

Annual Drinking Water Quality Report 2013
HARDY COUNTY PUBLIC SERVICE DISTRICT
Post Office Box 900
Moorefield, West Virginia 26836
PWS# WV3301607, WV3301608, WV3301609, WV3301610, WV3301611, WV3301612
March 25, 2014

Why am I receiving this report?

In compliance with the Safe Drinking Water Act Amendments, the **Hardy County Public Service District** is providing its customers with this annual water quality report. This report explains where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. The information in this report shows the results of our monitoring for the period of January 1st to December 31st, 2013 or earlier if not on a yearly schedule.

If you have any questions concerning this report, you may contact **Connie Sherman, Administrative Assistant, (304) 530-3048**. If you have any further questions, comments or suggestions, please attend any of our regularly scheduled water board meetings held on the **1st Wednesday** of every month at **10:00 a.m.** in the **conference room of our office located at 2094 US 220 South, Moorefield, WV**.

Where does my water come from?

Your drinking water is **purchased** from the Town of Moorefield which uses **surface** water from the South Fork and the South Branch of the Potomac River. Trout Run Road and Marvin Chapel drinking water is **purchased** from the Town of Wardensville which uses **ground** water from the Hawkins Farm Spring/Wardensville Spring originating at Anderson Ridge and two supplemental wells located near the Spring.

Source Water Assessment

A Source Water Assessment was conducted in 2003 by the West Virginia Bureau for Public Health(WVBPH). The intake that supplies drinking water to the **Town of Moorefield** has a higher susceptibility to contamination, due to the sensitive nature of surface water supplies and the potential contaminant sources identified within the area. This does not mean that this intake will become contaminated; only that conditions are such that the surface water could be impacted by a potential contaminant source. Future contamination may be avoided by implementing protective measures. The source water assessment report which contains more information is available for review or a copy will be provided to you at our office during business hours or from the WVBPH 304-558-2981.

A Source Water Assessment was conducted in 2007 by the West Virginia Bureau for Public Health (WVBPH). The intake that supplies drinking water to the **Town of Wardensville** has a moderate susceptibility to contamination, due to the sensitive nature of surface water supplies and the existing potential contaminant sources identified within the area. This does not mean that this intake will become contaminated; only that conditions are such that the surface water could be impacted by a potential contaminant source. Future contamination may be avoided by implementing protective measures. The source water assessment report which contains more information is available for review or a copy will be provided to you at their office during business hours or from the WVBPH (304) 558-2981.

Why must water be treated?

All drinking water contains various amounts and kinds of contaminants. Federal and state regulations establish limits, controls, and treatment practices to minimize these contaminants and to reduce any subsequent health effects.

Contaminants in Water

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. FDA regulations establish limits of contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these 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).

The source of drinking water (both tap and bottled water) includes rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals, and, in some cases radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

Radioactive contaminants, which can be naturally-occurring or the result of oil and gas production and mining activities.

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 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).

Water Quality Data Table

Definitions of terms and abbreviations used in the table or report:

- **MCLG - Maximum Contaminant Level Goal**, or 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.
- **MCL - Maximum Contaminant Level**, or 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 technique.

- **MRDLG - Maximum Residual Disinfectant Level Goal**, or the level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect benefits of use of disinfectants to control microbial contaminants.
- **MRDL - Maximum Residual Disinfectant Level**, or the highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary to control microbial contaminants.
- **AL - Action Level**, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **TT - Treatment Technique**, or a required process intended to reduce the level of a contaminant in drinking water.

Abbreviations that may be found in the table:

- **ppm** - parts per million or milligrams per liter
- **ppb** - parts per billion or micrograms per liter
- **NTU** - Nephelometric Turbidity Unit, used to measure cloudiness in water
- **NE** - not established
- **N/A** - not applicable

The **Town of Moorefield, Town of Wardensville and the Hardy County Public Service District** routinely monitor for contaminants in your drinking water according to federal and state laws. The tables below show the results of our monitoring for contaminants.

