



High Knob Utilities, Inc.

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Annual Drinking Water Quality Report - 2011

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2011 is designed to provide you with valuable information about your drinking water quality. ***Testing for 2012 will be concluded in December with results being published next year.*** We are committed to providing 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 meets all state and federal requirements administered by the Virginia Department of Health (VDH).

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 the quality of your drinking water, please contact:

Mr. Dave Henderson, President, High Knob Utilities at 540-635-6131
Mr. Dan Althouse, Operator / Manager, High Knob Utilities at 540-635-6131

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 storm water 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.

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. Immune-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 OF YOUR DRINKING WATER

Your drinking water is groundwater obtained from five springs and six drilled wells. Water is distributed throughout the community by three booster pump stations, seven storage reservoirs with a combined capacity of 177,958 gallons and various sized distribution piping.

Treatment is provided at spring numbers 1, 3, and 4 and well numbers 1, 2, 3, 4, 5, and 6. Springs 1 and 3 and Wells 1, 2, 3, 4, 5, and 6 are each equipped with a solution chlorinator that injects a chlorine solution to disinfect the water prior to distribution. Spring 4 is equipped with a solution chlorinator, which injects a chlorine solution to disinfect the combine flows of spring numbers 4, 5 and 6 prior to distribution.

SOURCE WATER ASSESSMENTS

A source water assessment has been completed by the Virginia Department of Health (VDH). The assessment determined that the wells and springs serving our community may be susceptible to contamination because they are located in an area that promotes migration of contaminants from certain land use activities of concern such as residential septic systems. Some of our sources are protected by watershed areas set aside when our community was developed. More specific information may be obtained by contacting the water system representative referenced within this report.

QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored according to Federal and State Regulations for a variety of contaminants. The table on the next page shows the results of our monitoring for the period of **January 1, 2011 to December 31, 2011**.

Most of the results in the table are from testing done in 2011. 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, is more than one year old.

DEFINITIONS

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 - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

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 - 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.

Variances and exemptions - state or EPA permission not to meet an MCL or a treatment technique under certain conditions

Entry Point (EP) – place where water from the source or sources after the application of any treatment is delivered to the distribution system

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

Maximum Contaminant Levels (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 MCL's 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

Microbiological

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Coliform Bacteria	0	Presence of Coliform bacteria in > 1 sample per month	0	Presence or Absence	No	Monthly	Naturally present in the environment

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
E. Coli Bacteria – at source (number positive samples) (1)	0	TT	4	Presence or Absence	No	2011	Human and animal fecal waste

- (1) E.Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems. Routine raw (untreated) water sampling performed during calendar year 2011 indicated the presence of E.coli bacteria in samples collected from Spring 4 in October and Spring 5/6 in May, September, and October. The source of contamination is unknown. We do not believe a risk is posed since we disinfect the water provided to you and did not detect the presence of any coliform bacteria in any of the treated routine water distribution system samples collected during calendar year 2011. As precautionary measures Spring 4 was removed from service in November 2011 to evaluate the need for additional treatment and the Spring 5/6 raw water sampling frequency has been increased and the disinfection treatment upgraded to ensure that disinfection is adequate treatment for these sources.

Inorganic Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Nitrates: Spring 1 TP EP Spring 3/Well 3/6 TP EP Spring 4/5/6 TP EP Well 1 TP EP Well 2/5 TP EP Well 4 TP EP	10	10	--	mg/l	--	--	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
			1.20		NO	12/11	
			1.24		NO	12/11	
			1.54		NO	12/11	
			1.79		NO	12/11	
			1.41		NO	12/11	
			2.88		NO	12/11	
Barium: Spring 1 TP EP Spring 3/Well 3/6 TP EP Spring 4/5/6 TP EP Well 1 TP EP Well 2/5 TP EP Well 4 TP EP	2	2	--	mg/l	--	--	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
			ND		NO	12/11	
			.019		NO	06/11	
			ND		NO	12/11	
			ND		NO	12/11	
			0.016		NO	11/09	
			ND		NO	06/11	

Disinfection Residual Contaminants

Contaminant	MRDLG	MRDL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Chlorine	4	4	1.11 (avg.) Range 0.7 – 1.6	mg/l	NO	Monthly	Water additive used to control microbes

Disinfection Byproduct Contaminants

Contaminant	MCLG	MCL	Highest Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Trihalomethanes (TTHM)	0	80	2.5 Range < 0.6 – 2.5	ppb	NO	08/11	By-product of drinking water chlorination
Haloacetic Acid (HAA5)	0	60	< 1 Range < 1 - < 1	ppb	NO	08/11	By-product of drinking water chlorination

Radiological Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Alpha Emitters	0	15	--	pCi/l	--	--	Erosion of natural deposits
Spring 1 TP EP			ND		NO	10/09	
Spring 3/Well 3/6 TP EP			0.1		NO	02/09	
Spring 4/5/6 TP EP			ND		NO	11/09	
Well 1 TP EP			ND		NO	11/09	
Well 2/5 TP EP			ND		NO	10/10	
Well 4 TP EP			0.3		NO	11/09	
Beta Emitters	0	50	--	pCi/l	--	--	Decay of natural and man-made deposits
Spring 1 TP EP			1.8		NO	10/09	
Spring 3/Well 3/6 TP EP			0.4		NO	02/09	
Spring 4/5/6 TP EP			0.6		NO	11/09	
Well 1 TP EP			0.8		NO	11/09	
Well 2/5 TP EP			ND		NO	10/10	
Well 4 TP EP			0.9		NO	11/09	
Combined Radium	0	5	--	pCi/l	--	--	Erosion of natural deposits
Spring 1 TP EP			0.9		NO	10/09	
Spring 3/Well 3/6 TP EP			0.6		NO	02/09	
Spring 4/5/6 TP EP			ND		NO	11/09	
Well 1 TP EP			ND		NO	11/09	
Well 2/5 TP EP			1.0		NO	10/10	
Well 4 TP EP			ND		NO	11/09	

Lead and Copper (Most Recent Monitoring Period – August 2011)

Contaminant	MCLG	MCL	Level Found	Unit Measurement	AL Exceeded	Samples > AL	Typical Source of Contamination
Lead	0	AL = 15	3.2	ppb	NO	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (2)	1.3	AL = 1.3	0.464	mg/l	NO	1	

(1) Lead Contaminants

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. High Knob Utilities, Inc. is responsible for providing high quality drinking water, but cannot control the variety of materials used in the

plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes 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 the 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>.

(2) Copper: Copper is an essential nutrient, but some people who drink water containing copper in the excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water-containing copper in the excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

VIOLATION INFORMATION

We were in full compliance with all water quality, monitoring and reporting requirements and no violations occurred during calendar year 2011.

The waterworks owners prepared this Drinking Water Quality Report with the assistance and approval of the Virginia Department of Health (VDH). Please call if you have questions.

Signature: _____

Date: _____