2015 Annual Drinking Water Quality Report
System ID# MD0060006
The Town of Manchester, Maryland
June 24, 2016

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.

The Town of Manchester is pleased to present to you, the consumer, our 2015 Annual Drinking Water Quality Report. This report is designed to inform you about the quality of water and services the Town of Manchester delivers to you every day. Our constant goal is to provide you and your family with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water sources. We at the Town of Manchester Water Department are committed to ensuring the quality of your water.

We at the Town of Manchester are pleased to report that our drinking water is safe and meets Federal and State requirements. The following report is in compliance with Federal regulations and will be provided annually. This report outlines the quality of our finished drinking water and what that quality means. Should you have any questions concerning your water utility, please contact Donald Nott, Director of Public Works at 410-239-1482 between the hours of 8:00 AM - 4:00 PM Monday - Friday. If you want to learn more, please attend any of our regularly scheduled Town Council meetings. They are scheduled on the 2nd Tuesday of every month at 7:30 PM at the Town Hall, 3208 York Street.

The Town of Manchester currently withdraws its' water from 18 Groundwater Sources (Wells) and 1 Surface Water Source (Springs). These sources are identified as: Holland Drive Well, Bachman Road Well, Patricia Court Well, Park Ridge Well A, Park Ridge #13 Well B, 2 wells at Hallie Hills #14, Crossroads Overlook Well #1, Crossroads Overlook Well # 2, Manchester Farms 2 Well #10, Hallie Hills Well #11, Walnut Street Spring and 3 wells on Ferrier Road, 3 Wells at Manchester Valley High School. One thing to remember is that Well Sources are columns that are drilled into the earth to an aquifer, this aquifer is tapped and the water is then pumped to the surface for distribution. Surface Water Sources are shallow water sources that are closer to the earth's surface; this water is collected in an underground tank called a cistern, treated, and is then ready for distribution. All of the Wells and the Walnut Street Spring are in the Gillis Group Formation Aquifer, with the exception of the Bachman Road Well which is in the Sam's Creek Formation Aquifer.

Summary

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted a Source Water Assessment for the Town of Manchester. The required components of this report as described in Maryland's Source Water Assessment Plan (SWAP) are: 1) delineation of an area that contributes water to the source, 2) identification of potential sources of contamination, and 3) determination of the susceptibility of the water supply to contamination. Recommendations for protecting the drinking water supply conclude this report.

The source of Manchester's water supply is an unconfined fractured rock aquifer, known as the Upper Pelitic Schist. The system currently uses eighteen wells and one spring to obtain its drinking water. The Source Water Assessment Area was delineated by the Carroll County Bureau of Water Resources Management and the Water Supply Program using U.S. EPA approved methods specifically designed for each source.

Potential sources of contamination within the assessment area were identified based on site visits, database reviews and land use maps. Well information and water quality data were also reviewed. Figures showing land uses and potential contaminant sources within the Source Water Assessment Area and an aerial photograph of the well locations are available for review at the Town Hall.

The susceptibility analysis for Manchester's water supply is based on a review of the water quality data, potential sources of contamination, aquifer characteristics, and well and spring integrity. It was determined that all of Manchester's water supply sources are susceptible to contamination by nitrates, volatile organic compounds, and radon, but not to synthetic organic compounds, other radionuclides or inorganic compounds. It was also determined that all of Manchester's water supply sources are not susceptible to protozoans except for Crossroads Well 1. In addition, Bachman Rd., Patricia Ct. and Walnut St. Wells and Hillside are susceptible to total coliform.

The Town of Manchester's Water Department routinely monitors for contaminants in your drinking water according to Federal and State laws. The information on the following pages shows the results of our monitoring period of January 1st to December 31st, 2015. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. As water travels over the land or underground, it can pick up these substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It is important to remember that the presence of these contaminants **does not necessarily** pose a health risk.

Definitions

In this report you may find many terms and abbreviations you might not be familiar with. To better understand these terms we have provided the following definitions:

Non-Detects (N/D) - laboratory analysis indicates that the contaminant is not present.
Not-Applicable (N/A)- laboratory analysis was not required for this contaminant.
Parts per million (ppm) or Milligram 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.
Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per quadrillion corresponds to one minute in 2,000,000 years.
Parts per quadrillion (ppq) or Picograms per liter (picograms/l)- 1 part per quadrillion corresponds to 1minute in 2,000,000,000 years.
Picocuries per liter (pCi/l)- picocuries per liter is a measure of the radioactivity in water.
Millirems per year (mrem/yr)- measure of radiation absorbed by the body.
Million Fibers per Liter (MFL)- million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
Nephelometric Turbidity Unit (NTU) - unit to measure the clarity of water.
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 treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Maximum Contaminant Level - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
Maximum Contaminant Level Goal - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Contaminant Levels

Maximum Contaminant Levels (MCL's) are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 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 at 1-800-426-4791.

Non-Detected Contaminants

The following is a list of potential drinking water contaminants that the Town of Manchester is required to test for, but which **have not been detected** in the water supply in the past year. The Town is only required to provide information on those contaminants it has detected in the finished water supply, but is providing the complete list in order to better inform its customers about the extent of testing that is done to their water.