Table of Test Results - Regulated Contaminants – Town of Moorefield Water System

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity (Plant #1)	N	0.07 100% of monthly samples <0.28	NTU	0	TT	Soil runoff
Turbidity (Plant #2)	N	0.06 100% of monthly samples <0.23	NTU	0	TT	Soil runoff
Total organic carbon (Plant #1)	N	1.2	ppm	NA	TT	Naturally present in the environment

Total organic carbon (Plant #2)	N	1.2	ppm	NA	TT	Naturally present in the environment
Inorganic Contaminants						
Nitrate (Plant #1)	N	0.88	ppm	10	10	Runoff from fertilizer use; erosion of natural deposits
Nitrate (Plant #2)	N	0.86	ppm	10	10	Runoff from fertilizer use; erosion of natural deposits
Barium (Plant #1)	N	0.0646	ppm	0	2	Erosion of natural deposits & discharge of drilling waste
Barium (Plant #2)	N	0.0601	ppm	0	2	Erosion of natural deposits & discharge of drilling waste
Flouride (Plant #2)	N	0.07	ppm	4	4	Erosion of natural deposits & water additive that promotes strong teeth
Volatile Organic Contaminants						
Chlorine (Plant #1)	N	1.11 Yearly Avg. Range 0.76 – 1.5	ppm	4 MRDLG	4 MRDLG	Water additive used to control microbes
Chlorine (Plant #2)	N	1.15 Yearly Avg. Range 0.8 – 1.7	ppm	4 MRDLG	4 MRDLG	Water additive used to control microbes
Haloacetic acids (HAAC5)	N	29.3	ppb	NA	60	By-product of drinking water disinfection
Total trihalomethanes (TTHMs)	N	52.0	ppb	NA	80	By-product of drinking water chlorination

Table of Test Results - Unregulated Contaminants

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Sodium (Plant #1)	N	3.26	ppm	NE	20	Erosion of natural deposits
Sodium (Plant #2)	N	3.18	ppm	NE	20	Erosion of natural deposits
Sulfate (Plant #1)	N	15.4	ppm	250	250	Erosion of natural deposits
Sulfate (Plant #2)	N	15.0	ppm	250	250	Erosion of natural deposits

Table of Test Results - Regulated Contaminants – Town of Wardensville

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants						
Nitrate	N	0.16	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Barium	N	0.028	ppm	0	2	Erosion of natural deposits & discharge of drilling waste
Volatile Organic Contaminants						
Chlorine	N	1.47 Annual Avg. Range .9 – 2.0	ppm	4 MRDLG	4 MRDLG	Water additive used to control microbes
Haloacetic acids (HAAC5)	N	10.91	ppb	NA	60	By-product of drinking water disinfection
Total trihalomethanes (TTHMs)	N	17.67	ppb	NA	80	By-product of drinking water chlorination

Table of Test Results - Unregulated Contaminants

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Sodium	N	2.83	ppm	NE	20	Erosion of natural deposits

Table of Test Results - Regulated Contaminants – Hardy County Public Service District – US 220 South (WV3301607)

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Volatile Organic Contaminants						
Chlorine	N	1.01 Annual Avg. Range .4 – 1.7	ppm	4 MRDLG	4 MRDLG	Water additive used to control microbes

Haloacetic acids (HAAC5)	N	36.8 Annual Avg. Range 30.1 – 51.2	ppb	NA	60	By-product of drinking water disinfection
Total trihalomethanes (TTHMs)	N	26.525 Annual Avg. Range 20.2 – 32.3	ppb	NA	80	By-product of drinking water chlorination
Inorganic Contaminants						
Copper*	N	0.0782	ppm	1.3	AL=1.3	Corrosion of household plumbing; erosion of natural deposits
Lead*	N	1.8	ppb	0	AL=15	Corrosion of household plumbing

*Copper and lead samples were collected from ten area residences on 8/21/13. Only the 90th percentile is reported. None of the samples exceeded the MCL.

Table of Test Results - Regulated Contaminants – Hardy County Public Service District – US 220 North (WV3301608)

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Volatile Organic Contaminants						
Chlorine	N	1.04 Annual Avg. Range .4 – 1.8	ppm	4 MRDLG	4 MRDL	Water additive used to control microbes
Haloacetic acids (HAAC5)	N	51.05 Annual Avg. Range 36.9 – 72.4	ppb	NA	60	By-product of drinking water disinfection
Total trihalomethanes (TTHMs)	N	38.675 Annual Avg Range 26.2 – 67.0	ppb	NA	80	By-product of drinking water chlorination

Inorganic Contaminants						
Lead*	N	0.8	ppb	0	AL=15	Corrosion of household plumbing
Copper*	N	0.0438	ppm	1.3	AL=1.3	Corrosion of household plumbing; erosion of natural deposits

*Copper and lead samples were collected from ten area residences on 8/21/13. Only the 90th percentile is reported. None of the samples exceeded the MCL.

