check valves on residential meters to help prevent water from back-flowing out of the customers plumbing system into the BBCUD distribution system. Now with that being said a single check valve is a non-testable device and the only way to know that it is not working is after it has failed. So, it is very important for customers to be educated in cross connection prevention.

The single check valve installed at the residential meters does cause/create the customer to have a closed loop plumbing system. A closed loop plumbing system will be discussed in greater detail with-in the [Why and How to Regulate Pressure](#) news section.

### **Why and How to Regulate Pressure**

BBCUD's optimum and normal operating pressure range is 175 to 180 pounds of pressure. The State of Tennessee requires BBCUD to deliver a minimum of 20 pounds of pressure to every meter. So, since we live in an area that the topography is not flat then the plant has to discharge enough pressure to push the water up hills (high elevations) while maintaining a minimum of 20 pounds of pressure to each meter.

For example, the plant (elevation of 1740) is discharging pressure at 178 psi and a house that is with-in ½ a mile from the plant (elevation of 1744) has a pressure at the meter of 176 psi then the customer would need to install a pressure reducing valve on their side of the meter and regulate it to their desired pressure.

Now, let's take for instance that this customer felt that we needed to only deliver 50 psi to their home. Then, it would be impossible to deliver the minimum 20 psi to homes that are 30 ft or higher in elevation and/or at further distances from the plant.

It is the sole responsibility of the customer to purchase, install, depict/regulate the pressure set point, repair, maintain, and/or replace pressure reducing valves for their plumbing system. If BBCUD installed and maintained pressure reducing valves for each customer then the cost per gallon of water would sky rocket and in turn would cause water rates to sky rocket.

Now, customers need to be aware that not only the single

check valve installed at the meter but PRVs' cause a closed loop system. A closed loop system is where water from within an individual's plumbing system can't expand or flow back into the BBCUD potable distribution system. For example, a customer's water heater will heat the water to the desired temperature per the setting on the thermostat. Now, when water is heated then it expands (thermal expansion).

Prior to single check valve and/or PRV being installed the water would expand and the excess would be pushed back into the potable water system preventing a build-up of pressure. Well, now the excess caused by expansion can no longer be pushed back into the potable water system and in-turn causes pressure to build within the customers plumbing system. The pressure can potentially build up to the point that it can cause pop off valves on water heaters to pop off and/or damage gaskets in faucets, toilet bowl tanks, etc. that can cause leaks that result with increased water bills, and repair costs.

If you would like to learn more about pressure reducing vales (determining the size, type, installation, maintenance, etc.) and thermal expansion then please visit the following websites:

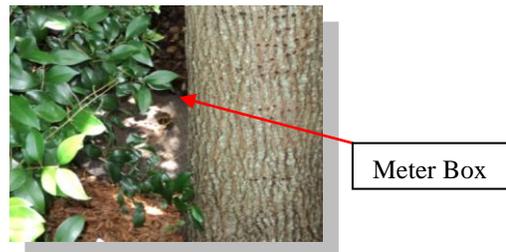
- [www.watts.com/pages/learnAbout/reducingValves/](http://www.watts.com/pages/learnAbout/reducingValves/)
- [www.zurn.com/operations/wilkins/pages/Regulators/FAQ.](http://www.zurn.com/operations/wilkins/pages/Regulators/FAQ.)

**Visibility & Accessibility of Water Meters/ Fire Hydrants**

Water meters and fire hydrants shall be visible and accessible at all times. Please verify that your water meter or BBCUD fire hydrant is visible from all sides and angles, that there are no shrubs, flowers, or other obstructions that would hinder visibility and/or accessibility.



Please be advised that one attempt to contact you in writing will be made to request that you remove any and all obstructions from around meter box and/or fire hydrants.



If these obstructions are not removed by the date specified in the letter then BBCUD employees will remove these obstructions and the customer will be subject to reimbursing the District for any and all costs associated with the removal of said obstructions.

Also, please do not put insulation, rags, etc. inside the meter box. It is unsafe for BBCUD employees to try and read meters with materials/debris inside of them.



Bees, snakes, rats, mice, etc. make their way into the box and then the service worker is subject to being stung, bitten, etc.

In the event that a BBCUD employee finds insulation, rags, etc. inside the BBCUD meter box then it will be removed and discarded.

If you are concerned about freezing then please contact the customer service center and a BBCUD service worker will inspect and take action if warranted.

