

# ***Annual Drinking Water Quality Report for 2014***

## **Pleasant Grove Subdivision PWS ID No. 5089638**

### **INTRODUCTION**

This Annual Drinking Water Quality Report for the 2014 calendar year 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).

If you have questions about this report, or if you 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:

Henry County Public Service Authority 2285 Fairystone Park Highway Bassett, VA 24055	Mr. Darrell Campbell Phone: 276.634.2555
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### **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. Contaminants in source water may be naturally occurring substances, or 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.

Contaminants 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 metals, which can be naturally-occurring or result from urban stormwater 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 stormwater runoff, and residential uses.
- **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 stormwater runoff, and septic systems.
- **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, the United States Environmental Protection Agency (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 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 EPA's Safe Drinking Water Hotline at 800.426.4791.

### **VULNERABLE POPULATIONS**

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).

### **SOURCE(S) AND TREATMENT OF YOUR DRINKING WATER**

The source of your drinking water is groundwater drawn from one drilled well located within the subdivision. The

water is treated with soda ash (pH adjustment) and an ortho-phosphate blend (sequesterant) for corrosion control purposes and a sodium hypochlorite solution for continuous disinfection.

A source water assessment of our system was conducted in 2002 by the Virginia Department of Health. The wells 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 within the last 5 years. The report is available by contacting your water system owner, Mr. Darrell Campbell at 276.634.2555.

## **WATER CONSERVATION TIPS**

Did you know that the average U.S. household uses approximately 350 gallons of water per day? Luckily, there are many low-cost or no-cost ways to conserve water. Water your lawn at the least sunny times of the day. Fix toilet and faucet leaks. Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath. Turn the faucet off while brushing your teeth and shaving; 3-5 gallons go down the drain per minute. Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!

## **DEFINITIONS**

Contaminants in your drinking water are routinely monitored according to federal and state regulations. The table on the next page shows the results of this monitoring for the period of January 1 through December 31, 2014. 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 detectable, based on the limits of the analytical equipment used.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or one 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 one 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 cloudiness 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 contaminants in drinking water.

*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 Contaminant Level (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 Residual Disinfectant Level Goal (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 contaminants.

*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.

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

## **WATER QUALITY RESULTS**

We routinely 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.

<b>Microbiological Contaminants</b>						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
<b>Total Coliform Bacteria</b>	0	1 positive monthly sample	<b>None Detected</b>	No	Monthly 2014	Naturally present in the environment
<b>Inorganic Contaminants</b>						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
<b>Nitrate (ppm)</b>	10	10	<b>2.3</b>	No	December 2014	Fertilizer use runoff; septic tanks / sewage leaching; erosion of natural deposits
<b>Barium (ppm)</b>	2	2	<b>0.082</b>	No	March 2014	Erosion of natural deposits, discharge from metal refineries, discharge from drilling wastes
<b>Radiological Contaminants</b>						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
<b>Alpha emitters (including uranium) (pCi/L)</b>	0	15	<b>2.1</b>	No	May 2012	Erosion of natural deposits
<b>Combined Radium (pCi/L)</b>	0	5	<b>&lt;0.6</b>	No	May 2012	Erosion of natural deposits
<b>Beta Emitters (pCi/L)</b>	0	50*	<b>5.8</b>	No	May 2012	Decay of natural and man-made deposits
<b>Disinfectants / Disinfection Byproducts</b>						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Exceedance	Date of Sample	Typical Source of Contamination
<b>Chlorine Residual (ppm)</b>	MRDLG 4	MRDL 4	Highest Quarterly Avg.: <b>0.63</b> Range: 0.5 to 0.8	No	Monthly 2014	Water additive for disinfection to control microorganisms
<b>Total Trihalomethanes -TTHM (ppb)</b>	N/A	80	<b>Not Detected</b>	No	September 2013	Byproduct of drinking water chlorination / disinfection
<b>Total Haloacetic Acids-HAA5 (ppb)</b>	N/A	60	Highest Level: <b>1.3</b> Range: ND to 1.3	No	September 2013	Byproduct of drinking water chlorination / disinfection
<b>Lead and Copper</b>						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Exceedance	Date of Sample	Typical Source of Contamination
<b>Copper (ppm)</b>	1.3	AL= 1.3	<b>0.04</b> (90th Percentile) Range: 0.02 to 0.04 All 5 samples were below the respective Action Level	No	September 2013	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Lead (ppb)</b>	0	AL= 15	<b>&lt;1</b> (90 <sup>th</sup> Percentile) Range: all samples <1 All 5 samples were below the respective detection level	No	September 2013	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Aesthetic Quality</b>						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Exceedance	Date of Sample	Typical Source of Contamination
<b>Iron (ppm)</b>	N/A	0.3	<b>0.42</b> See IRON note on following page	Yes	March 2014	Erosion of natural deposits

