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# Town of Poolesville



# Water Quality Report

2009-2010



# The Commissioners of Poolesville Annual Water Quality Report

2009-2010

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*The Town of Poolesville* is pleased to present the 2009 Annual Drinking Water Quality Report. This report is designed to inform you about the sources and quality of our water. If you have any questions about this report, please contact Wade Yost, Town Manager at 301-428-8927.

Poolesville's goal is to provide the Town's approximately 5,250 residents and businesses with a safe and dependable supply of water. During 2009, Poolesville's water met all of the drinking water health standards established by the U.S. Environmental Protection Agency and the Maryland Department of the Environment. The information in this report is also submitted formally and routinely to the Maryland Department of The Environment, which monitor our compliance with the many regulatory standards and testing protocols required to assure safe drinking water.

This report is a snapshot of the Town's drinking water quality during 2009. Included in this report are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. In 2009, we tested the water for several different contaminants. Many of these tests did not detect even a trace amount of contaminants in our water. This report shows only the detectable results of our monitoring for the period of January 1 – December 31, 2009.

The general population should not be concerned about consuming Poolesville's water. However, some people may be more vulnerable to contaminants in drinking water than others. 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 any source from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available by calling the Safe Water Drinking Hotline: 800-426-4791.

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 can be obtained by calling the Environmental Protection Agency's (EPA) 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 can pick up substances resulting from the presence of animals or from human activity:

- Microbial contaminants, such as viruses and bacteria, 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, or farming;
- Pesticides and herbicides 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; and
- 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, EPA adopts 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 that must provide the same protection for public health.

## *Poolesville's Water Sources and System Operations*

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Poolesville relies entirely upon ground water to supply residents and businesses. Water is withdrawn from eleven wells located throughout Town. State permits allow an annual average daily withdrawal of 650,000 gallons per day (GPD) and a maximum monthly average of 910,000 GPD. These wells are drilled from 285 to 800 feet deep into the New Oxford Formation Aquifer. Groundwater is derived from rainwater, creek and riverbed percolation. As the water travels downward through the soils, many of the impurities are removed. This results in water that is usually clean enough to drink without any treatment. Our groundwater quality is very good and requires chlorine treatment, as mandated by the Safe Water Drinking Act.

Poolesville's system consists of about eighteen miles of ductile iron water pipe and two storage tanks. A 500,000-gallon elevated storage tank is located near the High School and a 1,000,000-gallon standpipe is located in the Woods of Tama. In addition to the existing infrastructure, the Commissioners have approved the installation of radon and uranium removal systems on Wells # 7, 9 & 10. Wells #7 & 10 are out of service until the treatment system is constructed later this year.

## Definitions Used in this Report

### Unit Descriptions

Term	Definition
PPM or MG/L	Parts per million, or milligrams per liter (mg/L). 1 ppm is the same as one drop in 10 gallons of water
PPB	Parts per billion, or micrograms per liter ( $\mu\text{g/L}$ ). 1 ppb is the same as one drop in 10,000 gallons of water.
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.
% positive samples/month	Percent of samples taken monthly that were positive
NA	Not applicable
ND	Not detected (by a test procedure)
NR	Monitoring not required, but recommended.

### Other Important Drinking Water Definitions

Term	Definition
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which no health risk is known or expected. MCLGs ensure a margin of safety for sensitive individuals.
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	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
MRDLG	Maximum residual disinfection level goal. The level of a drinking water disinfectant below which no health risk is known or expected. MRDLGs do not reflect the benefits of using disinfectants to control microbial contaminants.
MRDL	Maximum residual disinfectant level. 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.
MNR	Monitored Not Regulated
MPL	Maximum Permissible Level (as assigned by MDE)

### The MDE requires certain health effects language for some contaminants even though a violation may not exist.

- **Nitrate:** Infants who drink water containing nitrates in excess of the MCL could become seriously ill and, if not treated, may die. Symptoms include shortness of breath and blue baby syndrome.
- **Radon:** Radon has been detected in all samples tested. There is no Federal regulation for drinking water. However, exposure to air transmitted radon over a long period of time may cause adverse health effects.
- **Alpha Emitters: (Uranium, Radium)** Alpha Emitters have the potential to cause an increased risk of cancer if consumed in excess of the MCL over a lifetime.

