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Town of Poolesville



Water Quality Report



The Town of Poolesville Annual Water Quality Report

2010-2011

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The Town of Poolesville is pleased to present the 2010 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 5,300 residents and businesses with a safe and dependable supply of water. During 2010, Poolesville's water met all of the drinking water health standards established by the U.S. Environmental Protection Agency (EPA) and the Maryland Department of the Environment (MDE). The information in this report is also submitted formally and routinely to the MDE, 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 2010. 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 2010, 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, 2010. The report is not published until June as the final analysis and MDE review must occur prior to release.

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

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 | 7.72 | ug/L | 0.06 | 80 | Disinfection byproduct |
| Haloacetic acids | No | 4.83 | 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 | 1.9 | | | | | | 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 | 1.5 | 6.5 | 2.9 | 5.3 | 2 | | pCi/L | 0 | 50 | Decay of natural and man-made deposits |
| Alpha emitters (adjusted) | No | 3.1 | 5 | 4.5 | 5.3 | 8.7 | 7.3 | 12.4 | 14.7 | 2 | 2.4 | pCi/L | 0 | 15 | Erosion of natural deposits |
| Combined radium | No | 0.6 | 0.7 | 0.8 | <1 | 2.5 | 2 | 1.1 | 1.4 | .07 | .3 | pCi/L | 0 | 5 | Same as above |
| Uranium | No | 2.9 | 3.6 | 11.4 | 4.7 | 14.2 | 33.5 | 5.9 | 12.05 | | | 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 | 5.2 | 5.9 | 4.1 | 4.8 | 3 | 1.5 | 1.9 | 1.4 | 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 |
|----------------------------|----|-----|-----|-----|---|-----|---|----|----|------|--|------|---|---|--|

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 | 650 | 1590 | 1314 | 2875 | 1727 | 1930 | | 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 — One turbidity and three coliform monitoring reports were received by the Maryland Department of the Environment after the prescribed time frame. Reports were received and the system is in compliance.

White Film on Dishes?

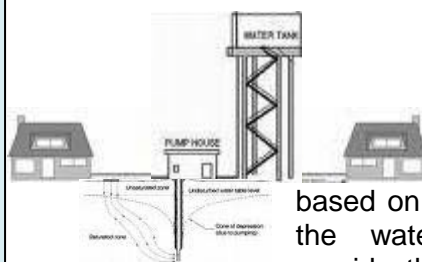
No, the water has not changed...what has?

Sixteen states have banned the sale of dishwasher detergents that contain high levels of phosphates, a source of pollution in lakes and streams.

Stores will not be allowed to sell detergent with more than 0.5 percent phosphorous. The bans do not apply to commercial dishwashing products, and detergents for hand-washing dishes generally contain no phosphorus.

States instituting the rule include Illinois, Indiana, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, Ohio, Oregon, Pennsylvania, Utah, Vermont, Virginia, Washington and Wisconsin.

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 eleven 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.