

# KNOX WATER QUALITY REPORT

JUNE 2017

## A DETAILED REPORT ON YOUR DRINKING WATER

Its time again for us to provide you with our annual Water Quality Report. This Report is required as a part of the Safe Drinking Water Act Amendments of 1996. In this report, you will find out more about your water. We'll tell you where the water comes from, how we are protecting the source, how we treat your water and we will let you know how you can be more involved in water decisions affecting the City of Knox.

We welcome your questions and feedback about the Water Quality Report and any other questions or concerns you may have about Knox Water. We are working hard to provide you with quality-safe drinking water. Your help and support is always appreciated.

**HOW TO CONTACT US:** Todd Gardner, Water Superintendent: Phone: 574-772-4461; Fax: 574-772-5669.

email: [knoxwaterdept@cityofknox.net](mailto:knoxwaterdept@cityofknox.net)



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Water Works Association



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## WHAT YOU SHOULD KNOW ABOUT WATER QUALITY

The sources of drinking water (both tap water and bottled water) includes 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 animal 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 storm 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 by-products 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 that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants, but *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 (800-426-4791).



## WHERE DOES YOUR WATER COME FROM?

Your water in Knox comes from three deep wells drilled to a depth of 120 feet. Each well produces between 500 and 700 gallons per minute. We pump an average of 400,000 gallons of water from the well supply each day. The well water is pumped to a treatment plant where iron is removed and chlorine disinfectant, fluoride, and polyphosphate are added before distribution to the City residents.

Knox's source water protection plan has determined the boundaries and source of the underground aquifer and the direction the water flows to our wells.

A Wellhead Protection Committee has been formed and has identified any potential sources of pollution. This information is available at the water plant, by contacting Todd Gardner (574) 772-4461.

Well area protection signs have been installed to alert residents of the areas critical to the well fields.

## ABOUT LEAD IN YOUR DRINKING WATER

If present, elevated levels of lead can cause a serious health problem, 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 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 the Safe Drinking Water Hotline or at <http://epa.gov/safewater/lead>.

## Terms and Abbreviations to Help You Understand the Data

**Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers additional treatment measures by the public water system.

**Center For Disease Control (CDC)**

**Environmental Protection Agency (EPA)**

**Maximum Contaminant Level (MCL)** - The highest level of a 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.

**NA - Not Applicable**

**Million Gallons Per Day (MGD)**

**Nephelometric Turbidity Units (NTU)** - Turbidity is a measure of cloudiness in water.

**Parts Per Million (ppm)** - Equivalent to milligrams per liter. One part per million is comparable to one penny out of \$10,000.

**Parts Per Billion (ppb)** - One part per billion is comparable to one penny in \$10,000,000.

**Picocuries Per Liter (pCi/L)** - a measure of radioactivity.

**Treatment Technique (TT)** - A required process intended to reduce the level of contaminants in drinking water.

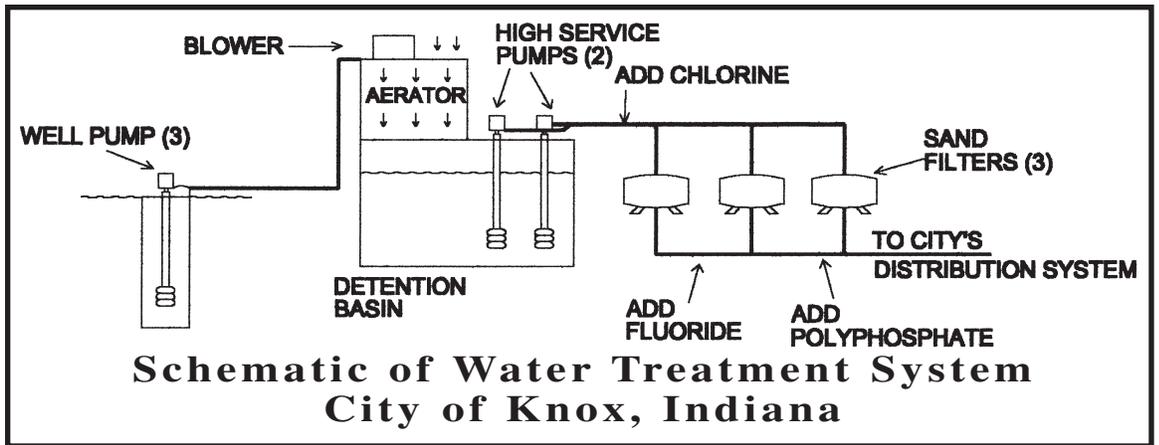
## MEASURED AT KNOX WATER TREATMENT PLANT

