

## General Information: Drinking Water

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 (1-800-426-4791).



## Special Precautions

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 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).

## For more information:

Additional information may be obtained by contacting Knox County Water District #1 at:

Contact Person: Jeff Pickrell

Phone Number: 740-397-7041

Mailing Address: 17602 Coshocton Rd, Mount Vernon, OH 43050

PWSID: OH4202012

Facility ID: DS1

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.



# Drinking Water Consumer Confidence Report 2016

**Knox County Water and  
Wastewater Department**



June 2017

## Water Quality Report 2016

- The Knox County Water and Wastewater Department has prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.
- Our source of water is withdrawn from 5 ground water wells, located approximately one half mile off County Rd. 35, southeast of Howard. Chemicals are added to ensure public health & safety. Those chemicals are: chlorine for disinfection, fluoride to strengthen tooth enamel and a polyphosphate to sequester iron & manganese to prevent staining of plumbing fixtures.



## Susceptibility of Howard Well Field

Knox County Water District #1 Wellhead Protection Plan for the Howard Well field indicates the aquifer (water-rich zone) that supplies water to the Howard Well Field has a high susceptibility to contamination. This determination is based on the following: Lack of protective layer of clay overlying the aquifer, Shallow depth (less than 15 feet below ground surface) of the aquifer, the presence of significant potential contaminant sources in the protection area. This susceptibility rating means that under currently existing conditions, the likelihood of the aquifer becoming contaminated is high. Implementing appropriate protective measures can minimize this likelihood. Knox County has recently put such measures into proactive, such as eliminating farming near the well field and planting trees in April 2003. The County has posted signs in and around the protection area. These are just a few of the protective strategies currently being implemented. More information about the source water assessment or what consumers can do to help protect the aquifer is available by calling: Knox County Water- 740-397-7041



## Sources of Contamination

- 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.
- 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 for contaminants in bottle water, which must provide the same protection for public health.

## About YOUR Drinking Water

The EPA requires regular sampling to ensure drinking water safety. The Knox County Water and Wastewater District #1 has a current unconditioned license to operate our water system and have conducted 96 routine total coliform bacteria negative samples (8 per month) in 2016. The Ohio EPA requires us 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 accurate is more than one year old. Listed on the following page is information on those contaminants that were found in the Knox County Water District #1 water supply.



# Contaminants in Drinking Water

## Primary Drinking Water Standards

Contaminants	MCL	MCLG	Level Found	Range Of Detections	Violations	Sample Year	Typical Source Of Contaminants
<b>Microbial Contaminants</b>							
Total Coliforms (positive monthly samples)	5.0%	0	0	0	NO	2016	Coliforms are naturally present in the environment; as well as feces; fecal coliforms and <i>E. coli</i> only come from human and animal fecal waste.
<b>Inorganic Contaminants</b>							
Antimony (ppb)	6	6	<4.0	NA	NO	2015	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic, Total (ppb)	10	0	<3.0	NA	NO	2015	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium, Total (ppm)	2	2	0.0335	<.0025-0.0447	NO	2015	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beryllium, Total (ppb)	4	4	<1.0	NA	NO	2015	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
Cadmium, Total (ppb)	5	5	<1.0	NA	NO	2015	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries & paints
Chromium, Total (ppb)	100	100	<5.0	NA	NO	2015	Discharge from steel and pulp mills; Erosion of natural deposits
Cyanide, Total (ppb)	200	200	<10.0	NA	NO	2015	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride, Total (ppb)	4	4	1.006	0.80-1.3	NO	2016	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Mercury, Total (ppb)	2	2	<0.5	NA	NO	2015	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from crop land
Nitrate (ppm)	10	10	1.54	NA	NO	2016	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
Nitrite (ppm)	1	1	<0.10	NA	NO	2016	
Selenium, Total (ppb)	50	50	<5.0	NA	NO	2015	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium, Total (ppb)	2	0.5	<1.5	NA	NO	2015	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories
<b>Synthetic Organic Contaminants- Pesticides and Herbicides</b>							
Alachlor (ppb)	2	0	<0.20	NA	NO	2015	Herbicide Runoff
Atrazine (ppb)	3	3	<0.30	NA	NO	2015	
Simzine (ppb)	4	4	<0.35	NA	NO	2015	

- 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, or 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 be the result of oil and gas production and mining activities.

