Village of

Germantown

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DEPARTMENT OF PUBLIC WORKS

Annual Germantown Water Quality Report

WATER QUALITY MEETS ALL REGULATORY STANDARDS

In the year 2016, the Germantown Water Utility (GWU) conducted all DNR required tests to ensure the safety and quality of the drinking water delivered to our customers. All laboratory analysis indicated that the water provided by the Utility met all Federal and State drinking water standards.

This report summarizes the water quality provided to customers in 2016. It also includes details about where your water comes from, what has been detected in your water and how that compares to regulatory standards. We are committed to providing you with useful information.

SPECIAL HEALTH INFORMATION AVAILABLE

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 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. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

HEALTH EFFECTS FOR ANY CONTANINANTS WITH MCL VIOLATION/ACTION LEVEL EXCEEDANCES

Infants and young children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Additional health Information

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. Germantown Water Utility 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 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 Safe Drinking Water Hotline at (800) 426-4791 or at ww.epa.gov/safewater/lead.

DETECTED CONTAMINANTS

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date If the contaminant was not monitored last year, but was detected within the dast 5 years, it wil appear in the tables along with the sample date.

CUSTOMER QUESTIONS WELCOME

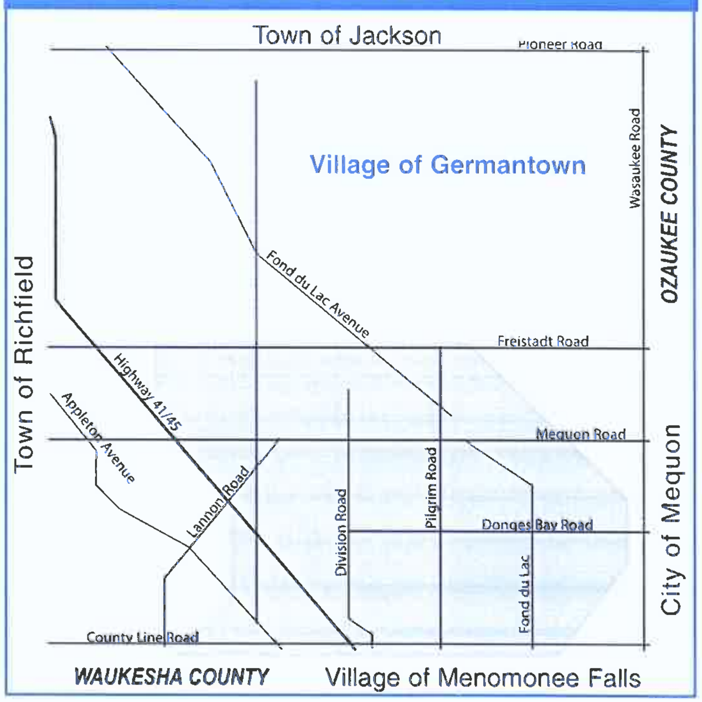
Numerous opportunities exist to learn more about the GWU and water quality. If you have any questions about drinking water quality, this report, tour information or public works committee meetings, please call (262) 250-4703 or (262) 250-4720

SOURCE OF GERMANTOWN'S DRINKING WATER

Germantown draws drinking water from both the sandstone and limestone aquifers, a groundwater source, via six wells. The GWU owns the land around these wells and restricts any activity that could lead to contamination. As water flows through rivers and lakes and over landsurfaces, naturally occurring substances may be dissolved into the water. Animals and human activities also may affect the water. These substances are then called contaminants. Not all contaminants are harmful. For example, the following contaminants might exist in "untreated" water. Inorganic contaminants, such as salts and metals; biological contaminants, such as viruses, protozoa and bacteria; organic chemicals from industrial or petroleum use; pesticides and herbicides; and radioactive materials. To ensure tap water is safe to drink, the EPA and WDNR prescribe regulations, which limit the amount of certain contaminants in water provided by public water systems. The GWU is in compliance with all EPA and WDNR standards.

