

2016 Water Quality Report



Greene County continues to meet all Ohio EPA standards and through continuing improvements, will be able to meet the projected needs of our customers.

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Safe Drinking Water
Hotline

(800) 426-4791

Well Field Susceptibility

The OEPA has determined that the aquifers that serve the Greene County Northwest Regional well field have a moderate susceptibility to contamination, and one serving the Southwest Regional well field has a high susceptibility. This does not mean that the well fields are, or will become, contaminated, just that conditions are such that ground water could be impacted by contaminants, unless we continue protective measures.



Definition of Terms

Definition of Terms contained within this report:

Maximum contaminant Level Goal (MCLG): The level of a contaminant in the 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 contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as

feasible, using available treatment technology.

Parts per Million (ppm) or Milligrams per Liter (mg/l): Units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.

Parts per Billion (ppb), or micrograms per liter (ug/l) are also units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

Picocuries per Liter (pCi/L): A common measure of radioactivity.

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

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

Risk Factors Explained

The following substances are found in our water, normally at levels below the action levels. There are some risk factors that could be involved with even low levels of these substances:

A. Arsenic

EPA has issued rules regarding the drinking water standard for arsenic. Arsenic is a naturally occurring mineral known to cause cancer in humans in high concentrations. EPA continues to research the health effects of low levels of arsenic. It is linked to other health effects such as skin damage and circulatory problems. Some people who drink water containing arsenic in excess of the MCL, over many years, could experience skin damage or problems with their circulatory system, and may have increased risk of getting cancer.

B. Nitrate

Nitrate in drinking water, at levels above 10 ppm, is a health risk for infants of less than six (6) months of age. High nitrate levels in drinking water can cause blue baby syndrome. High nitrate levels can also increase the risk of a particular kind of anemia in pregnant women. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, or are

pregnant, you should ask for advice from your health care provider.

Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).

C: 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.

Greene County 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 want 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 at:

<http://www.epa.gov/safewater/lead>

FAQs

The rules governing Consumer Confidence Reports does not address the issues of fluoride content or water hardness, but because these are some of the most frequently asked questions about our water, we are including these in the report.

The fluoride content of Greene County's raw (untreated) water is 0.3 parts per million. In the finished (treated) water, the content is 1.0 parts per million. State law requires the addition of fluoride to water for larger systems. No fluoride is added to the water at Southwest Regional Treatment plant.

The chlorine content of the finished water is 1.3 parts per million, except at Southwest Regional, where it is 1.0 parts per million.

The pH of the finished water is 7.55. A pH of 7.0 is neutral; anything above that is considered base, anything below that is acidic.

The water at Northwest Regional has 27 grains of hardness. The Eastern Regional water (including Cedarville, Shawnee Hills Lake, and Wilberforce) has 25 grains of hardness. The Southwest Regional water has 15-18 grains of hardness.

Sources of Drinking Water

The sources of drinking water include wells, rivers, lakes, streams, ponds, reservoirs, and springs. In Greene County, the source of drinking water is wells that bring groundwater to the surface.

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: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) 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, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) 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 storm water runoff, and septic systems; (E) 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 EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

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 Environmental Protection Agency'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-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 infection. These people should seek advice 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).

WHY DOES MY GREENE COUNTY WATER REPORT INCLUDE A WATER REPORT FROM ANOTHER MUNICIPALITY?

The Greene County Water Report may include a water report from another municipality because Greene County water lines do not extend into certain areas; therefore Greene County purchases water from three municipalities. These municipalities are Dayton, Xenia, and Fairborn. Greene County is required by law to include water quality information from those municipalities.

Greene County Water Source

Greene County has a current, unconditional license to operate our water system. The Northwest Regional Water Treatment Plant serves the Beaver Creek Community, and extends into Xenia Township, parts of Kettering, Sugar Creek, and Bath Townships, to serve the Career Center and Country Club Estates. It receives water from three (3) well

fields, which all draw water from the Little Miami River Buried Valley Aquifer. The well fields are located on Beaver Valley Rd., Shakertown Rd., and Orchard Lane.

The City of Xenia also uses the Little Miami River Buried Valley Aquifer. Greene County purchases water from Xenia for residents in Cedarville, Shawnee Hills Lake, and Wilberforce. The Southwest Regional Water Treatment

Plant serves residents in Sugar Creek and Spring Valley Townships. The water source is the Little Miami River Buried Valley Aquifer, with the well field off St. Rt. 42.

Some residents on the western side of Beaver Creek, Sugar Creek Township and Kittridge Road, in Bath Township, receive their water from the City of Dayton, which uses the Great Miami Buried Valley Aquifer as its water source.

2016 report 2015 data

Regulated Substance	Greene County Sanitary Engineering - Division of Water Supply and Treatment												Possible Source of Contamination
	Northwest Regional WTP		Southwest Regional WTP		Eastern Regional WTP		Greene County/Dayton		Greene County/Dayton		Greene County/Fairborn		
	2903512	2903912	2906103	2900803	2904203	2904103	2905003	2956203	Violation	Highest Level Detected	Range of Detection	Violation	

- Regulated at the Treatment Plant

Fluoride (ppm)	4	1.10	0.80 - 1.10	-	-	1.61	0.83 - 1.61	-	-	-	-	-	-	-	-	natural geology/supplement
Nitrate (ppm)	10	1.27	0.10 - 1.27	-	-	*	*	-	-	-	-	-	-	-	-	fertilizer runoff/natural geology
Nitrite (ppm)	10	NR	NR	-	-	*	*	-	-	-	-	-	-	-	-	fertilizer runoff/natural geology
Radium 228 (pCi/l)	5	1.3	+/- 0.55	-	-	*	*	-	-	-	-	-	-	-	-	natural deposits
Gross Alpha	15	3.0	+/- 0.55	-	-	*	*	-	-	-	-	-	-	-	-	natural deposits
Arsenic (ppb)	10	4.94	4.71 - 4.94	-	-	*	*	-	-	-	-	-	-	-	-	natural deposits