Contaminant	Contaminant	Contaminant
1. Total Coliform Bacteria	26. Di(2-ethylhexyl) adipate	51. Chlorobenzine
2. Fecal Coliform and E.Coli	27. Di(2-ethyhexyl) phthalate	52. o-Dichlorobenzine
3. Antimony	28. Dibromochloropropane	53. p-Dichlorobenzine
4. Arsenic	29. Dinoseb	54. 1,2-Dichlroethane
5. Asbestos	30. Diquat	55. 1,1-Dichloroethylene
6. Barium	31. Dioxin	56. cis-1,2-Dichloroethylene
7. Beryllium	32. Endothall	57. trans-1,2-Dichloroethylene
8. Cadmium	33. Endrin	58. Dichloromethane
9. Chromium	34. Epichlorohydrin	59. 1,2-Dichloropropane
10. Cyanide	35. Ethylene Dibromide	60. Ethybenzine
11. Fluoride	36. Glyphosate	61. Styrene
12. Lead	37. Heptachlor	62. Tetrachloroethylene
13. Mercury	38. Heptachlor epoxide	63. 1,2,4-Trichlorobenzine
14. Nitrite	39. Hexachlorobenzine	64. 1,1,1- Trichloroethane
15. Selenium	40. Hexachlorocyclopentadiene	65. 1,1,2- Trichloroethane
16. Thallium	41. Lindane	66. Trichloroethylene
17. 2,4-D	42. Methoxychlor	67. Total Trihalomethanes
18. 2,4,5-TP	43. Oxamyl	68. Tolulene
19. Acrylamide	44. PCB's	69. Vinyl Chloride
20. Alachlor	45. Pentachlorophenol	70. Xylenes
21. Atrazine	46. Piclloram	
22. Benzo(a)pyrene	47. Simazine	
23. Carbofuran	48. Toxaphene	
24. Chlordane	49. Benzene	
25. Dalapon	50. Carbon Tetrachloride	

Detected Contaminant NOT in Violation of the MCL

The Town of Manchester also found Nitrates to be present in the water at a level that is in compliance with the MCL, and does not constitute a known threat to public health. The levels listed below for Nitrates **does not** constitute a violation of the Maximum Contaminant Level (MCL) of 10 ppm, but because the levels that were detected was more than half the allowable MCL, we are required to outline the potential health effects of nitrates in drinking water.

Contaminant	Location	Level Detected	MCLG	MCL	Likely Source of Contamination
Nitrate (As Nitrogen)	Holland Dr. Well	5.8 ppm	0	10	Runoff from fertilizer use, septic tank
	Bachman Rd. Well	4.5 ppm	0	10	leaching, erosion of natural deposits.
	Patricia Ct. Well	8.2 ppm	0	10	
	Park Ridge A	8.1 ppm			
	Park Ridge B	6.3 ppm			
	Walnut St. Spring	5.8 ppm	0	10	
	Crossroads Overlook # 1	3.8 ppm	0	10	
	Crossroads Overlook # 2	4.5 ppm	0	10	
	Manchester Farms Well	4.3 ppm	0	10	
	Halllie Hill	6.7 ppm	0	10	
	Hallie Hill II	3.6 ppm	0	10	
	Ferrier Rd. A	2.6 ppm	0	10	
	B	1.2 ppm	0	10	
	C	1.7 ppm	0	10	
	MVHS	2.6 ppm	0	10	

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Lead and Copper

In September of 2014 the Town of Manchester sampled for Lead and Copper in the distribution system. All Lead and Copper results were below the MCL at the 90th percentile. Major sources of Copper in drinking water is corrosion of household plumbing systems, or erosion of natural deposits. Copper is an essential nutrient, but some people who drink water containing Copper in excess of the MCL over a 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 or kidney damage. Person's with Wilson's Disease should consult their personal doctor. The next testing date is September 2017.

Radon

The Town of Manchester monitors the water supply for various contaminants. The Town of Manchester has detected Radon in the finished water supply in 7 out of 12 locations tested. Results were: Walnut 2020pC/L, Holland Drive Well 4500pC/L, Patricia Ct. Well 5050pC/L, Ferrier Road 4300pC/L, Park Ridge 1975p/CL, Crossroads Overlook #2 4000 pC/L, and Manchester Farms 2945pC/L. At the current time Federal regulation for Radon standards in drinking water have been proposed, the proposed levels may be between 300 - 4000 pC/L. Radon is a radioactive gas that you can't see, taste, or smell. It is found all over the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your state radon program or call EPA's Radon Hotline at 1-800-SOS-RADON.

Educational Information

Drinking water, including bottled 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 about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791)

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-comprised persons such as persons with cancer undergoing chemo-therapy, 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 microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791). The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the 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 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, 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.

Violations

We at the Town of Manchester are proud that your drinking water meets or exceeds all Federal and State requirements.

What The Future Holds !!!!

The Town of Manchester is continually making strides to up-grade your water system. The Town of Manchester is also continuing our exploration of new water sources for the Town to enhance the current system.

To keep making these improvements to your water system, and to maintain a safe and dependable supply, the costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary and dictated by the State in order to continually make improvements.

We at the Town of Manchester work very hard and diligently to provide top quality water to every tap. We ask that all our customers help us to protect all of our water sources, which are the heart of our community, our way of life, and our children's future.

Thank-you again for allowing us to continue providing you and your family with clean, quality water in 2015.

Again, should you have any questions about this report, please contact:
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