

COLUMBIA WATER COMPANY
2018 ANNUAL WATER QUALITY REPORT
PWS ID 7360123

Last year we produced over 854 million gallons of drinking water that was routinely monitored for over 90 different contaminants and was delivered to your home or business. In 2018 we collected more than 400 water samples to test for compliance with regulatory requirements. This Annual Water Quality Report is intended to keep you informed about the quality of our drinking water and the service that we provide. This report lists which contaminants have been detected in your water and how we compared to Federal and State regulations. Our continuing goal is to provide you with a high quality and reliable supply of drinking water. Informing our customers about our water quality is an essential part of our commitment to you.

Spanish (Espanola)

Este informe contiene informacion muy importante sobre la calidad de su agua beber. Traduscalo o hable con alguien que lo entienda bien. (This report contains very important information about your drinking water. Translate it, or speak with someone who understands it).

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons 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 provider. The EPA/Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

Your water source is the Susquehanna River located in Columbia, PA if you are a Columbia rate district customer. The Marietta rate district water source is from wells located in Lancaster and York counties. Water from the river is collected through a submerged-screened intake that conveys raw water to the company's filtration and treatment facility. To make your water drinkable, contaminants such as waterborne viruses and sediment are removed through complex processes. Both chemical and physical treatment processes (mixing, settling, dual-media filtration and disinfection) are utilized at this facility, providing a multiple barrier approach to meet Federal and State requirements and to protect you, our customer. A phosphate additive is used to control corrosion and lead in all of the systems. Last year we produced an average of 2.3 million gallons of drinking water per day. The treated water is distributed through pumping stations and finished water storage tanks for residential, commercial and industrial use.

Why are there contaminants in my drinking 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). 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 materials, and it can pick up substances resulting from the presence of animals or from human activity. Microbial contaminants such as viruses and bacteria occur naturally and may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Inorganic contaminants such as salts and metals can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming. Pesticides and herbicides 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 are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems. Radioactive contaminants 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, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Source water assessment and its availability:

The Susquehanna River Basin Commission regularly prepares source water assessments of the Susquehanna River watershed. These reports state that abandoned mine drainage and excess sediment and nutrient enrichment are significant causes of water quality impairment. These surveys are available at www.srbc.net.

Information on lead in your 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. We are 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 to take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Is the water hard?

Hardness is a measure of the concentration of primarily two minerals naturally present in water: calcium and magnesium. High hardness levels cause soap not to foam as easily as it would at lower hardness levels. Soft water has a hardness of 0 - 75 ppm. Moderately hard water has a hardness of 75 - 150 ppm. Hard water has a hardness of 150 - 300 ppm. The hardness levels of your water ranges from 52 ppm to 130 ppm, with an annual average of 81 ppm.

Why would the water appear cloudy or look milky?

Cloudy or milky water is caused by tiny air bubbles in the water similar to gas bubbles in soda pop. After a short period of time the bubbles rise to the top and are gone. The cloudiness usually occurs during the colder weather months and is enhanced by aerators that are installed on home faucets.

Information about Nitrate:

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause Blue Baby Syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. As shown on the tables that follow, the nitrate levels in the Columbia Water Company's water are well below 10 ppm and meet regulatory requirements.

Is there fluoride in the water?

The Columbia Water Company does not add fluoride to your water; however, fluoride does occur naturally and low levels have been detected in the water in the past.

Information about Cryptosporidium:

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water, the Susquehanna River. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause Cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks; however, immuno-compromised people are at greater risk of developing a life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Water Quality Data Table

The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA and the State require us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Disinfectants & Disinfection By-Products								
Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Sample Date	Compliance Achieved Yes/No	Typical Sources
				Low	High			
Chlorine (ppm) (Distribution)	4	4	1.2	0.9	1.2	2018	Yes	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	34.4	0	78.4	2018	Yes	By-product of drinking water chlorination
TTHMS (Total trihalomethans) (ppb)	NA	80	33.4	5.3	83	2018	Yes	By-product of drinking water chlorination
Total Organic Carbon (% Removal)	NA	TT	38%	21%	50%	2018	Yes	Naturally present in the environment

Entry Point Disinfectant Residual							
Minimum Disinfectant Residual		Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Typical Sources
Columbia Div. (101)	0.2	0.58	0.58/2.07	ppm	12/17/2018	N	Water additive used to control microbes
Marietta Div. Lanc. side (102)	0.4	0.25	0.25/1.83	ppm	8/20/2018	N	
Marietta Div. York side (103)	0.4	0.84	0.84/1.76	ppm	12/11/2018	N	

Microbial Contaminants					
Contaminates	MCL	MCLG	Highest # of Positive Samples	Compliance Achieved Yes/No	Typical Sources
Total Coliform Bacteria	More than 1 positive monthly sample	0	0	Yes	Naturally present in the environment
Microbial			Sample Date	Compliance Achieved Yes/No	Typical Sources
Turbidity (NTU) - 100% of the samples were below the TT value of 0.3. A value less than 95% constitutes a TT violation unless approved by the State. The highest single measurement was 0.15. Any single measurement in excess of 1 is a violation.			2018	Yes	Soil runoff

Inorganic Contaminants								
Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Sample Date	Compliance Achieved Yes/No	Typical Sources
				Low	High			
Nitrate (measured as Nitrogen) (ppm)								
Columbia Div. (101)	10	10	1.4	NA	NA	2018	Yes	Runoff from fertilizer use; Leaching from septic tanks; Erosion of natural deposits
Marietta Div. Lanc. side (102)	10	10	5.6	5.3	5.8	2018	Yes	
Marietta Div. York side (103)	10	10	2	NA	NA	2018	Yes	

Inorganic Contaminants							
Contaminates	MCLG	MCL	Your Water	Sample Date	# Samples Exceeding AL	Compliance Achieved Yes/No	Typical Sources
Copper - action level at consumer taps (ppm)	1.3	1.3	0.21	2016	0	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	2.0	2016	0	Yes	
Barium (ppm) Columbia Div. (101)	2	2	0.025	2018	0	Yes	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Barium (ppm) Marietta Div. Lanc. side (102)	2	2	0.048	2018	0	Yes	
Barium (ppm) Marietta Div. York side (103)	2	2	0.038	2018	0	Yes	
Fluoride (ppm) Marietta Div. York side (103)	2	2	0.11	2018	0	Yes	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories

Unit Descriptions

<u>Term</u>	<u>Definition</u>
ug/L	ug/L: Number of micrograms of substance in one liter of water
ppm	ppm: Parts per million, or milligrams per liter (mg/L)
ppb	ppb: Parts per billion, or micrograms per liter (ug/L)
NTU	NTU: Nephelometric Turbidity Units. 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.
NA	NA: Not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended

Important Drinking Water Definitions

<u>Term</u>	<u>Definition</u>
MCLG	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.
MCL	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.
TT	TT: Treatment Technique: A required process to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum Residual Disinfection 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.
MRDL	MRDL: Maximum Residual Disinfectant Level: Highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary to control microbial contaminants.
MNR	MNR: Monitored not regulated
MPL	MPL: State assigned Maximum Permissible Level

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