**Customer Service**

- Residential customers are allowed one hidden/underground leak adjustment a year. A leak will not be considered for an adjustment if it is less than 100.00.
- There are no adjustments for filling swimming pools.
- A payment drop box is located at the BBCUD entrance for after hour payments.
- Office hours are 8:00 a.m till 4:30 p.m Monday thru Friday.

**Billing**

BBCUD implemented changes to Billing Procedures on August 1, 2015. BBCUD no longer generates or mails Second Notice Bills.

The Billing process is as follows:

First notice is generated/mailed- The due date will be a minimum of 20 days from the day the bill is generated/mailed. The 20 days shall include weekends/holidays but the due date shall not be depicted on a day that BBCUD is not open for business. So, weekends and or holidays observed by BBCUD (office closed) shall not be depicted as a due date. For example, Presidents Day is a holiday but BBCUD is open for business. The payment shall be received by 4:30 p.m. on the due date to prevent a penalty of 15% from being added to your account.

Penalty- Billing/Collection System generates the accounts for which payment was not received by 4:30 p.m. on the due date. The penalty is 15% of the un-paid balance.

Now, in the past a Second Notice was generated/mailed to each account for which payment had not been received (the accounts that penalties were applied too) with a due date of a minimum of 5 days from the date the second notice is generated/mailed.

**A second notice is no longer generated/mailed for any First Notice Bill that is generated/mailed on and after August 1, 2015.**

Non-Payment Fee/Disconnect- **A customer will have 10 days from the first notice due date to pay the past due account balance. If the total past due balance on the account is not paid in full by 4:30 p.m. on the 10<sup>th</sup> day past the first notice due date then a non-payment fee (40.00) shall be applied to the account and it will be subject for disconnect.**

Reconnect Fee- Water Service that has been disconnected for non-payment shall pay a \$30.00 reconnect fee plus the total past due balance prior to water service being re-established.

For example:

Bill generated/mailed: BBCUD generates/mailed the first notice bill on August 3, 2015.

Due Date: The due date on the bill would be August 24, 2015 by 4:30 p.m.

Penalty: If the balance due on the account was not received by 4:30 p.m. on August 24, 2015 then a 15% penalty shall be applied to the past due balance.

Non-Payment Fee/Disconnect: Non-payment fee (40.00) shall be applied to each account that has not paid the past due balance in full by 4:30 p.m. on September 3, 2015. Also, the account is subject for disconnect.

Reconnect Fee- Water service Disconnected for non-payment shall require the total unpaid balance on the account including the 40.00 non-payment fee that was added after 4:30 p.m. on September 3, 2015 plus 30.00 re-connect fee before BBCUD would re-establish water service.

An account that has had water service terminated for more than ten days will be made inactive. To re-establish service for this account then the total account balance shall be paid in full and instead of paying \$30.00 to turn the water on a \$75.00 non-refundable reconnect fee shall be paid.

### **Customer Complaints**

Please notify the customer service center with any questions, concerns and/or complaints that you have. The BBCUD Customer Service Clerks will either be able to answer your question, solve the problem, etc. or they will review your questions/concerns with me (Utility Manager) and then call you back.

In the event, that Clerks nor I can answer your questions, resolve the problem, etc. then you may be scheduled to be heard by the BBCUD Board of Commissioners by submitting an agenda request form to BBCUD Customer Service Center a minimum of 7 days prior to the meeting.

Everyone is welcome at every meeting but to ensure that an agenda is prepared to accommodate all BBCUD Business, customers, etc. it is required to be on the agenda to address the board.

### **Is my drinking water safe?**

Yes, our water meets all of EPA's health standards. We have conducted numerous tests for over 80 contaminants that may be in drinking water. As you'll see in the chart on the back, we only detected 9 of these contaminants.

An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings and the overall TDEC report to EPA can be viewed online at [www.tn.gov/environment/dws/dwassess.shtml](http://www.tn.gov/environment/dws/dwassess.shtml) or you may contact the Water System to obtain copies of specific assessments.

### **Why are there contaminants in my water?**

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).

Este informe contiene información muy importante. Tradúscalo o hable con alguien que lo entienda bien.

