

Southern Water and Sewer District

Water Quality Report 2018

Water System ID: KY0360026
Manager: Dean Hall

CCR Contact: Chris Francis
606-874-2007

Mailing Address:
P.O. Box 610
McDowell, KY 41647

Meeting location and time:
Water District Office
Fourth Monday at 5:00PM

The source of water for Southern Water and Sewer District, the City of Pikeville and Prestonsburg City Utilities is surface water withdrawn from Levisa Fork of the Big Sandy River. The source of water for Knott County Water and Sewer is surface water from Carr Fork Lake. We purchase a portion of our water from Pikeville, Prestonsburg and Knott County 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. The overall susceptibility is rated high for the sources of Southern, Pikeville and Prestonsburg due to many of the potential contaminant sources such as: mining, construction, roads/rail, sewage treatment plants, landfill and an active superfund site. Susceptibility to contamination of the source water for Knott County is considered moderate due to roads and bridges, mining activity, oil and gas wells, untreated sewage and hazardous waste sites. 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 your drinking water. The complete source water assessment for Southern, Pikeville and Prestonsburg water utilities can be reviewed at the Big Sandy Area Development District office located in Prestonsburg, Kentucky. The complete source water assessment for Knott County can be viewed at the Kentucky River Area Development District office in Hazard, Kentucky.

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).

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>.

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, ($\mu\text{g/L}$). 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.

Variance & 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.

<p>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. Copies of this report are available upon request by contacting our office during business hours.</p> <p>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.</p>								
	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity		
Turbidity (NTU) TT *Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	P= S= PR= K=	0.66 0.29 0.297 0.09	96.6 100 100 100	No No No No	Soil runoff		
P=Pikeville S=Southern K=Knott County PR=Prestonsburg								
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								
Beta photon emitters (pCi/L)	50	0	PR=	2.08	2.08 to 2.08	May-17	No	Decay of natural and man-made deposits
Alpha emitters [4000] (pCi/L)	15	0	PR= K=	2.15 6.3	2.15 to 2.15 6.3 to 6.3	May-17 May-16	No No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	K= P= PR=	0.729 1.5 1.317	0.729 to 0.729 1.5 to 1.5 1.317 to 1.317	Dec-16 Apr-14 May-17	No No No	Erosion of natural deposits
Uranium (µg/L)	30	0	PR= P=	0.268 2.2	0.268 to 0.268 2.2 to 2.2	May-17 Apr-14	No No	Erosion of natural deposits
Inorganic Contaminants								
Arsenic [1005] (ppb)	10	N/A	S=	0.5	0.5 to 0.5	Aug-18	No	Natural erosion; runoff from orchards or glass and electronics production wastes
Barium [1010] (ppm)	2	2	P= S=	0.074 0.07	0.074 to 0.074 0.07 to 0.07	Aug-18 Aug-18	No No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	S=	0.013 (90 th percentile)	0 to 0.112	Sep-18	No	Corrosion of household plumbing systems
Cyanide [1024] (ppb)	200	200	S=	30	30 to 30	Aug-18	No	Discharge from steel/metal factories; plastic and fertilizer factories
Fluoride [1025] (ppm)	4	4	P= S= K= PR=	0.5 0.9 0.83 0.97	0.5 to 0.5 0.9 to 0.9 0.83 to 0.83 0.97 to 0.97	Aug-18 Aug-18 Apr-18 May-18	No No No No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	P= S= K= PR=	0.47 0.36 0.26 0.45	0.47 to 0.47 0.36 to 0.36 0.26 to 0.26 0.45 to 0.45	Feb-18 Feb-18 Apr-18 Aug-18	No No No No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [1041] (ppm)	1	1	K=	0.01	0.01 to 0.01	Apr-14	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Selenium [1045] (ppb)	50	50	PR=	7	7 to 7	May-18	No	Discharge from petroleum and metal refineries or mines; erosion of natural deposits
Synthetic Organic Contaminants including Pesticides and Herbicides								
Glyphosate [2034] (ppb)	700	700	S=	BDL	BDL to 52	May-18	No	Runoff from herbicide use
Hexachlorobenzene [2274] (ppb)	1	0	PR=	0.11	0.11 to 0.11	Aug-18	No	Discharge from metal refineries and agricultural chemical factories
PCBs (Polychlorinated biphenyls) [2383] (ppt)	500	0	PR=	120	120 to 120	Oct-18	No	Runoff from landfills; discharge of waste chemicals
Disinfectants/Disinfection Byproducts and Precursors								
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	P= S= K= PR=	0.75 1.18 1.67 1.23	0 to 1 1 to 2.03 1 to 3.35 1 to 1.99	2018 2018 2018 2018	No** No No No	Naturally present in environment.
*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.								
** Pikeville uses an approved alternative compliance method								
Chlorine (ppm)	MRDL = 4	MRDLG = 4	S=	1.43 (highest average)	0.09 to 2.55	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	S=	41 (average)	11 to 71 (range of individual sites)	2018	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	S=	83 (average)	22 to 117 (range of individual sites)	2018	YES	Byproduct of drinking water disinfection.
Other Contaminants								
Cryptosporidium [ocysts/L]	0	TT (99% removal)	PR=	3 (positive samples)	9 (no. of samples)	2018	See Crypto Note	Human and animal fecal waste

Cryptosporidium is a microbial pathogen found in surface water. Cryptosporidium was detected in 3 samples of 9 collected from the raw water source for Prestonsburg Utilities. It was not detected in the finished water. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective action and we completed one of these actions.

Unregulated Contaminant Monitoring

Your drinking water has been sampled for a series of unregulated contaminants. Unregulated contaminants are those for which EPA has not established drinking water standards. There are no MCLs and therefore no violations if found. The purpose of monitoring for these contaminants is to help EPA determine where the contaminants occur and whether they should have a standard. A table of the detected contaminants for Prestonsburg Utilities is included below. We also tested for Unregulated Contaminants, but none of the contaminants we tested for as part of the Unregulated Contaminant Monitoring Rule were found at detectable levels in our water. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact our office during normal business hours.

Unregulated Contaminants (UCMR 4)		average	range (ppb)	date
HAA5	PR=	68.525	57.4 to 90	Oct-18
HAA6Br	PR=	3.115	2.45 to 4.75	Oct-18
HAA9	PR=	71.65	59.8 to 94.8	Oct-18

Violations 2018-9951039 and 2019-9951040

Testing results showed that our system exceeded the standard, or maximum contaminant level (MCL), for trihalomethanes. The standard for trihalomethanes is 0.080 mg/L. It is determined by averaging all samples at each sampling location for the last 12 months. Trihalomethanes averaged at one of our system’s locations for: 4/1/2018 through 6/30/2018 was 0.084 mg/L 7/1/2018 through 9/30/2018 was 0.082 mg/L

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.

Maximum Contaminant Levels (MCLs) 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.

We have made changes regarding our distribution system flushing program and have modified our treatment process at the water plant and have come back into compliance. Public notices were issued for each quarter we were out of compliance.

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

This report will not be mailed. Copies are available in our office. If you would like a copy mailed to you, please contact our office.