Substance	Measuring Units Used	Highest Level Allowed By EPA (MCL)	Highest Level Detected in Knox Water	Range Detected in Knox Water	Ideal Goals Set by EPA (MCLG)	Violation Yes No	Description and Source of Substances
Barium	ppm	2	0.059	.059-.059	< 2	No	Discharge of drilling waste; discharge from refineries; erosion of natural deposits. Tested last in 2014.
Beta Emitters	pCi/L	50	< 3	--	0	No	Decay of natural and man made deposits. Tested last in 2010.
Combined Radium	pCi/L	5	< 0.6	--	0	No	Erosion of natural deposits. Tested last in 2010.
Gross Alpha	pCi/L	15	< 1.5	-	0	No	Erosion of natural deposits. Tested last in 2010.
Fluoride	ppm	4	1.5	0.4-1.5	< 4	No	Erosion of natural deposits; water additive which promotes strong teeth. Discharge from fertilizer and aluminum factories. Tested daily in 2016.
Nitrate (measured as Nitrogen)		10	.0	BDL	<10.0	No	Erosion of natural deposits and from fertilizers. Tested last in May 2016.
Nickel	ppb	.1	.001	BDL	NA	No	Naturally occurring. Tested last in 2014
<b>DISINFECTION BY-PRODUCTS AND PRECURSORS</b>							
Chlorine	ppm	4	1	.6-2.3		No	Water additive used to control microbes. Tested daily in 2016.
Total Trihalomethanes	ppb	80	47.6	41.3-47.6	NA	No	By product of drinking water disinfection. Tested last in May 2016.
Total Haloacetic Acids	ppb	60	41	16.4-41	NA	No	By product of drinking water disinfection. Tested last in May 2016.
<b>UNREGULATED BUT REQUIRED MONITORING</b>							
Sulfate	ppm	NA	22	-	NA	No	Natural in water. Tested last in 2014
Sodium	ppm	NA	5.7	-	NA	No	Natural in water. Tested last in 2014
<b>MEASURED AT SPECIFIC CUSTOMERS' TAPS</b>							
Lead	ppb	AL=15	1.*	<1.0-1.5	0	No	Corrosion of household plumbing systems; erosion of natural deposits. Tested last in 2014.
Copper	ppm	AL=1.3	.11*	.007-.18	1.3	No	Corrosion of household plumbing systems; erosion of natural deposits; leachate from wood preservatives. Tested last in 2014.

BDL = Level is below the detection level of the equipment used to do the test.

\*90<sup>th</sup> percentile

Water from the underground aquifer is pumped to the water treatment plant using deep well pumps. The well water is aerated in order to help remove the iron in the water. The aerated water drops into a detention basin where it remains for an average of 30 minutes. Another set of



pumps, called high service pumps, move the water from the detention basin through pressure sand filters completing the iron removal process. Chlorine is added prior to the pressure sand filters for disinfection. The water leaving the filters enters the water distribution system after receiving fluoride and polyphosphate addition and flows to the homes, businesses and industries of Knox.



## WATER DEPARTMENT NOTES

During 2016 the Water Department replaced broken hydrants in nearly every corner of town. A total of 7 fire hydrants were replaced due to failure or damage and two were added in areas that had no fire protection previously.

We also extended the water service into Wythogan Park, adding a fire hydrant and water meters for the park and splash pad.

During the year we upgraded many water services that were on old galvanized lines. This improves water flow and water quality for the customer.

Well #3 was rebuilt and electrical upgrades were made to the well houses

## FOR YOUR HEALTH

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 of infection by *Cryptosporidium* and other microbial contaminant's are available from the Safe Drinking Water Hotline (800-426-4791).

## FOR YOUR INFORMATION

City Council meets the 2nd & 4th Tuesday of each month in the City Hall at 7:00 p.m. For more information contact the Clerk-Treasurer, Jeff Houston, at 574-772-3032.

For more information contact: Mayor Dennis Estok at 574-772-4553.

Board of Works meetings are held the 4th Wednesday of each month in the City Hall at 9:30 a.m.

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