

City of Brodhead Drinking Water Quality Report

The Brodhead Water Works and The Brodhead Council are proud to present to you our second annual water report. This report will be provided to you each year. This report is designed to inform you about our water and services we deliver to you every day. Our everyday goal is to provide you with a safe and dependable supply of drinking water. We continually try to improve our process and protect our water resources. Every water company is dedicated to ensuring the quality of water that we provide to you and your family. The Brodhead Water Works purchases water from the City of Mt. Vernon, which is treated surface water from Lake Lurville, located at Renfro Valley.

I, Mayor Walter Cash, am pleased to report that our drinking water is safe and meets federal and state requirements. I'm pleased to inform you that we will continue our best efforts, to supply you with excellent water quality.

If you have any questions about this report or concerning your water utility, please contact Carlos Caldwell at 606-758-9866, or Rebecca Buswell at 606-758-8633, between the hours of 9:00 a.m. and 5:00 p.m. Monday through Friday. We will also provide to you a copy of our water report in its entirety upon request. This is available at City Hall, located at 7 West Main Street in Brodhead. Each person is a valued customer and we want you to be informed about our water utility. If you want to learn more you may also attend any of our regular meetings. Regular meetings are held on the second Monday night each month, at City Hall at 7:00 p.m.

Brodhead Water Works routinely monitors for constituents in your drinking water according to Federal and State laws, as does our water supply system, Mt. Vernon Water Works. The following table shows the results of our monitoring for the period of January 1, 1999 to December 31, 1999. Some dates are from testing in 1997, these are noted by dates and are required by law only every 3 years. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the following table, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

- AL= Action Level
- MCL= Maximum Contaminant Level
- MCLG= Maximum Contaminant Level Goal
- MFL= Million fibers per liter
- MU= Million units per year
- NIU= Nephelometric turbidity unit
- PCU/l= picocuries per liter (a measure of radioactivity)
- PPM= parts per million, or milligrams per liter (mg/l)
- PPB= parts per billion, or micrograms per liter (ug/l)
- PPt= parts per trillion, or Nanograms per liter
- PPq= parts per quadrillion, or picograms per liter
- TT= Treatment Technique
- Non-Detects (ND)- laboratory analysis indicated that the constituents 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 \$10,000,000.
- 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.
- Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years, or one penny in \$10,000,000,000,000.
- 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 Units (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.
- Variance & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions. (Only systems with a variance or exemption are REQUIRED to include this definition. In addition, it is REQUIRED to provide an explanation of the reasons for the variance or exemption, date issued, status or reauthorization.)
- Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT) (mandatory language) a treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- Maximum Contaminant Level - (mandatory language) the "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set close to the MCLG's as feasible using the best available treatment technology.

All 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 the 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 at 800-426-4791.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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.

As our water supplier, Mt. Vernon Water Works, and your local water supplier, Brodhead Water Works maintains a continuing effort to have a safe and dependable water supply. It may be necessary at times to make improvements in the water system. At the present time the water plant, Mt. Vernon Water Works, located at Renfro Valley is being upgraded from 1.7 million gallons per day to 4 million gallons per day.

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 from cryptosporidium and other waterborne microbiological contaminants are available from the Safe Drinking Water Hotline. The number to reach the Safe Drinking Water Hotline is 800-426-4791.

Total Coliform: The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If the limit is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulation, we have increased the average amount of chlorine in the distribution system.

Nitrates: As a precaution we always notify physicians and health care providers in this area if test is over a higher than normal level of nitrates in the water supply.

Lead:

Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

Mayor Cash and the Employees of the Brodhead Water Works, work with continuing effort to provide top quality water to every tap in our system. We ask that all customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

For further information or if you have questions, please feel free to call 758-8635, and every effort possible will be made to answer your questions.

Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their liver, kidneys, or central nervous systems, and may have increased risk of getting cancer.

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A special alert: The water system was not certified until November 1996 that some of the sampling, monitoring, and reporting conducted by the water system had been rejected by the Federal EPA. This has resulted in a violation. Monitoring had been performed in 1996 for the same parameters and all results indicated undetectable values. Monitoring for the full list of constituents will continue in the future.