In order to ensure that tap water is safe to drink, the USEPA and Maryland Department of the Environment (MDE) impose testing requirements and regulations that limit the amount of certain contaminants in water provided by public water systems. Although Poolesville in conjunction with the MDE sample for several different contaminants, only those present are listed in the following tables. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The MDE requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, are more than one year old

# Water Quality Data

## Detected Regulated Contaminants

Substances	Violation?	Customer Tap		MCLG	AL	Major Sources in Drinking Water
		Level	Unit			
Lead (ppb)	No	0	ppm	0	AL=15	Corrosion of household plumbing systems
Copper (ppm)	No	0.5	ppm	1.3	AL=1.3	Corrosion of household plumbing systems
Substances	Violation?	Distribution System		MCLG or (MRDLG)	MCL or (MRDL)	Major Sources in Drinking Water
		Level	Units			
Residual Chlorine	No	0.9	Mg/L	4	4	Water additive used to control microbes
Trihalomethanes	No	17.69	ug/L	0.06	80	Disinfection byproduct
Haloacetic acids	No	3.87	ug/L	0.3	60	Disinfection byproduct
Coliform Bacteria	No	0	mg/L			Naturally present in the environment

Substances	Violation?	Level Detected Well #										MCLG	MCL	Major Sources in Drinking Water
		2	3	4	5	6	7	8	9/10	11	12			

### Disinfection Byproducts (Total MCLG .06, total MCL 80 ug/L)

Chloroform	No	.6						8.7				ug/L			
Dibromochloromethane	No	.7						10.1				ug/L			
Bromoform	No							4.3				ug/L			
Bromodichloromethane	No							9.7				ug/L			

### Radionuclides

Beta emitters	No	3.5	<2	2	<3	4	5.5	2	5.5	2		pCi/L	0	50	Decay of natural and man-made deposits
Alpha emitters (adjusted)	No	3.1	5	4.5	9	10	4.1	7	8.7	2	2.4	pCi/L	0	15	Erosion of natural deposits
Combined radium	No	0.6	0.7	0.8	<1	1.6	1.2	1	1.3	.07	.3	pCi/L	0	5	Same as above
Uranium	No	2.9	3.6	11.4	4.7	14.2	23.2	5.4	12.7			ug/L	0	30	Same as above

### Inorganics

Barium	No	.27	.2	.35	.11	.88	.32	.79	.51	.04	.07	ppm	2	2	Discharge from drilling wastes; Erosion of natural deposits.
Fluoride	No						.3		.13			ppm	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories.
Nitrate	No	7.3	6	4.8	5.8	3	.4	3.6	1.1	3.5	3.2	ppm	10	10	Runoff from fertilizer; leaching from septic tanks, sewage, erosion of natural deposits.
Selenium	No						.005					ppm	.05	.05	Erosion of natural deposits; used in electronic and photocopier components.
Arsenic	No						.005					ppm	0	.01	Erosion of natural deposits; Runoff from orchards glass and electronic production wastes.

### Synthetic Organics

Di(2-ethylhexyl phthalate)	No	0.7	1.2	1.1	1	1.2	1	.9	.7	.004		ug/L	0	6	Discharge from rubber and chemical factories
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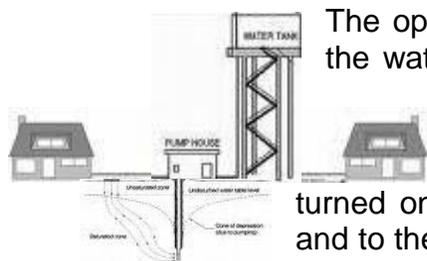
## Detected Unregulated Contaminants

Sodium	No	21	19	13	17	17	49	18	24	11	9.3	ppm	n/a	n/a	Erosion of natural deposits
Sulfate	No			27						27		ppm	n/a	n/a	Same as above
Radon	No	805	967	1640	1096	1314	2875	1751	1977		273	pCi/L	n/a	n/a	Same as above

**The MDE requires information regarding all violations to be published as part of this report.**

**Reporting** – Monitoring reports regarding two coliform and two nitrate sample results were received by the Maryland Department of the Environment after the prescribed time frame. Reports were received and the system is in compliance.

## How Does Our Water System Work?



The operation of our system is based on the water level in the water tanks, which provide the water pressure for your home. When the water level in the tanks drops to a preset elevation, all nine wells are automatically

turned on. The wells pump water into our distribution pipes and to the water tanks. Once the water tanks are full, the wells shut down. This process takes about 8 to 12 hours depending on the actual use during the filling process. Many folks have wells located near their homes, but for the most part, everyone receives a blended mix of water from all the wells.

Please contact us if you are interested in learning more about Poolesville's Water Department or our water quality. Questions about water quality can be answered by calling Wade Yost at 301-428-8927.

### For Public Participation:

Poolesville Town  
Commissioner meetings are held at Town Hall, 19721 Beall Street at 7:30 p.m., on the first and third Monday of each month.