Annual Water Quality Report
City of Martinsville

The Water Resources Department is providing this report for the calendar year 2008 to inform you about the quality of your drinking water. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to be aware of the efforts we make to protect your water supply. The quality of your drinking water must meet State and Federal requirements administered by the Virginia Department of Health (VDH).

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 (refered to as contaminants) resulting from the presence of animals or from human activity. Contaminates that may be present in source water include:

* Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
* Inorganic contaminants, such as salts and minerals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil or gas production, mining, or farming.
* Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
* Organic chemical contaminates, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can come from gas stations, urban stormwater runoff, and septic systems.
* Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

A source water assessment of our system has been conducted by the Virginia Department of Health. The reservoir and creeks were determined to be of high susceptibility to contamination, as are virtually all other surface water sources in the State, using 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 of concern, and documentation of any known contamination within the prior 5 years. Additional information is available by contacting the waterworks representative noted elsewhere in this report.

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

All drinking water, including bottled drinking 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 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Sources and Treatment

Our main raw water source is the Beaver Creek Reservoir. Supplemental sources, as needed, are provided by pump stations on Leatherwood Creek and on Little Beaver Creek. Before entering the distribution system, your water is treated at the Martinsville Water Treatment Plant to insure that potentially harmful or otherwise objectionable substances are removed. At the plant, raw water is treated with chlorine for disinfection, alum for coagulation and flocculation, lime to raise the pH and add hardness, and fluoride to help reduce tooth decay. The water then flows through the sedimentation basins allowing the floc particles to settle out before being filtered. Before water leaves the plant, we add chlorine to maintain a residual throughout the distribution system, sodium hydroxide for pH adjustment, and sodium hexametaphosphate to reduce pipe corrosion.

If you have questions about this report, want additional information about any aspect of your drinking water or want to know how to participate in decisions that may affect water quality, please write to the address below or call 276-403-5157. Regularly scheduled City Council meetings are held on the 2nd and 4th Tuesday of each month at 7:30 PM in the City of Martinsville administration building located at 55 W. Church Street.

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City of Martinsville
Water Treatment Plant
302 Clearview Drive
Martinsville, VA 24112

WATER QUALITY REPORT

CITY OF MARTINSVILLE 2009

WATER QUALITY RESULTS

Substance/Units	MCLG	MCL	Level Found/Range	Violation	Date of Sample	Typical Source of Substance
Regulated						
Fluoride ppm	4	4	Avg : 0.99 Range : ND to 1.58	No	Daily	Erosion of natural deposits; water additive which promotes strong teeth.
Total Coliform MPN/100 mL	0	Present < 5% of samples	0	No	Weekly	Naturally occurring bacterial regrowth
Turbidity NTU	NA	TT = 1 NTU Max TT = 95% of monthly samples must be < 0.3 NTU	Max : 0.35 Lowest monthly percentage of samples < 0.3 = 99.9	No	Continuous / Every 2 hrs.	Soil runoff (Turbidity itself is not harmful, but high levels may indicate other treatment problems).
Total Trihalomethanes ppb	NA	80	Max Rolling Avg: 47 Range: 19 - 75	No	Every 60 - 90 days	By-product of drinking water chlorination (See "Disinfection Byproducts" below)
Haloacetic Acids ppb	NA	60	Max Rolling Avg: 37 Range: 13 - 59	No	Every 60 - 90 days	By-product of drinking water chlorination (See "Disinfection Byproducts" below)
Total Organic Carbon ppm	NA	TT - TOC removel ratio greater than or equal to 1.00	Min Rolling Avg Removal Ratio: 0.85 Range: 0.84 to 1.56	**Yes**	Monthly	Naturally present in the environment.
Chlorine ppm	MRDLG = 4	MRDL = 4	Max Quarter Avg: 1.07 Range 0.01 to 1.62	No	Every 2 hrs.	Water additive used to control microbes.
Copper ppm	1.3	AL = 1.3	0.079@ 90th Percentile Range: ND - 0.119 None of the 31 samples above AL	No	Jun, Jul-07	Corrosion of household plumbing systems; erosion of natural deposits.
Lead ppb	0	AL = 15	<5 @ 90th Percentile Range ND - 27 Only 1 of the 31 Samples Above AL	No	Jun, Jul-07	Corrosion of household plumbing systems; erosion of natural deposits.
Alpha Emitters pCi/L	0	15	1.1	No	Apr-03	Erosion of natural radioactive deposits.
Combined Radium pCi/L	0	5	0.2	No	Apr-03	Erosion of natural radioactive deposits.
Beta Emitters pCi/L	0	50	2.3	No	Apr-03	Decay of natural and man-made deposits
Nitrate+Nitrite ppm	10	10	0.11	No	May-08	Runoff from fertilizer; leaching from septic tanks; sewage; erosion of natural deposits.
Unregulated						
Sodium ppm	NA	NA	11.5	No	May-08	Naturally occurring in environment; added by some of the chemical addition at the treatment plant
Hardness ppm	NA	NA	21 (1.2 grains/gal)	No	Daily	Measure of naturally occuring hardness metals
Manganese	NA	0.05 SMCL	0.01	No	May-08	Naturally occuring in the environment; when above the SMCL can lead to aesthetic problems such as staining/discoloration and sediment
Aluminum	NA	0.05 - 0.2 SMCL	0.563	No	May-08	Naturally occuring and from water additives used to treat water; when above the SMCL, can lead to aesthetic problems (color)