UNREGULATED CONTAMINANTS TEST RESULTS			
This table contains test results on unregulated contaminants during the previous five years.			
Contaminant (code)	Unit	Average	Range
Unregulated Contaminants			
1. Aldrin [2136]	MG/L	0.001	N/A
2. Bromobenzene [2993]	MG/L	0.005	N/A
3. Bromochloroethane [2943]	MG/L	0.005	0.005-0.006
4. Bromoform [2940]	MG/L	0.005	N/A
5. Bromonaphthalene [2210]	MG/L	0.001	N/A
6. Butachlor (Machno) [2070]	MG/L	0.002	N/A
7. Carboaryl [2A10]	MG/L	0.003	0.001-0.010
8. Chloroethane [2216]	MG/L	0.002	N/A
9. Chloroform [2941]	MG/L	0.04	0.010-0.083
10. Dibromochloroethane (Chlorodibromo) [2944]	MG/L	0.005	N/A
11. Dibromonaphthalene [2408]	MG/L	0.005	N/A
12. Dicamba [2440]	MG/L	0.004	0.001-0.005
13. Dieldrin [2070]	MG/L	0.001	0.001-0.002
14. m-Dichlorobenzene (1,3-) [2967]	MG/L	0.005	N/A
15. Methomyl [2A12]	MG/L	0.002	0.001-0.002
16. Methylchloride (Chloromethane) [2210]	MG/L	0.001	N/A
17. Meliobchlor [2045]	MG/L	0.001	N/A
18. Metribolun (Secor) [2959]	MG/L	0.009	0.001-0.023
19. o-Chloroethane [2965]	MG/L	0.005	N/A
20. p-Chloroethane (1,4-) [2966]	MG/L	0.005	N/A
21. Propachlor (Ramrod) [2077]	MG/L	0.003	0.001-0.006
22. 1,1-Dichloroethane [2978]	MG/L	0.005	N/A
23. 1,1-Dichloroethene [2410]	MG/L	0.005	N/A
24. 1,1,1-Trichloroethane [2960]	MG/L	0.005	N/A
25. 1,1,2-Trichloroethane [2988]	MG/L	0.005	N/A
26. 1,1,3-Trichloroethane [2416]	MG/L	0.003	N/A
27. 1,2-Dichloroethane [2412]	MG/L	0.005	N/A
28. 1,2-Dichloroethene [2413]	MG/L	0.005	N/A
29. 2,2-Dichloroethane [2416]	MG/L	0.005	N/A
30. 3-Hydroxyacetophenone [2A11]	MG/L	0.003	0.001-0.010

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation Y/N	Likely Source
1. Turbidity (NTU)	Never more than 5 NTU Less than 0.5 NTU 95% of samples each month.	3.0	89.5	Y	START UP OF NEW FILTERS

REGULATED CONTAMINANT TEST RESULTS

Contaminant (code) (unit)	MCL	MCLG	Highest Detection	Range	Date of Sample	Violation	Likely Source of Contamination
Microbiological Contaminants							
2. Total Coliform Bacteria (100) (100%) (positive samples)	5%	0	0.0001	NA	2/03/99	N	Naturally present in the environment

Radioactive Contaminants							
3. Alpha emitters (4000) (pCi/l)	15	0	1.3	ND-1.3	9/13/99	N	Erosion of natural deposits

Inorganic Contaminants							
4. Asbestos (MFL)	7	7	0.195	ND-0.195	7/31/99	N	Decay of asbestos on water main; erosion of cement deposits
5. Fluoride [1033] (ppm)	4	4	1.22	0.62-1.22	2/02/99	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

6. Nitrate (as Nitrogen) [1040] (ppm)	10	10	1.1	ND-1.1	3/24/99	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
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7. Nitrite (as Nitrogen) [1041] (ppm)	1	1	0.13	ND-0.13	5/26/99	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
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Synthetic Organic Contaminants including Pesticides and Herbicides							
8. DCP-ethylhexyl phthalate [2039] (ppb)	5	0	0.0009	ND-0.9	2/26/99	N	Discharge from rubber and chemical factories

Volatile Organic Contaminants							
9. Carbon tetrachloride [2982] (ppb)	5	0	0.6	ND-0.006	12/2/99	N	Discharge from chemical plants and other industrial activities
11. THM's (total trihalomethanes) (ppb)	100 (80)*	0	87	18-140	2nd Quarter 1999	N	By-product of drinking water chlorination

UNREGULATED CONTAMINANTS TEST RESULTS			
Contaminant (code)	Unit	Average	Range
12. Bromochloroethane [2943]	ppb	6.7	5.2-8
13. Chloroform [2941]	ppb	54	21-86
14. Dibromochloroethane (Chlorodibromo) [2944]	ppb	0.6	ND-0.6

- (1) Turbidity: Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
- (11) The current MCL for total trihalomethanes (THM) is 100 ppb but will change to 80 ppb in the year 2001. Although the THM level in our water is below the current MCL it has been detected above the future MCL as we are including health effects language.

Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their liver, kidneys, or central nervous systems, and may have increased risk of getting cancer.