- Regulated at the Customer's Tap

Lead (ppb) ¹	AL=15	8.6 ¹	<5 - 383	-	-	<5 ¹	<5 - 55.4	-	-	<5 ¹	ND	<5 ¹	ND	<5 ¹	<5 - 20.7	corrosion of household plumbing materials
Copper (ppb) ¹	AL=1300	200 ¹	<25 - 442	-	-	458	70.1 - 1250	-	-	54 ¹	<30 - 55	<30 ¹	ND	192 ¹	<25 - 195	
Number of samples		30				10				10		5		5		
# samples over the action level		1				0				0		0		1		

- Regulated in the Distribution System

Chlorine (ppm)	MRDL - 2	MRDLG - 2	0.87 - 1.23	0.89 ³	0.60 - 1.40	0.88 ³	0.70 - 1.12	0.86 ³	0.50 - 1.90	0.91 ³	0.60 - 1.20	0.96 ³	0.70 - 1.20	0.79 ³	0.30 - 1.10	0.94 ³	0.70 - 1.20
Trihalomethanes (ppb)	80.00	0.00	22.96 - 81.40	23.64	20.41 - 26.86	37.21	34.00 - 40.42	27.61	15.75 - 39.86	24.58	20.59 - 27.96	25.74	15.27 - 37.70	38.69	N/A	16.90	N/A
Halacetic Acids (ppb)	60.00	0.00	0 - 16.01	7.87	7.03 - 8.72	11.22	10.94 - 11.49	4.51	1.91 - 7.16	6.86	4.13 - 10.31	5.82	2.96 - 6.85	8.33	N/A	19.17	N/A

Unregulated Compounds

Bromodichloromethane (ppb)	-	-	6.07 - 19.96	7.30	6.34 - 8.25	9.38	8.83 - 9.92	9.09	5.20 - 13.05	8.06	6.86 - 9.13	8.37	5.07 - 12.05	12.29	N/A	6.90	6.25 - 7.28
Bromoform (ppb)	-	-	0.80 - 4.00	1.43	1.36 - 1.50	0.83	0.81 - 0.84	3.00	1.88 - 3.66	2.11	1.72 - 2.44	2.18	1.40 - 2.90	3.11	N/A	0.81	0.79 - 0.83
Chloroform (ppb)	-	-	4.96 - 29.77	10.15	8.32 - 11.98	21.70	19.20 - 24.20	6.56	3.08 - 11.56	7.10	4.40 - 8.96	7.68	3.18 - 14.78	12.63	N/A	8.72	8.10 - 9.34
Dibromochloromethane (ppb)	-	-	4.67 - 15.19	4.76	4.39 - 5.13	5.31	5.16 - 5.46	10.22	5.59 - 20.24	6.32	1.04 - 8.04	7.52	5.20 - 10.20	10.66	N/A	4.51	4.30 - 4.71
Bromochloroacetic Acid (ppb)	-	-	1.51 - 5.23	2.75	2.47 - 3.04	3.88	3.82 - 3.94	2.22	1.33 - 3.39	3.33	2.31 - 4.77	3.31	1.84 - 4.68	3.94	N/A	3.02	2.91 - 3.14
Dibromoacetic Acid (ppb)	-	-	1.21 - 4.00	1.90	1.78 - 2.03	1.92	1.90 - 1.94	2.15	1.00 - 2.89	2.75	1.72 - 4.39	2.82	1.92 - 3.87	3.34	N/A	1.59	1.49 - 1.69
Dichloroacetic Acid (ppb)	-	-	2.13 - 6.04	4.34	3.80 - 4.88	5.69	5.53 - 5.86	2.63	1.02 - 4.07	3.74	2.03 - 5.00	3.00	1.04 - 4.98	3.96	N/A	3.39	2.85 - 3.92
Monobromoacetic acid (ppb)	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	N/A	ND	N/A
Monochloroacetic acid (ppb)	-	-	2.42 - 2.46	1.63	1.45 - 1.82	3.60	3.14 - 4.07	1.38	ND - 1.38	1.09	1.03 - 1.15	ND	N/A	ND	N/A	1.94	1.71 - 2.16
Trichloroacetic Acid (ppb)	-	-	1.51 - 5.89	2.71	1.51 - 5.89	3.60	3.14 - 4.07	1.38	ND - 1.38	1.09	1.03 - 1.15	ND	N/A	ND	N/A	1.94	1.71 - 2.16

1 - 90th percentile value - used to determine compliance as per USEPA

2. NR = Not required

3 - Quarterly running average

PWS - Public Water Supply

AL - action level

N/A - not applicable

ND - not detected

< - less than

WTP - Water Treatment Plant

WS - Water Supply

MCL - Maximum Contaminant Level

MCLG - Maximum Contaminant Level Goal

* - see Xenia 2015 CCR

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 disinfectants to control microbial contaminants.
MRDLG - Maximum Residual Disinfectant Goal - The level of 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.

"Under the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBPR), our public water system was required by USEPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE), and is intended to identify locations in our distribution system with elevated disinfection byproduct concentrations. The locations selected for the IDSE may be used for compliance monitoring under Stage 2 DBPR, beginning in 2012. Disinfection byproducts are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfection byproducts in drinking water, including both THMs and HAAs."

by-products of chlorination