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

The results in the table are from testing done between 2012 and 2014. 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 results, though representative, are more than one year old.

The EPA 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-one-million chance of having the described health effect for other contaminants.

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

**IRON:** The presence of iron at the 0.42 ppm concentration may result in a rusty color of the water, reddish or orange staining and/or a metallic taste in the drinking water and products made with water such as coffee and tea.

**MANGANESE:** Based on a compliance sample collected in March 2014 manganese was detected at a concentration of 0.011 mg/L, which did not exceed the SMCL of 0.05 mg/L. It is frequently found in iron-bearing waters. The presence of manganese may result in dark brown to black staining and/or a metallic taste in the drinking water and/or products made with the water such as coffee and tea.

**TURBIDITY:** Turbidity in a compliance sample, also collected in March 2014, was 0.12 NTU. Turbidity is related to the clarity of water and should generally be less than 1 NTU at the point of entry to the distribution system for those groundwater supplies not under the influence of surface water runoff.

We are pleased to report to you that there were no detections of total coliforms or fecal coliforms in the monthly samples collected during calendar year 2014.

**ADDITIONAL INFORMATION FOR LEAD**

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 Henry County Public Service Authority 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 (800.426.4791) or at <http://www.epa.gov/safewater/lead>.

**ADDITIONAL INFORMATION PERTAINING TO THE WATER SUPPLY**

Due to the presence of total coliform bacteria and *Escherichia coli* (*E. coli*) in raw water samples collected from Well No. 1 in past sampling, as well as special source water monitoring during 2011/2012, the Well No. 1 source was declared to be a groundwater source under the direct influence of surface water on May 21, 2012 by the Virginia Department of Health. As such, to utilize the Well No. 1 source, the Henry County Public Service Authority (PSA) must eliminate the direct influence of surface water. **The PSA has decided to no longer pursue well rehabilitation or development of another groundwater source (well). Instead, a waterline extension from the Upper Smith River (Philpott) water supply has been approved with construction scheduled to begin in the summer of 2015.**

The source of the contamination of this well has not been determined and is not obvious but the influence from on-site sewage disposal systems associated with residences in the subdivision could be a suspected source, given the location of this well. **We want to emphasize that the Well No. 1 source is currently not being utilized as a water supply and there are no plans for returning this source to service. It was removed from service in November 2010, before the VDH declaration of being under direct influence of surface water.**

Although the Well No. 1 source was continuously chlorinated for disinfection purposes for many years and as a result there have been no detects of *E. coli* in any distribution system samples collected on a monthly basis, the Authority removed the Well No. 1 source from service. Well No. 2 is also continuously chlorinated and has no history of detection of *E. coli*.

*E. coli and fecal coliform* are bacteria whose presence indicates that the water maybe contaminated with human or animal wastes. Microbes in these wastes can cause short-term 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.

**VIOLATION INFORMATION**

The Pleasant Grove Subdivision water system did not receive any monitoring or operational violations during calendar year 2014.