Southern Water & Sewer District
Water Quality Report for year 2015

PO Box 610
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Meetings: Water District Office
Meeting Dates and Time: Fourth Monday each month 5:00 PM

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Water - Essential for Life

This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide our customers with a safe, clean, and reliable supply of drinking water. We want to assure that we will continue to monitor, improve, and protect the water system and deliver a high quality product. Water is the most indispensable product in every home and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system.

The source of water for Southern Water and Sewer District, the City of Pikeville and Prestonsburg City Utilities is surface water obtained from Levisa Fork of the Big Sandy River. We purchase a portion of our water from Pikeville and Prestonsburg in addition to the water processed at our Water Treatment Plant in Allen. An analysis of the susceptibility of the raw water sources to contamination has been completed. Many of the potential contaminant sources rank high such as: mining, construction, roads/rail, sewage treatment plants, landfill and an active superfund site. Activities and land uses within the watershed can pose potential risks to your drinking water. Under certain circumstances contaminants could be released that would pose challenges to water treatment or even get into your drinking water. These activities, and how they are conducted, are of interest to our customers because they potentially affect your health and the cost of treating your water. The complete source water assessment for all three Water Utilities can be reviewed at the Big Sandy Area Development District located in Prestonsburg, KY.

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 may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 may 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, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities).

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

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).

Some or all of these definitions may be found in this report:

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.

Maximum Residual Disinfectant 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 Residual Disinfectant 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.

Below Detection Levels (BDL) - laboratory analysis indicates that the contaminant is not present.

Not Applicable (N/A) - does not apply.

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, (µg/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) - 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) - 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) - a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

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

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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

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

Information About Lead:

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. Your local public water system 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.

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old.

A= Southern Water & Sewer District B= Pikeville Water Department C= Prestonsburg City Utilities

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	A=	0.38	99	No	Soil runoff
* Representative samples	Less than 0.3 NTU in	B=	0.45	99	No	
of filtered water	95% monthly samples	C=	0.29	100	No	

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Radioactive Contaminants								
Alpha emitters [4000] (pCi/L)	15	0	A=	1.7	0 to 3.4	Apr-15	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	A=	0.95	0 to 1.9	Apr-15	No	Erosion of natural deposits
			B=	1.5	1.5 to 1.5	Apr-14	No	
			C=	0.7	0.7 to 0.7	Jul-11	No	
Uranium (µg/L)	30	0	B=	2.2	2.2 to 2.2	Apr-14	No	Erosion of natural deposits
Inorganic Contaminants								
Arsenic [1005] (ppb)	10	N/A	A=	0.7	0.7 to 0.7	Aug-15	No	Natural erosion; runoff from orchards or glass and electronics production wastes
			B=	1.6	1.6 to 1.6	Jul-15	No	
Barium [1010] (ppm)	2	2	A=	0.067	0.067 to 0.067	Aug-15	No	Drilling wastes; metal refineries; erosion of natural deposits
			B=	0.072	0.072 to 0.072	Jul-15	No	
			C=	0.43	0.43 to 0.43	Apr-15	No	
Fluoride [1025] (ppm)	4	4	A=	0.9	0.9 to 0.9	Aug-15	No	Water additive which promotes strong teeth
			B=	0.6	0.6 to 0.6	Jul-15	No	
			C=	1.06	1.06 to 1.06	Apr-15	No	
Nickel (ppm) (US EPA remanded MCL in February 1995.)	N/A	N/A	C=	0.001	0.001 to 0.001	Apr-15	No	N/A
Nitrate [1040] (ppm)	10	10	A=	0.5	0.5 to 0.5	Feb-15	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
			B=	0.4	0.4 to 0.4	Feb-15	No	
			C=	0.5	0.5 to 0.5	Jul-15	No	
Selenium [1045] (ppb)	50	50	A=	1.9	1.9 to 1.9	Aug-15	No	Discharge from petroleum and metal refineries or mines; erosion of natural deposits
			B=	1.8	1.8 to 1.8	Jul-15	No	
			C=	1	1 to 1	Apr-15	No	
Disinfectants/Disinfection Byproducts and Precursors								
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A=	1.15	1 to 1.67	2015	No	Naturally present in environment.
			B=	1.06	0 to 2.69	2015	No**	
			C=	1.19	1 to 1.6	2015	No	

*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

** Pikeville is regulated on an alternative compliance calculation to determine TOC compliance.

Southern Water & Sewer District Distribution System Sample Results

Microbiological Contaminants								
Total Coliform Bacteria # or % positive samples	1	0		4 %	N/A	2015	No	Naturally present in the environment
Inorganic Contaminants								
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3		0.009 (90th percentile)	0 to 0.093	Sep-15	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0		0 (90th percentile)	0 to 4	Sep-15	No	Corrosion of household plumbing systems
Disinfectants/Disinfection Byproducts								
Chlorine (ppm)	MRDL = 4	MRDLG = 4		1.32 (highest average)	0.54 to 2.21	2015	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A		43 (high site average)	18 to 64 (range of individual sites)	2015	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A		90 (high site average)	25 to 137 (range of individual sites)	2015	Yes	Byproduct of drinking water disinfection.

Maximum Contaminant Levels (MCL's) are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, 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.

Violation: Total Trihalomethane

We received two violations for exceeding the MCL for Total Trihalomethane (TTHM) during the third and fourth quarter of 2015. The MCL for TTHM is based on a running annual average of 0.080 mg/L our averages were 0.081mg/L and 0.090 mg/L, respectively. We are in process of renovating the water treatment plant which should reduce the concentration of trihalomethanes (TTHM's) formed during the treatment process. In addition, we are implementing a flushing program to further reduce the formation of TTHM's in the distribution system. We anticipate resolving the problem within the next 12 months.

Health Effects:

TTHMs [Total Trihalomethanes]. 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.

Violation Public Notification Rule

We received a violation for failing to meet the "repeat public notice' requirements. We published a Public Notice in January 2015 that combined violations that occurred during the third & fourth quarters of 2014. The violation is classified as Tier 2 for exceeding the MCL for Total Trihalomethane. Tier 2 violations issued for separate compliance periods cannot be combined into one public notice. The notices may be combined if permission to do so is first granted by the Division of Water. This violation has no public health effects.

Violation: Consumer Confidence Rule

We received a violation for failing to report a Total Coliform detection on the 2014 CCR. The Total Coliform positive detection occurred at one sample site in March 2014. Repeat samples were immediately collected and found to be negative. The positive detection of one sample was not a violation. There are no health effects associated with this reporting violation.

PUBLIC NOTIFICATION

Our water system violated one or more drinking water standards over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct these situations.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 12/1/2016 - 12/31/2016 we did not complete all monitoring or testing for Monthly Operating Report and therefore cannot be sure of the quality of your drinking water during that time.

There is nothing you need to do at this time. You do not need to use an alternative (e.g., bottled) water supply.

The table below lists report(s) we did not properly complete or submit during the last year, how often we are supposed to report, when the report was due, when report should have been submitted, and the date on which the report was (or will be) submitted.

Report	Report frequency	Report Due	When report should have been submitted	When report was submitted
MOR	Monthly	10th day of the month	January 10, 2016	January 19,2015

The violations for the Monthly Operating Report and Chlorine monitoring are related. Since daily chlorine residual is reported in the MOR and the MOR was submitted late the chlorine compliance could not be calculated. The OEL report is a prediction of what THM and HAA levels may be in the next compliance quarter. We forgot to send the OEL report to the Division of Water. This violations have been resolved and all reporting is now submitted in timely manner. There are no health effects associated with these violations.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.