HENRY COUNTY PUBLIC SERVICE AUTHORITY

Annual Drinking Water Quality Report for 2009

INTRODUCTION

This Annual Drinking Water Quality Report 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 administered by the Virginia Department of Health (VDH).

Si usted no habla ni lee ingles, pida por favor que alguien traduzca este documento para usted.

If you have questions about this report or want additional information about any aspect of your drinking water, please contact the Public Service Authority at (276) 634-2500. The mailing address is P.O. Box 69, Collinsville, VA 24078. The Internet site is www.co.henry.va.us. Henry County Public Service Authority's Board meets at 7:00pm, on the 3rd Monday of each month.

GENERAL INFORMATION

The source of drinking water (both tap water and bottled water) includes rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the land or through the ground, it dissolves naturally occurring mineral and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water includes: (1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural live stock operations, and wildlife. (2) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm-water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm-water runoff, and residential uses. (4) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can, also come from gas stations, urban storm-water runoff, and septic systems. (5) Radioactive contaminants, which 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 prescribes regulations, which limits the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. 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.

TREATMENT

Treatment of surface raw water consists of chemical addition, fluoridation, coagulation, flocculation, settling, filtration, and chlorination. These processes work together to remove the physical, chemical, and biological contaminants to make the water safe for drinking.

Source Water Assessment Program (SWAP) Upper Smith River WFP & City of Martinsville WPP

The Virginia Department of Health completed a source water assessment for Upper Smith River and the City of Martinsville sources waters during 2001/2002. The sources water for each of the systems were 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 of concern, and documentation of any known contamination (none in this case) within the last 5 years. The reports are available by contacting the Upper Smith River, 590 Philpott Drive Bassett, Phone (276) 629-3227 or City of Martinsville's Water Purification Plant on Clearview Drive Martinsville, phone (276) 656-5137 during business hours**.**

Source Water Assessment Program (SWAP) and Its Availability for the City of Eden, NC

The State of North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply Section has conducted Source Water Assessments on all water supplies in the State. The Source Water Assessment evaluates the watershed supplying your water for Potential Contamination Sites (PCS). North Carolina Public Water Supply Section has assigned each drinking water source a relative "Susceptibility Rating" characterized as "Higher, Moderate or Lower." A susceptibility rating of "Higher" does not imply poor drinking water quality. Susceptibility is an indication of a water supply's potential to become contaminated by PCSs within the assessment area. The values assigned by our Source Water Assessment were "higher" for Inherent Vulnerability, "moderate" for Contaminant Rating and "higher" for Susceptibility Rating. The contaminant rating for your water source was determined based on the number and location of PCSs within the delineated area. The inherent vulnerability rating of your water source refers to the geologic characteristics or existing conditions of the surface water source and the delineated area (watershed). Susceptibility rating for your surface water is determined by combining the contaminant rating and the inherent vulnerability rating. Details of how North Carolina prepared source water assessments are available on the State DENR website at (www.deh.enr.state.nc.us/pws/swap). To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699 – 1634, or email request to swap@ncmail.net. Please indicate PWSID 02-79-010 and provide your name, mailing address and phone number. If any questions about SWAP report please contact the Source Water Assessment staff by phone at (919) 719 2633.

DEFINITIONS

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The tables on the following pages show the results of our monitoring for the past calendar year. 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:

- ***Action Level - (AL)*****:** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
- ***Chlorination***: The application of chlorine or chlorine compounds to water, generally for the purpose of disinfection, but frequently for chemical oxidation and odor control.
- ***Coagulation***: The conversion of very small particles into small visible particles by chemical addition.
- ***Filtration***: The process of contacting the water with filter media for the removal of very fine particles.
- ***Flocculation***: In water treatment it's the gentle mixing of the water and chemicals by either mechanical or hydraulic means to help with the coagulation process.

- ***Fluoridation***: The addition of fluoride to water to optimize reduction of tooth decay in children.
- ***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 Disinfectant Residual Level (MDRL)*** - 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 Disinfectant Residual Level Goal (MDRLG)*** - 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.
- ***Nephelometric Turbidity Unit (NTU)*** - Nephelometric turbidity unit is a measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.
- ***Non-detects (ND)*** - Lab analysis indicates that the contaminant is not present
- ***NR***- Not Required
- ***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.
- ***Settling***: The process of removing suspended matter carried by water, by gravity.
- ***Treatment Technique (TT)*** - A required process intended to reduce the level of a contaminant in drinking water.

SERVICE AREAS

The Upper Smith River Water Filtration Plant, receives its water supply from the Smith River. The facility service the following areas of Henry, Patrick and Pittsylvania Counties: Fairy Stone, Stones Dairy, 57 West, Bassett, Stanleytown, Fieldale, Carver, Collinsville, 220 South, Ridgeway, 58 West, and as of February 2009; Mount Olivet**,** Axton, and 58East. Prior to February of 2009 Mount Olivet, Axton and 58 East their water was provided by the City of Martinsville Water Purification Plant, which is supplied by Beaver Creek Reservoir and Leatherwood Creek.

