

Annual Drinking Water Quality Report

Of the

Emporia Filtration Works

INTRODUCTION

This Annual Drinking Water Quality Report for the calendar year 2013 is designed to inform you about your drinking water quality. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water must meet state and federal requirements as administered by the Virginia Department of Health (VDH).

If you have questions about this report, please contact:

Thomas C. Delbridge, Superintendent of the Emporia Filtration Works; 634-2544

If you would like additional information about any aspect of your drinking water or want to know how to participate in decisions that may affect the quality of your drinking water, please contact

Mr. Brian S. Thrower City Manager; 634-3332 or Linwood Pope, Public Utilities Director; 634-4500

The times and location of regularly scheduled board meetings are as follows:

The first and third Tuesday of every month at the City Council Chambers at 6:30 PM.

GENERAL INFORMATION

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban stormwater runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable while groundwater may or may not have any treatment.

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 Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. 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 their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in the bottled water which must provide the same protection for public health.

SOURCE (S) and TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is surface water:

The City of Emporia is served by one reservoir that is 220 Acres in size. The Meherrin River supplies the reservoir.

Is there any treatment of your drinking water supply? (X) Yes () No If yes, it is described below:

A Pre-oxidant of Potassium Permanganate is added to the Raw water then followed by coagulants to cause a flocculation. As flocculation begins the water travels across large basins where sedimentation occurs, the larger particles fall out and the water continues on to the filters where the remaining suspended particles are removed. Before and after the filters, the water is chlorinated to provide chlorine residual for the distribution system and caustic is added to correct the pH of the water. Fluoride and corrosion inhibitor are also added after the filters.

The Virginia Department of Health conducted a Source Water Assessment of the City of Emporia Waterworks in 2001. The reservoir was determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water assessment area, an inventory of known Land Use Activities, and Potential Sources of Contamination. Best Management Practices utilized at Land Use Activity sites in Zone 1 and documentation of any known contamination within the last five years, Susceptibility Explanation Charts and Definitions of Key Terms. The report is available by contacting Tom Delbridge at the Emporia Water Plant at 634-2544.

DEFINITIONS:

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table below shows the results of our monitoring for the period of January 1st to December 31st, 2013. In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms:

Non-detects (ND) - lab analysis indicates that the contaminant is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (µg/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) – Picocuries per liter is a measure of the radioactivity in water.

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.

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements, which a water system must follow.

Treatment Technique (TT) - a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level, or 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, or 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 or 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 or 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.

MCL's are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards **EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.**

WATER QUALITY RESULTS

Contaminant	MCLG	MCL	Level found	Range	Violation	Date of Sample	Typical Source of Contamination
Fluoride (ppm)	4.0	4.0	1.23	N/A	No	May 2013	Water additives that promote strong teeth.
Coliform	0	1 positive monthly sample	0	N/A	No	Monthly 2013	Naturally present in the environment
Chlorine (ppm)	MRDLG= 4.0	MRDL= 4.0	0.88	0.20 – 1.7	No	Monthly 2013	Water additive used to control microbes
Nitrate (ppm)	10	10	0.10	N/A	No	May 2013	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total organic carbon	N/A	TT; Removal Ratio > 1	1.37	1.05 – 1.70	No	Monthly 2013	Naturally present in the environment
Turbidity	N/A	TT=1.0 NTU Max < 0.3 NTU 100% of the time	0.29 NTU 100%	N/A	No	Daily 2013	Soil runoff
Haloacetic acids (ppb)	N/A	60	39	7.8 – 56	No	Quarterly 2013	By-product of drinking water disinfection.
Total Trihalomethanes (ppb)	N/A	80	46	21 – 91	No	Quarterly 2013	By-product of drinking water disinfection.
Copper (ppm)*	1.3	A.L. = 1.3	0.0984	ND – 0.208	No	September 2011	Corrosion of household plumbing
Lead (ppb)*	0	A.L. = 15	ND	ND – 4.88	No	September 2011	Corrosion of household plumbing
Beta Particles (pCi/L)	0	50**	2	N/A	No	February 2009	Decay of Natural and Man-made deposits
Combined Radium (pCi/L)	0	5	0.6	N/A	No	February 2009	Erosion of natural deposits
Barium (mg/l)	2	2	0.025	N/A	No	May 2013	Erosion of natural deposits, discharge of drilling wastes, discharge from metal refineries.

*Twenty sites were monitored and no sites exceeded the action levels.

**The MCL for Beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

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 Emporia Filtration Works 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 15 to 30 seconds or until it becomes cold or reaches a steady temperature 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>.

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The table lists only those contaminants that have some level of detection. Many other contaminants have been analyzed but are not present or were below the detection limits of the lab equipment.

Most of the results in the table are from testing done in 2013. However, 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 accurate, could be more than one year old.

Other drinking water constituents you may be interested in are as follows:

Sodium level = 12.8 mg/l The City also tested for Giardia and Cryptosporidium in the raw water. At this time the results have shown to be negative using the USEPA Method 1623.

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VIOLATION INFORMATION

Did any MCL or TT violations occur during the year? () Yes (X) No
Did any monitoring, reporting, or other violations occur during the year? () Yes (X) No

VIOLATION INFORMATION

None

ADDITIONAL HEALTH INFORMATION

Certain contaminants (such as Cryptosporidium, radon, arsenic, nitrate, and lead), if present in your drinking water, may be of special concern to consumers. If any of those contaminants are present, health information is provided below to inform you about them.

A hard copy of this report can be acquired at the Treasures Office or viewed on the City Government Channel 17. There will be no hard copy mailed.

This Drinking Water Quality Report was prepared by:

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