**For more information about your drinking water, please contact BBCUD State Certified Lab at 423-538-7241.**

### **How can I get involved?**

Our Water Board meets at 6:00 pm on the 2<sup>nd</sup> Tuesday of each month at Avoca Vol. Fire Dept. on Beaver Creek Rd. Please feel free to participate in these meetings. The Commissioners of Bristol Bluff City Utility District serve four year terms. Vacancies on the Board of Commissioners are filled by the vote of the remaining Commissioners in office. Decisions by the Board of Commissioners on customer complaints brought before the Board of Commissioners under the District's customer complaint policy may be reviewed by the Utility Management Review Board of the Tennessee Department of Environment and Conservation pursuant to Section 7-82-702(7) of Tennessee Code Annotated.

### **Is our water system meeting other rules that govern our operations?**

The State and EPA require us to test and report on our water on a regular basis to ensure its safety. We have met all of these requirements. Results of unregulated contaminant

analysis are available upon request. We want you to know that we pay attention to all the rules.

### **Other Information**

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:

- 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.
- 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 and the Tennessee Department of Environment and Conservation prescribe regulations which limit the amount of certain contaminants in water provided by public water Systems.

**Bristol Bluff City District's water treatment processes are designed to reduce any such substances to levels well below any health concern.**

FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

### **Do I Need To Take Special Precautions?**

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 under gone 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 not only their drinking water, but food preparation, personal hygiene, and precautions in handling infants and pets 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).

### **Lead in Drinking Water**

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 Bristol-Bluff City Utility District 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/safewater/lead>.

### **Water System Security**

Following the events of September 2001, we realize that our customers are concerned about the security of their drinking water. We urge the public to report any suspicious activities at any utility facilities, including treatment plants, pumping stations, tanks, fire hydrants, etc. to 423-538-4043.

**Please visit BBCUD Website: [www.BBCUD.net](http://www.BBCUD.net)**

## **Providing Quality Water**

**From Nature**

**To Your Tap**

Tina Grindstaff, Utility Manager

423-538-4043

## Sanitary Survey

The State of Tennessee Division of Water supply inspects all public water systems to ensure that the water system is operating with-in all State and Federal Laws, guidelines, etc. This inspection is referred to as a Sanitary Survey and it is conducted every 2 years. The inspection includes but is not limited to reviewing all daily logs, data charts, trend charts, inspecting facilities, Laboratory test results, tanks, equipment, etc. The TDEC official(s) conducting the survey will select several sites with-in the water system for water samples to be collected. The samples are then tested to verify that the water quality/quantity parameters are being met.

A Sanitary Survey was conducted June 2015. Bristol Bluff City Utility District received a **numerical rating of 98%** that maintains BBCUD's status as an **Approved Water System**.

There is no system that is perfect but every water system should strive to be perfect. I know that BBCUD employees are proud of the rating but at the same time disappointed that it was not higher.

## Water Quality Data

**What does the following Water Quality Data Chart (page 8) mean?**

- MCLG - Maximum Contaminant Level Goal, or 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.
- MCL - Maximum Contaminant Level, or 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.
- MRDL: Maximum Residual Disinfectant Level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.
- MRDLG: Maximum residual disinfectant level goal. 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.
- AL - Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- Parts per million (ppm) or Milligrams per liter (mg/l) – explained as a relation to time and money as 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 - explained as a relation to time and money as one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- 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.
- TT - Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.
- Turbidity- is a measure of the cloudiness of the water. We monitor it because it is a good indicator of our filtration system.

### Water Quality Data Table

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measure	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria**	No	0		2017		0	0	Naturally present in the environment
Turbidity <sup>1</sup>	No	0.24	0.03-0.24	2017	NTU	N/A	TT	Soil runoff
Asbestos	No	<0.20		2013	MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits
Copper*	No	90 <sup>th</sup> %=0.0468		2017	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead*	No	90 <sup>th</sup> %=0.0012		2017	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Sodium	No	9.37		2017	ppm	N/A	N/A	Erosion of natural deposits; used in water treatment
TTHM [Totaltrihalomethanes]	No	0.05	0.03-0.05	2017	ppb	N/A	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	0.04	0.03-0.05	2017	ppb	N/A	60	By-product of drinking water disinfection.
Total Organic Carbon <sup>2</sup>	No			2017	ppm	TT	TT	Naturally present in the environment.
Chlorine	No	1.74 avg.	1.2-2.0	2017	ppm	4	4	Water additive used to control microbes.

- \*During the most recent round of Lead and Copper testing, 0 out of 20 households sampled contained concentrations exceeding the action level.
- <sup>1</sup>100% of our samples were below the turbidity limit.
- <sup>2</sup>We have met all treatment technique requirements for Total Organic Carbon removal.