If you live in Sandy Level area of the Henry County your water is provided by the City of Eden, NC water plant and supplied by the Dan River. If you live in the areas please read the Sandy Level report.

LEAD IN DRINKING WATER

If present, elevated levels of lead can cause serious heath problems, especially for pregnant women and young children. Lead in drinking water is primary from materials and components associated with service lines and home plumbing. Henry County Public Service Authority is responsible for providing high quality drinking water, but cannot control the variety of material 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 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 at *http://www.epa.gov/safewater/lead*.

DISINFECTION BYPRODUCTS IN DRINKING WATER

Disinfection is an absolutely essential component in the treatment of drinking water, preventing the occurrence and the spread of many serious and potentially deadly water-borne diseases. Chlorination is a time proven method for disinfection, but some minute amounts of byproducts do results in the form of trihalomethanes (THMs) as chlorine combines with naturally occurring matter (such as leaf debris) in the raw water. Some people who drink water containing THMs in excess of the MCL over many years could experience problems with their liver, kidneys or central nervous systems, and may have an increased risk of getting cancer. Additional information is available from the Safe Drinking Water Hotline (800)-426-4791.

Cryptosporidium and Giardia

Cryptosporidium and giardia are microscopic organisms that may enter surface water from runoff containing animal waste. If ingested, they may cause diarrhea, fever and other gastrointestinal symptoms. The Upper Smith River Water Filtration Plant is participating in the EPA's cryptosporidium and giardia LT2 program. January 2009 sampling, one fluorescing object resembling a giardia cyst was observed in the sample.

TABLES

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables list 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. Concentrations of contaminants that do not change frequently are monitored less often than once per year.

The U.S. Environmental Protection Agency sets MCLs at very stringent levels. 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.

TABLES NOTES

In the tables that follow, these items may be noted:

a MCL: (Systems that collect 40 or more samples per month) 5% of monthly samples are positive; (systems that collect fewer that 40 samples per month) 1 positive monthly sample.

b UR – Unregulated

c AL – Action Level: Copper is 1.3 mg/L; Lead is 15ppb

d 95% of filter effluent samples <.3ntu and 100% maximum of 1 NTU.

e Primary Contaminant Levels (PMCL) for TTHMs & HAA_5s are base on a running average.

Results for the Upper Smith River WFP for 2009							
CONTAMINANTS	**MCLG**	**MCL**	**LEVEL FOUND**	**RANGE**	**VIOLATION**	**DATE OF SAMPLE**	**MAJOR SOURCE OF CONTAMINATION**
Microbiological							
Total Coliform (Distribution)	0	1 [a]	0	NA	None	Monthly	Naturally occurring in the environment.
Turbidity (NTU) (Filtered)	NA	TT [d]	100% sample <0.3ntu	0.02 to 0.08 (max)	None	Every 2 hours	Soil runoff
Inorganic Contaminants							
Nitrate (ppm)	10	10	0.12	NA	None	7/09	Runoff from fertilizer use: Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	0.85 avg.	0.68 to .99	None	Daily	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Metals Monitored @ Tap							
Copper (ppm) (Distribution)	1.3	1.3 [e]	0.047 @ 90th %	<0.020 – 0.096 All 60 samples below action level	None	10/09 – 12/09	Corrosion of household pumping. Erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (Distribution)	15	15 [e]	<2 @ 90th %	<2 -9 All 60 samples below action level	None	10/09 – 12/09	Corrosion of household pumping. Erosion of natural deposits
Organic							
Total Organic Carbon (TOC) - removal ratio	NA	TT-based on the % of TOC removed during the treatment process met when removal ratio is ≥ 1.0	1.0 minimum removal ratio	All quarterly ratios 1.0	None	Quarterly	Naturally present in the environment
Haloacetic Acid (HAA5) (ppb) (Distribution)	60	60	36 – highest 4 quarter avg.	17 to 53	None	Every 60 -90 days	By-product of drinking water disinfection
Total Trihalomethanes (TTHMs) (ppb) (Distribution)	NA	80	48 – highest 4 quarter avg.	14 to 114	None	Every 60-90 days	By-product of drinking water chlorination
Chlorine (ppm) (Distribution)	MRDLG=4	MRDL=4	1.22 highest quarterly avg.	0.01 to 2.17	None	Monthly	Water additive used to control microbes.
Radiological Monitoring							
Gross Alpha (pCi/L)	0	15	1.6	NA	None	3/03	Erosion of natural deposits
Gross Beta (pCi/L)	0	4 mrem/yr	2.6	NA	None	3/03	Decay of natural & man-made deposits
Combined Radium (pCi/L)	0	5	0.7	NA	None	3/03	Erosion of natural deposits

