Town of Purcellville
Annual Water Quality Report – Reporting Year 2012
PWSID#: 6107600

This report is brought to you by the Town of Purcellville:

Mayor
Robert W. Lazaro, Jr.

Council
Thomas A. Priscilla, Jr.
James O. Wiley
Joan Lehr
J. Keith Melton, Jr.
John A. Nave
Patrick McConville, II

Town Manager
Robert W. Lohr, Jr.

Assistant Town Manager
J. Patrick Childs

We are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the bet quality drinking water to you. As new challengers to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

Please share with us your thoughts or concerns about the information in this report. After all, well-informed customers are our best allies. For more information about this report or for any questions relating to your drinking water, please call Brian Lutton, Water Superintendent, at (540) 338-2513.

Alex Vanegas, CPM, Acting Director of Public Works

The sources of your drinking water are surface water and groundwater as described below:
The surface water source is the J.T. Hirst Reservoir. This reservoir is filled by three primary springs: Harris Spring, Potts Spring, and Cooper Spring. Cooper Spring is piped to a 12-inch pipe just below the reservoir which carries water to the water treatment plant for filtration. The Harris and Potts Springs flow directly into the J.T. Hirst Reservoir. Forbes/Cornwell Well System, Main Street Village Well System, Hirst Farm Well System, and Marsh Farm are the groundwater sources.

Source Water Assessment
A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular business hours.

Substances That Could be In Your Water
To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminates in water provided by public water systems. The U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least

small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals and in some cases, radioactive material and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

- Microbial Contaminants such as viruses and bacteria which may come from sewage treatment plans, septic systems, agricultural livestock operations or wildlife
- Inorganic Contaminants such as salts and metals which can be naturally occurring or may result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming
- Pesticides and Herbicides which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses
- Organic Chemical Contaminants including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production and may also come from gas stations, urban storm water runoff, and septic systems
- Radioactive Contaminants which can be naturally occurring or may be the result of oil and gas production and mining activities

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water – 40% according to government estimates.

The Food and Drug Administration is responsible for regulating bottled water but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Furthermore, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the U.S.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you would pay for bottled water.

For a detailed discussion on the NRDC study results, check out their website at www.nrdc.org/water/drinking/bw/exesum.asp.

Fixtures with Green Stains

A green or blue-green stain on kitchen or bathroom fixtures is caused by tiny amounts of copper that dissolve in your home's copper welding system when the water sits unused overnight. Copper staining may be the result of a leaky faucet or a faultry toilet flush valve so be sure your plumbing is in good working order.

Copper stains may also be caused by overly hot tap water. Generally speaking, you should maintain your water temperature at a maximum of 120 degrees Fahrenheit. You should consult the owner's manual for your hot water heater or check with your plumber to determine your current heat setting. Lowering your water temperature will reduce the staining problem and save you money on your energy bill.

Also keep in mind that a tap that is used often throughout the day usually will not produce copper stains. So if you flush the tap for a minute or so before using the water for cooking or drinking, copper levels will be reduced.

Lead in Home Plumbing

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 we 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 15 to 30 seconds or until it becomes cold or reaches a steady temperature before using the 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants or those with HIV/AIDS or other immune system disorders and some elderly and infants may be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or water.epa.gov/drink/hotline.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) websites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Virginia Department of Health, Office of Drinking Water has a website that provides complete and current information on water issues in Virginia including valuable information about our watershed. Please visit www.vdh.state.va.us/drinkingwater/index.htm for more information.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state allows us to monitor for certain substances less often than once per year because the concentration of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken:

Substance (Unit of Measure)	Year Sampled	MCL (MRDL)	MCLG (MRDLG)	Amount Detected	Range Low-High	Violation?	Typical Source
Cis-1,2 Dichloroethylene (ppb)	2011, 2012	70	0	3	ND - 7.2	No	Discharge from industrial chemical factories
Alpha Emitters (pCi/L)	2009, 2011 & 2012	15	0	2.5	ND – 2.5	No	Erosion of natural deposits
Barium (ppm)	2010, 2011 & 2012	2	2	0.061	ND – 0.061	No	Discharge of drilling wastes
Beta/Phonton Emitters[i] (pCi/L)	2009, 2011 & 2012	50	0	9.3	1.1 – 9.3	No	Decay of natural and man-made deposits
Chlorine (ppm)	2012	(4)	(4)	1.18	0.52 – 1.89	No	Water additive used to control microbes
Combined Radium (pCi/L)	2009, 2011 & 2012	5	0	2.2	0.6 – 2.2	No	Erosion of natural deposits
Fluoride (ppm)	2010, 2011 & 2012	4	4	1.29	ND – 1.29	No	Erosion of natural deposits; Water additive that promotes strong teeth
Haloacetic Acids (HAAs) (ppb)	2012	60	NA	25	103	No	By-product of drinking water disinfection
Nitrate (ppm)	2012	10	10	2.75	ND – 2.75	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TTHMs [Total Trihalomethanes] (ppb)	2012	80	NA	40	3.9 – 107	No	By-product of drinking water disinfection
Turbidity[ii] (NTU)	2012	TT	NA	0.14	0.03 – 0.14	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2012	TT	NA	100	NA	No	Soil runoff
Bacteriological Monitoring	2012	1 positive monthly sample	NA	0	NA	No	Naturally present in the environment

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

Substance (Unit of Measure)	Year Sampled	AL	MCLG	Amount Detected (90%tile)	Sites Above AL/Total Sites	Violation?	Typical Source
Copper (ppm)	2012	1.3	1.3	0.4	0/21	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2012	15	0	ND	1/21	No	Corrosion of household plumbing systems; Erosion of natural deposits

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
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.
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.
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.
MRDLG (Maximum Residual Disinfectant 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.
NA: Not applicable.
ND (Not Detected): Indicates that the substance was not found by laboratory analysis.
NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
pCi/L (picocuries per liter): A measure of radioactivity.
ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).
ppm (parts per million): One part substance per million parts water (or milligrams per liter).
TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

[i] The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.
[ii] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.