Drinking water (including bottled water) may be reasonably 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 Safe Drinking Water Hotline at (800) 426-4791.

GERMANTOWN WATER UTILITY SERVICE AREA



SOURCE(S) OF WATER

SOURCE ID	SOURCE	DEPTH	STATUS
2	Ground Water	342	Active
3	Ground Water	1282	Active
4	Ground Water	1271	Active
5	Ground Water	415	Active
7	Ground Water	370	Active
11	Ground Water	1401	Active

COSTS OF LEAKY PIPES

SIZE OF HOLE	GALS/MIN	GALS/DAY	GALS/YR	COST/YR
(0.1 INCH)	2.1	3,012	1,099,246	$ 2,198
(0.2 INCH)	8.4	12,047	4,396,983	$ 8,793
(0.3 INCH)	18.8	27,105	9,893,211	$ 19,786
(0.4 INCH)	33.5	48,186	17,587,930	$ 35,175

Above based on 60PSI and $2 per 1000 gallons pumping cost. If leak is escaping into a sanitary main, these costs will more than double.
(Numbers will vary slightly due to rounding).

TREATED WATER QUALITY

Listed on the following pages are contaminates detected in Germantown's drinking water during 2016.

The state allows the GWU to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data though representative, are more than one year old.

HOW TO READ THE ANNUAL GERMANTOWN WATER QUALITY TABLE

1. Read the definitions on the back page to better understand this table.
2. Choose a "contaminant" on the table.
3. Check the "ideal Goal" (Maximum Contaminant Level Goal) for that substance.
4. Note the "Highest Level Allowed" (Maximum Contaminant Level).
5. Compare the contaminant "Level Detected" in Germantown's water supply to the Ideal Goal and the Highest Level Allowed

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DISINFECTION BYPRODUCTS

CONTAMINANT (Units)	SITE	MCL (Highest Level Allowed)	MCLG (Ideal Goals)	LEVEL FOUND	RANGE	SAMPLE DATE (If prior to '16)	VIOLATION	TYPICAL SOURCE OF CONTAMINANT
HAA5 (ppb)	D-14	60	60	2	2		NO	By-product of drinking water chlorination
TTHM (ppb)	D-14	80	0	3.4	3.4		NO	By-product of drinking water chlorination
HAA5 (ppb)	D-16	60	60	2	2		NO	By-product of drinking water chlorination
TTHM (ppb)	D-16	80	0	0.8	0.8		NO	By-product of drinking water chlorination

INORGANIC CONTAMINANTS

CONTAMINANT (Units)	SITE	MCL (Highest Level Allowed)	MCLG (Ideal Goals)	LEVEL FOUND	RANGE	SAMPLE DATE (If prior to '16)	VIOLATION	TYPICAL SOURCE OF CONTAMINANT
Antimony (ppb) Total		6	6	0.3	0.0 - 0.3	8/27/2014	NO	Discharge from petroleum refineries; fire retardants; cermics; electronics; solder
Arsenic (ppb)		10	n/a	1	0 - 1	8/27/2014	NO	Erosion of natural deposits; Runoff form orchards; Runoff from glass and electronics production wastes
Barium (ppm)		2	2	0.120	0.013- 0.120	8/27/2014	NO	Discharge fof drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Cadmium (ppb)		5	5	0.1	0.0 - 0.1	8/27/2014	NO	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries: runoff from waste batteries and paints
Fluoride (ppm)		4	4	0.5	0.2 - 0.5	8/27/2014	NO	Erosion of natural deposits; Water additives which promotes stong teeth; Discharge from fertilizer and aluminum factories
Nickel (ppb)		100		4.6000	0 .5000 - 4.6000	8/27/2014	NO	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products
Nitrate (N03-N) (ppm)		10	10	0.55	0.000 - 0.55		NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (ppm)		n/a	n/a	32.00	7.20 - 32.00	8/27/2014	NO	n/a