Results for January & February 2009 - 58 East, Axton							
CONTAMINANTS	**MCLG**	**MCL**	**LEVEL FOUND**	**RANGE**	**VIOLATION**	**DATE OF SAMPLE**	**MAJOR SOURCE OF CONTAMINATION**
Microbiological							
Total Coliform (Distribution)	0	1[a]	0	NA	None	Monthly	Naturally occurring in the environment.
Turbidity NTU (Filtered)	NA	TT [d]	Lowest monthly % of samples <0.3 =100	Max 0.31	None	Every 2 hours	Soil runoff
Inorganic							
Nitrate + Nitrite (ppm)	10	10	<0.05	NA	None	8/09	Runoff from fertilizer use; Leaching from septic tank use, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4 [a]	avg. 1.00 When Added	ND to 1.19	None	Daily	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Metals Monitored @ Tap							
Copper (ppm) (Distribution)	1.3	1.3 [e]	<0.047 @ 90th %	<0.020 – 0.096 All 60 samples below action level	None	10/09 - 12/09	Corrosion of household pumping. Erosion of natural deposits; leaching from wood preservatives
Lead (ppm) (Distribution)	15	15 [e]	<2 @ 90th %	<2 - 9 All 60 samples below action level	None	10/09 – 12/09	Corrosion of household pumping. Erosion of natural deposits
Organic							
Total Organic Carbon (ratio)	NA	TT-Based on % of removed during treatment process; Removal requirement are met when ratio ≥1.0	1.22 minimum rolling avg. removal ratio	1.24 to 1.64	None	Monthly	Naturally present in the environment.
Total Halocetic Acids (HAA5s) (ppb) (Distribution)	NA	60ppb	36 – highest 4 quarter avg.	17 to 53	None	Every 60-90 days	By-product of drinking water chlorination
Total Trihalomethanes (TTHMs) (ppb) (Distribution)	NA	80ppb	48 – highest 4 quarter avg.	14 to 114	None	Every 60-90 days	By-product of drinking water chlorination
Chlorine (ppm) (Distribution)	MRDLG=4	MRDL=4	1.10 highest monthly avg.	0.2 to 1.50	None	Monthly.	Additive used to control microbes.
Radiological Monitoring							
Alpha Emitters (pCi/L)	0	15	1.1	NA	None	4/03	Erosion of natural radioactive deposits
Beta Emitters (pCi/L)	0	50	2.3	NA	None	4/03	Decay of natural and man-made deposits
Combined Radium (pCi/L)	0	5	0.2	NA	None	4/03	Erosion of natural deposits

Results for 2009 - Sandy Level, Log Town							
CONTAMINANTS	**MCLG**	**MCL**	**LEVEL FOUND**	**RANGE**	**VIOLATION**	**DATE OF SAMPLE**	**MAJOR SOURCE OF CONTAMINATION**
Microbiological							
Total Coliform (Distribution)	0	1 [a]	0	NA	None	Monthly	Naturally occurring in the environment.
Turbidity (NTU) (Filtered)	NA	TT [d]	100% sample <0.3ntu	0.06 to 0.26	None	2009	Soil runoff
Organic							
Chlorine (Distribution) (ppm)	MRDLG=4	MRDL=4	.0.80- highest quarterly avg.	0.20 to 1.00	None	Monthly	Water additive used to control microbes
Total Organic Carbons	NA	TT- Based on % of removal during treatment process; Removal requirement are met when ratio ≥ 1.0	1.35	1.00 to 2.86	None	2009	Naturally present in the environment
Total-Trihalomethanes (TTHMs) (ppb) (Distribution)	80	80	76 highest 4 quarterly avg.	0 to 120	None	Quarterly	By-product of drinking water chlorination
Haloacetic Acids (HAAs) (ppb) (Distribution)	60	60	22 highest 4quarterly avg.	9 to 24	None	Quarterly	By-product of drinking water chlorination
Inorganic							
Fluoride (ppm)	4	4 [a]	1.33	0.03 to 1.33	None	2009	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (ppb)	2	2	0.4	NA	None	2009	Erosion of natural deposits: Water additive which promotes strong teeth: discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	<1.00	<1.00	None	2009	Runoff from fertilizer use; Leaching from septic tanks, sewage; erosion of natural deposits
Metals – Regulated @ Customers Taps							
Copper, (ppm)	1.3	1.3 [e]	0.077 @ 90th percentile	<0.05 -0.15 All 5 samples less than action level	None	9/09	Corrosion of household plumbing system; Erosion of natural deposits;
Lead, (ppb)	15	15 [e]	3.5 @ 90th percentile	<3 to 7 All 5 samples less than action level	None	9/09	Corrosion of household plumbing system; Erosion of natural deposits;