DEFINITIONS

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. 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.

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 of health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

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.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years.

Grains per gallon (gpg) = to 17.5 Parts per million

Nephelometric Turbidity Unit (NTU) - 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.

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

< - less than

Monitoring Notes

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables list only those that had some level of detection. Some unregulated contaminants, for which EPA has not established drinking water standards, are also monitored to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted. The results of our Unregulated Contaminant Monitoring Rule monitoring are available by contacting the waterworks representative noted elsewhere in this report.

Most of the results in the tables are from testing done in 2008. However, the State allows monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, is more than one year old.

About Disinfection Byproducts in Drinking Water

Disinfection is an absolutely essential component in the treatment of drinking water, preventing the occurrence and spread of many serious and potentially deadly water-borne diseases. Chlorination is a time proven method for disinfection, but some minute amounts of disinfection byproducts (DBPs) do result in the form of trihalomethanes (TTHMs) and Haloacetic acids (HAA5s) as chlorine combines with naturally occurring organic matter (such as leaf debris) in the raw water. Some people who drink water containing TTHMs or HAA5s in excess of the MCLs over many years may have an increased risk of getting cancer or could experience problems with their liver, kidneys, or central nervous system. The City's water system was in compliance for DBPs throughout 2008.

About Total Organic Carbon

Based on test results of routine monthly samples collected during the April-June 2008 quarter, our system did not meet the minimum total organic carbon (TOC) removal treatment technique requirement. The removal ratio is determined by comparing untreated raw water with treated water (post-filtration) at the City's Water Treatment Plant. The running annual average ratio of actual/required percent TOC removal during this period was 0.85, below the required 1.0 minimum. The Virginia Department of Health issued a Notice of Violation to the City in July of 2008 and City customers were notified about the violation as required, even though there was no indication of direct health risk. TOC removal requirements were originally established to ensure plants operate to optimize organic removal so as to theoretically minimize formation of disinfection byproducts in the water supply. Throughout this period the levels of TTHMs and HAA5s, as noted in the table, continued to be well below their respective MCLs. The abnormal TOC results were not caused by operational problems but may have been related to significant rainfall during the same period.

About Lead in Drinking Water

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than others in the community as a result of materials used in your home's plumbing.

If you are concerned about elevated lead levels in your home, you may wish to have your water tested by an independent laboratory. Flushing your tap water for 30 seconds to two minutes, particularly first thing in the morning, is an effective way to reduce the possibility of lead contaminants from home plumbing. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).