

Martin County Water District

Water Quality Report 2015

Water System ID: KY0800273
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Meeting location and time:
Water District Office
Fourth Monday at 4:00 PM

Martin County Water District treats surface water withdrawn from Crum Reservoir and replenished from Tug River. Additional finished water was purchased from Kermit, West Virginia whose source is the Tug River Fork and also from Prestonsburg Utilities to supply water to the Industrial Park. The source for Prestonsburg is surface water from the Levisa Fork of the Big Sandy River. Potential contaminant sources of concern include major roads, bridges and culverts. Other potential impacts include the coal industry, oil and gas industries, and straight pipes. Many of the potential contaminant sites are located along the Tug Fork of the Big Sandy. With each rainfall, herbicides, pesticides, fertilizers, animal manure and household chemicals are washed from impervious surfaces and other land areas into storm drains, ditches, sinkholes or streams that flow into our nearby waterways. Source Water Assessment Plans have been developed for both water systems. The assessments are available for review at each of the respective water system offices and/or local public libraries.

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, (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.

Variations & 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.

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.

M=Martin Co P=Prestonsburg K=Kermit	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% monthly samples	M= P= K=	1.2 0.29 0.06	93 100 100	Yes No No	Soil runoff

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Combined radium (pCi/L)	5	0	P=	0.7	0.7 to 0.7	2011	No	Erosion of natural deposits
Barium [1010] (ppm)	2	2	P= K=	0.043 0.074	0.043 to 0.043 0.074 to 0.074	2015	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	M=	0.040 (90 th percentile)	0 to 0.27	2014	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	M= P= K=	1.06 1.06 0.43	1.06 to 1.06 1.06 to 1.06 N/A	2015	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	M=	5 (90 th percentile)	0 to 6	2014	No	Corrosion of household plumbing systems
Nickel (ppm) (US EPA remanded MCL in February 1995.)	N/A	N/A	P=	1	1 to 1	2015	No	N/A
Nitrate [1040] (ppm)	10	10	M= P= K=	0.31 0.5 0.02	0.31 to 0.31 0.5 to 0.5 0.02 to 0.02	2015	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Selenium [1045] (ppb)	50	50	P= K=	1 1.9	1 to 1 1.9 to 1.9	2015	No	Discharge from petroleum and metal refineries or mines; erosion of natural deposits
Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	M= P= K=	1.98 1.19 0.95	1 to 3.71 1 to 1.6 N/A	2015	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.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	M=	1.22 (highest average)	0.31 to 1.71	2015	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	M=	104 (average)	22 to 67 (range of individual sites)	2015	Yes	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	M=	100 (average)	30 to 145 (range of individual sites)	2015	Yes	Byproduct of drinking water disinfection.

Our system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. 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 3)		average	range (ppb)	date
strontium	M=	145	BDL to 440	2014
chromium-6	M=	0.023	0 to 0.053	2014
chlorate	M=	225.75	120 to 364	2015
total chromium	M=	0.029	BDL to 0.23	2015

EPA has not established drinking water standards for unregulated contaminants. There are no MCL's and therefore no violations if found.

Fluoride (added for dental health)	Average	Range of Detection	
	0.90	0.54	to
Sodium (EPA guidance level = 20 mg/L)	9.52	9.52	to 9.52

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sample
Chloride	250 mg/l	7.2	7.2 to 7.2	Mar-15
Corrosivity	Noncorrosive	-2.33	N/A	Mar-15
Fluoride	2.0 mg/l	0.81	0.81 to 0.81	Mar-15
Iron	0.3 mg/l	0.04	0.04 to 0.04	Mar-15
Odor	3 threshold odor number	2	2 to 2	Mar-15
pH	6.5 to 8.5	6.92	6.92 to 6.92	Mar-15
Sulfate	250 mg/l	20.76	20.76 to 20.76	Mar-15
Total Dissolved Solids	500 mg/l	132	132 to 132	Mar-15

Secondary contaminants do not have a direct impact on the health of consumers and are not required in the Consumer Confidence Report. They are being included to provide additional information about the quality of the water.

Turbidity. Water samples for February 2015 showed that 6.58 percent of turbidity measurements were over 0.3 turbidity units – the standard is that no more than 5 percent of samples may exceed 0.3 turbidity units per month. High turbidity on top of the filters occurred when a rake motor failed and due to high demand we had to continue operations. The problem was resolved within three days. 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 which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

HAA & TTHM. During all four quarters of 2015 the third and fourth quarters of 2014 we exceeded the MCL for TTHM. During the first, second and third quarters of 2015 we exceeded the MCL for HAA. We are working to minimize the formation of haloacetic acids and trihalomethanes while ensuring we maintain an adequate level of disinfectant. We have taken additional steps to change disinfectant types/levels, remove natural organic matter, and increased flushing of water lines to determine if our efforts have been effective. We are also monitoring water storage tank levels and water flow patterns within the distribution system. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. 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 system, and may have an increased risk of getting cancer.

2015 Violations

Our water system violated drinking water requirements over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we are doing (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 1/1/2015 – 3/31/2015 we did not complete all monitoring by failing to report or correctly report testing results for Haloacetic Acids and Trihalomethanes (OEL Report). Therefore, we could not verify the quality of your drinking water to the primacy agency during that time.

The table below lists the violations we received during 2015 and the actions taken to rectify the violations.

Violation	Begin Date	End Date	Explanation
2015-9951163 (Turbidity)	2/1/2015	2/28/2015	Filter equipment failure. Repairs made. Resolved. Public notification issued.
2015-9951164 (TTHM)	1/1/2015	3/31/2015	Exceeded MCL. We are investigating solutions. Public notification issued.
2015-9951167 (HAA)	1/1/2015	3/31/2015	Exceeded MCL. We are investigating solutions. Public notification issued.
2015-9951168 (OEL for TTHM)	1/1/2015	3/31/2015	Failed to submit OEL for the quarter. Report has been submitted.
2015-9951169 (OEL for HAA)	1/1/2015	3/31/2015	Failed to submit OEL for the quarter. Report has been submitted.
2015-9951171 (HAA)	4/1/2015	6/30/2015	Exceeded MCL. We are investigating solutions. Public notification issued.
2015-9951172 (TTHM)	4/1/2015	6/30/2015	Exceeded MCL. We are investigating solutions. Public notification issued.
2016-9951173 (HAA)	7/1/2015	9/30/2015	Exceeded MCL. We are investigating solutions. Public notification issued.
2016-9951174 (TTHM)	7/1/2015	9/30/2015	Exceeded MCL. We are investigating solutions. Public notification issued.
2016-9951175 (TTHM)	10/1/2015	12/31/2015	Exceeded MCL. We are investigating solutions. Public notification issued.

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.

This report will not be mailed unless requested. Copies are available at our office. If you desire a copy to be mailed to you please contact our office.