

DMWA's 2009 Drinking Water Quality Results

Contaminant (Units)	Violation Y / N	Level Detected	Range of Detections and/or Sample Date	MCLG / MRDLG	MCL / MRDL in CCR Units	Likely Sources of Contamination	Potential Health Effects
Microbiological Contaminants							
Total Coliform Bacteria (number of monthly positive samples)	N	Total Number of positive samples for 2009 = 1	0 to 1	0	>1	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio.
Turbidity (NTU)	N	0.138	0.028 - 0.138	N/A	TT < 1 NTU	Soil runoff	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 that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
		100% ≤ 0.3 NTU		N/A	TT = 95% of samples ≤ 0.3 NTU		
Disinfection Byproducts							
HAA5 Haloacetic Acids (ppb)	N	41.0	4.8 - 47.4 (a)	N/A	60	By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
TTHMs Total Trihalo-methanes (ppb)	N	48.8	14 - 91.1 (a)	N/A	80	By-product of drinking water disinfection	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.
Inorganic Contaminants							
Copper (ppm)	N	0.16 (90th percentile)	ND - 0.19 (b) 08/2007 (c)	1.3	AL = 1.3 (d)	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood	Copper is an essential nutrient, but some people who drink water containing copper in excess of the Action Level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the Action Level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Lead (ppb)	N	2.0 (90th percentile)	ND - 5.0 08/2007 & 10/2007 (c)	0	AL = 15 (d)	Corrosion of household plumbing systems, erosion of natural deposits	Infants and children who drink water containing lead in excess of the Action Level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Nitrate as nitrogen (ppm)	N	1.4	05/20/09	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
Secondary Contaminants							
Sulfate (ppm)	N	13.5 & 6.4	05/20/09 & 11/23/09 (e)	N/A	RUL = 250	Mineral and nutrient	Some people who drink water containing sulfate may experience a laxative action.
Total Organic Carbon							
Total Organic Carbon (TOC) (Removal Ratio)	N	1.12	0.75 - 1.50	N/A	TT >1.0 (f)	Naturally present in the environment	TOC has no health effects. However, it provides a medium for the formation of disinfection byproducts including Trihalomethanes and Haloacetic Acids. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Disinfectants							
Chlorine (ppm)	N	1.48 (g)	1.3 - 1.68 (g)	4	4	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
		0.69 (h)	0.21 - 1.06 (h)				

Footnotes: (a) Data include readings from routine sampling locations and readings from new locations mandated by the Stage 2 Disinfectants and Disinfection Byproduct Rule (Stage 2 DBPR).
 (b) None of the 20 samples we collected exceeded the Action Level.
 (c) The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. Sample dates have been included on the Table for contaminants that were sampled prior to 2009.
 (d) Lead and Copper MCLs have not yet been established for community water systems. Currently only Action Levels of 1.3 ppm for Copper and 15 ppb for Lead apply.
 (e) Two samples were analyzed in 2009.
 (f) The required removal of TOC depends on the raw water TOC and alkalinity levels.
 (g) Samples were collected at the entry point of the water distribution system.
 (h) Samples were collected at a representative location within the water distribution system.



DMWA is a member of the EPA's Partnership for Safe Water Program (an association of water utilities and government) which is committed to voluntarily provide drinking water of a quality far better than required by Federal regulations. In 2007, DMWA received a national award for maintaining active Phase III Director's Award Status for 5 years.

What does this Table mean? As you can see by the Table, our system had **No Violations** based on the samples analyzed. We are pleased to report that your water meets all EPA and State drinking water health standards. No MCLs or Treatment Techniques were exceeded.

GLOSSARY

Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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 contamination.

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.

Non-Detects (ND)

Laboratory analysis indicates that the contaminant is not present at a detectable level.

Not Applicable (N/A)

Parts per million (ppm)

One part per million is equivalent to a single penny in ten thousand dollars.

Parts per billion (ppb)

One part per billion is equivalent to a single penny in ten million dollars.

Picocuries per liter (pCi/L)

Picocuries per liter is a measure of radioactivity in water.

Recommended Upper Limit (RUL)

The RUL is suggested by EPA for secondary contaminants. EPA recommends secondary standards to water systems but does not require systems to comply.

Treatment Technique (TT)

A treatment technique is 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. The Downingtown Municipal Water Authority 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>

Source Water Assessment

Our water source is surface water from Marsh Creek Lake and the East Branch of the Brandywine Creek, and is treated at DMWA's Vincent J. DiEullis Water Treatment Plant. A *Source Water Assessment* of the watershed contributing to the Creek was completed by the Pennsylvania Department of Environmental Protection (PADEP). The Assessment found that transportation corridors, auto repair shops, turbidity from lakes, wastewater treatment, on-lot waste disposal and runoff from non-point sources such as residential developments, farms and golf courses represent the most significant potential sources of contamination within the watershed. Overall, the watershed has little to moderate risk of significant contamination. Copies of the complete report are available for review at the PADEP Southeast Regional Office, Records Management Unit at (484) 250-5900. A summary report of the Assessment is available at: <http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/SourceAssessment/default.htm>