CONTAMINANT (Units)	ACTION Level	MCLG	90th PERCENTILE LEVEL FOUND	# OF RESULT	SAMPLE DATE (If prior to '15)	VIOLATION	TYPICAL SOURCE OF CONTAMINANT
Copper	AL=1.3	1.3	0.3200	0 of 30 were above the action level	7/3/2014	NO	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead	AL=15	0	2.70	0 of 30 were above the action level	7/3/2014	NO	Corrosion of household plumbing systems; Erosion of natural deposits;

RADIOACTIVE CONTAMINANTS

CONTAMINANT (Units)	MCL (Highest Level Allowed)	MCLG (Ideal Goals)	LEVEL FOUND	RANGE	SAMPLE DATE (If prior to '15)	VIOLATION	TYPICAL SOURCE OF CONTAMINANT
Gross Alpha,Excl. R&U(pCi/l)	15	0	4.0	3.6-4.0		NO	Erosion of natural deposits
Radium, (226+228) (pCi/l	5	0	4.8	3.6-4.8		NO	Erosion of natural deposits
Gross Alpha,Excl. R&U(n/a)	n/a	n/a	4.0	3.6-4.0		NO	Erosion of natural deposits
Combined Uranium (ug/l)	30	0	0.5	0.5	2/21/12	NO	Erosion of natural deposits

UNREGULATED CONTAMINANTS

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. EPA required us to participate in this minitoring.

CONTAMINANT (UNITS)		**LEVEL FOUND**	**RANGE**	**SAMPLE DATE** (If prior to '16)
Grains of hardness		22-26		2017
Sulfate (ppm)		230.00	52.00 - 230.00	10/13/14
Molybdenum (ppb)		1.09174	1.009-1.175	11/03/14 - 05/13/14
Strontium	Avg.	20529.017	58.5264 - 52614.17	11/03/14 - 05/13/14
Vandium (ppb)		0.286	0.241 - 0.338	11/03/14 - 05/13/14
Chlorate	Avg.	190.898	73.099-360.438	11/03/14 - 05/13/14
1,4-Dioxane (ppb)	Avg.	1.57276	0.94653-2.59171	11/03/14 - 05/13/14
Colbalt		1.0447	1.0447	11/03/14 - 05/13/14

MONITORING AND REPORTING VIOLATIONS

DESCRIPTION	**CONTAMINANT GROUP**	**SAMPLE LOCATION**	**COMPLIANCE PERIOD BEGINNING**	**COMPLIANCE PERIOD ENDING**
Chem M/R - -Reg - No Regular samples	VOC	11	10/01/2016	12/31/16

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the compliance period noted in the above table, we did not complete all monitoring or testing for the contaminants(s) noted, and therefore cannot be sure of the quality of your drinking water during that time.

ACTIONS TAKEN

We changed policy and procedure for all samples required by the DNR.

VIOLATION OF THE TERMS OF VARIANCE, EXEMPTION, OR ADMINISTRATIVE OR JUDICIAL ORDER

The fourth quarter volatile organic sample for well #11 was missed. At no point did this compromise the safety of the water system. The treatment process was in operation.

Opportunity for input on decisions affecting our water quality

First Wednesday of each month at 5:30p.m. in the Village Board room located at N112 W17001 Mequon Rd. Germantown, WI 53022

DEFINITIONS

AL = Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements, which a water system must follow.

Maximum Contaminant Level (MCL): 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 (MCLG): The level of a contaminant in drinking water below which there is no known or expected health risk. MCLG's allow for a margin of safety.

MFL: million fibers per liter

MRDL: Maximum residual disinfectant level: 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.

MRDLG: Maximum residual disinfectant level goal: 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.

NTU: Nephelometric Turbidity Units

pCi/l: Picocuries per liter (a measure of radioactivity).

ppm: Parts per million, or micrograms per liter (mg/l).

ppb: Parts per billion, or micrograms per liter (ug/l).

ppt: parts per trillion, or nanograms per liter.

ppq: parts perquadrillion, or picograms per liter

TCR: Total Coliform Rule.

TT: Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.

* Each contaminant range is from no detect (nd) to the maximum reported value.