# Primary Drinking Water Standards Continued...

Contaminants	MCL	MCLG	Level Found	Range Of Detections	Violations	Sample Year	Typical Source Of Contaminants
<b>Volatile Organic Contaminants</b>							
Benzene (ppb)	5	0	<0.50	NA	NO	2015	Discharge from factories, leaching from gas storage tanks and landfills
Carbon Tetrachloride (ppb)	5	0	<0.50	NA	NO	2015	Discharge from chemical plants and other chemical activities
Chlorobenzene (ppb)	100	100	<0.50	NA	NO	2015	Discharge from chemical and agricultural chemical factories
o-dichorobenzene (ppb)	600	600	<0.50	NA	NO	2015	Discharge from industrial chemical factories
p-dichorobenzene (ppb)	75	75	<0.50	NA	NO	2015	
1,2-dichoroethane	5	0	<0.50	NA	NO	2015	
1,1-dichloroethylene (ppb)	7	7	<0.50	NA	NO	2015	
Cis-1,2-dichloroethylene	70	70	<0.50	NA	NO	2015	
trans-1,2-Dichloroethylene (ppb)	100	100	<0.50	NA	NO	2015	
1,2-dichloropropane (ppb)	5	0	<0.50	NA	NO	2015	
Dichloromethane (ppb)	5	0	<0.50	NA	NO	2015	
Ethylbenzene (ppb)	700	700	<0.50	NA	NO	2015	Discharge from petroleum refineries
Styrene (ppb)	100	100	<0.50	NA	NO	2015	Discharge from rubber and plastic factories, leaching from landfills
1,1,1-trichloroethane (ppb)	200	200	<0.50	NA	NO	2015	Discharge from metal degreasing sites and other factories
Tetrachloroethylene (ppb)	5	0	<0.50	NA	NO	2015	Discharge from factories and dry cleaners
1,1,2-trichloroethane (ppb)	5	3	<0.50	NA	NO	2015	Discharge from industrial chemical factories
Total Trihalomethanes (ppb)	80	N/A	24.7	NA	NO	2016	By-product of drinking water chlorination
Total Haloacetic Acid (ppb)	60	N/A	<6.0	NA	NO	2016	
1,2,4-trichlorobenzene (ppb)	70	70	<0.50	NA	NO	2015	Discharge from textile finishing factories
Vinyl Chloride (ppb)	2	0	<0.50	NA	NO	2015	Leaching from PVC pipes, discharge from factories
Total Xylenes (ppm)	10	10	<0.50	NA	NO	2015	Discharge from petroleum and chemical factories
Toluene (ppm)	1	1	<0.50	NA	NO	2015	Discharge from petroleum factories
<b>Radioactive Contaminants</b>							
Gross Alpha particles(pCi/L)	15	0	3.0	NA	NO	2015	Erosion of natural deposits
Radium 228 (pCi/L)	5	0	0.90	NA	NO	2015	Erosion of natural deposits of certain minerals
<b>Residual Disinfectants</b>							
Chlorine (ppm)	4 (MDRL)	4 (MRDLG)	1.32	0.54-1.96	NO	2016	By-product of drinking water chlorination



## Lead and Drinking Water:



If elevated levels of lead are present it 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. Knox County Water & Wastewater District 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 cooking or drinking. 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 the Safe Drinking Water Hotline at (1-800 426-4791) or at <http://www.epa.gov/safewater/lead>.

Substance	Action Level	90 <sup>th</sup> Percentile	# Individual Results over the AL	Minimum Detected	Maximum Detected	Violation	Year Sample	Typical Source
Copper (ppm)	1.3	0.772	0 of 21	BDL (<50)	1.07	NO	2016	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	15	0	0 of 21	BDL (<5.0)	BDL (<5.0)	NO	2016	

For additional information on primary regulated contaminants, please visit: <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

## Unregulated Contaminants- Monitoring Required



Contaminant	Average	Range Detected	Sample Year
Chloroform (ppb)	6.785	6.37 to 7.20	2016
Bromoform (ppb)	1.465	1.32 to 1.61	2016
Bromodichloromethane (ppb)	8.485	7.83 to 9.14	2016
Dibromochloromethane (ppb)	6.08	5.42 to 6.74	2016
Nickel (ppb)	<10.0	NA	2015

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.

For additional information on unregulated contaminants, please visit: <https://www.epa.gov/dwucmr>



# Revised Total Coliform Rule (RTCR)

## Information

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems were required to comply with the Total Coliform Rule from 1989 to March 31, 2016, and begin compliance with a new rule, the Revised Total Coliform Rule, on April 1, 2016. The new rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of total coliform bacteria, which includes E. coli bacteria. The U.S. EPA anticipates greater public health protection under the new rule, as it requires water systems that are vulnerable to microbial contamination to identify and fix problems. As a result, under the new rule there is no longer a maximum contaminant level violation for multiple total coliform detections. Instead, the new rule requires water systems that exceed a specified frequency of total coliform occurrences to conduct an assessment to determine if any significant deficiencies exist. If found, these must be corrected by the PWS.

## Definitions and Terms

- **Action Level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
- **BDL:** Below Detection Limit.
- **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 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 risk to health. MCLGs allow for a margin of safety.
- **Maximum Residual Disinfectant Level (MRDL):** 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.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** 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.
- **NA:** The “NA” symbol means non-applicable.
- **Parts per Billion (ppb) or Micrograms per Liter (ug/L)** are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- **Parts per Million (ppm) or Milligrams per Liter (mg/l)** are units of measure for concentration of a contaminant. A part per million corresponds to one second in 31.7 years.
- **Picocuries per liter (pCi/L):** a common measure of radioactivity.
- **“<” symbol:** the “<” symbol means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in the sample was not detected.



### License to Operate (LTO) Status Information:

Green Status: In 2016 we had an unconditioned license to operate our water system.