Table of Test Results - Regulated Contaminants – Hardy County Public Service District – Trout Run Road (WV3301609)

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants						
Lead*	N	1.1	ppb	0	AL=1.5	Corrosion of household plumbing
Copper*	N	0.660	ppm	1.3	AL=1.3	Corrosion of household plumbing; erosion of natural deposits
Volatile Organic Contaminants						
Chlorine	N	1.49 Annual Avg. Range 1.0 – 2.2	ppm	4 MRDLG	4 MRDL	Water additive used to control microbes
Haloacetic acids (HAAC5)	N	16.5	ppb	NA	60	By-product of drinking water disinfection
Total trihalomethanes (TTHMs)	N	15.8	ppb	NA	80	By-product of drinking water chlorination

*Copper and lead samples were collected from five area residences on 8/21/13. Only the 90th percentile is reported. None of the samples exceeded the MCL.

Table of Test Results - Regulated Contaminants – Hardy County Public Service District – WV State Route 55 (WV3301610)

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Volatile Organic Contaminants						
Chlorine	N	0.98 Annual Avg. Range .4 – 1.7	ppm	4 MRDLG	4 MRDL	Water additive used to control microbes

Haloacetic acids (HAAC5)	N	39.2 Annual Avg. Range 23.0 – 55.9	ppb	NA	60	By-product of drinking water disinfection
Total trihalomethanes (TTHMs)	N	36.375 Annual Avg. Range 25.1 – 54.2	ppb	NA	80	By-product of drinking water chlorination
Inorganic Contaminants						
Lead*	N	0.6	ppb	0	AL=15	Corrosion of household plumbing
Copper*	N	0.0241	ppm	1.3	AL=1.3	Corrosion of household plumbing; erosion of natural deposits

*Copper and lead samples were collected from ten area residences on 8/21/13. Only the 90th percentile is reported. None of the samples exceeded the MCL.

Table of Test Results - Regulated Contaminants – Hardy County Public Service District – South Fork (WV3301611)

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants						
Lead*	N	8.5	ppb	0	AL=15	Corrosion of household plumbing
Copper*	N	0.0109	ppm	1.3	AL=1.3	Corrosion of household plumbing; erosion of natural deposits
Volatile Organic Contaminants						
Chlorine	N	1.0 Annual Avg. Range .4 – 1.7	ppm	4 MRDLG	4 MRDL	Water additive used to control microbes
Haloacetic acids (HAAC5)	N	42.958 Annual Avg. Range 37.2 – 52.1	ppb	NA	60	By-product of drinking water disinfection

Total trihalomethanes (TTHMs)	N	35.175 Annual Avg Range 23.6 – 58.2	ppb	NA	80	By-product of drinking water chlorination
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*Copper and lead samples were collected from five area residences on 08/21/13. Only the 90th percentile is reported. None of the samples exceeded the MCL.

Table of Test Results - Regulated Contaminants – Hardy County Public Service District –Marvin Chapel (WV3301612)

Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants						
Copper*	Y	1.35	ppm	1.3	AL=1.3	Corrosion of household plumbing
Lead*	N	1.2	ppb	0	AL=15	Corrosion of household plumbing
Volatile Organic Contaminants						
Chlorine	N	.8925 Annual Avg. Range 0.4 – 1.5	ppm	4 MRDLG	4 MRDLG	Water additive used to control microbes
Haloacetic acids (HAAC5)	N	3.8	ppb	NA	60	By-product of drinking water disinfection
Total trihalomethanes (TTHMs)	N	7.62	ppb	NA	80	By-product of drinking water chlorination

*Copper and lead samples were collected from 5 area residences on 4/18/13. Only the 90th percentile is reported. Three samples exceeded the MCL for copper.

During the reporting year the **Town of Moorefield** received a “Notice of Violation” letter from WVBPH for failing to monitor for radio nuclides. The Town of Moorefield has taken every precaution and made every effort to return to compliance.

Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta particles and photon radioactivity in excess of the MCL over many years may have an increased risk of getting cancer.

Some people who drink water containing radium 226 and/or radium 228 in excess of the MCL over many years may have an increased risk of getting cancer.

The Town of Moorefield tested for radio nuclides on February 12, 2014, with detects well below the MCL. Therefore, they have returned to compliance and the “Notice of Violation” has been rescinded.

The Town of Moorefield’s past history for radio nuclides has never indicated any violations of the MCL and detected values have always been well below the MCL.

During the reporting year 2013 **Hardy County PSD** received a “Notice of Violation” letter from WVBPH for exceeding the MCL for copper in the Marvel Chapel water system. We have taken every precaution to bring our system into compliance. Also, we have provided information to the offending households on copper remediation in their household plumbing.

Please note that copper and lead contamination does not originate in our distribution system but in the corrosion of individual household plumbing systems.

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

Additional Information

All other water test results for the reporting year 2013 were all non-detects.

Turbidity is a measure of the cloudiness in drinking water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.

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 Hardy County PSD** 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 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking 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>.

This report will not be mailed. A copy will be provided to you upon request at our office during regular business hours.