

Annual Drinking Water Quality Report



Kirkland Public Water Supply
Facility Number – IL 0370300
Calendar Year 2018

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water. This report includes drinking water facts, information on violations (if applicable), and contaminants detected in your drinking water supply during calendar year 2018. Each year, we will provide you a new report. If you need help understanding this report or have general questions, please contact the person listed below.

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

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Before we begin listing our unique water quality characteristics, here are some important facts you should know to help have a basic understanding of drinking water in general.

Sources of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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.

Our source of water comes from Ground Water Wells. The Railroad Well is located south of the water tower; Well 2 is located north the water tower and Well 3 is located at Linda and Hickory Lane.

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 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.

Other Facts About 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 EPA's Safe Drinking Water Hotline at (800) 426-4791.

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 bottled water which must provide the same protection for public 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 contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. The source water assessment for our water supply has been completed by the Illinois EPA. Please stop by the Village Hall or call Dale Miller at 815-522-6170 with question regarding the importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts. You may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Source Water Assessments

Source of Water: Based on information obtained in a Well Site Survey by the Illinois EPA, several potential secondary sources are located within 1,000 feet of the wells. The facility has provided additional information on the following potential sources regarding source name or ownership changes: Kirkland Quick Stop is now Kirkland Marathon, the Johnson Leonard property is now Hines Lumber, and Farm Sales and Service Incorporated is now Nesterowicz and Associates. As mentioned above in the “Source of Water Supply” section, the Illinois EPA has determined that two (2) of Kirkland’s wells (railroad well and well #2) are potentially susceptible to contamination based on a number of criteria including; monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and available hydrogeologic data on the wells such as the wells receiving the source water from a highly fractured bedrock aquifer. It should be noted however, that while these two (2) wells are considered “susceptible” to contamination, per the “Source Water Quality” section, sample results to date have not identified quantifiable levels of any contaminant of concern. Well #3 receives its source water from a confined, deep bedrock aquifer, and therefore is not considered “susceptible” to contamination at this time. Furthermore, in accordance with the U.S. EPA’s Ground Water Rule, the Illinois EPA has determined that both the railroad well and well #2 are potentially vulnerable to viral contamination. While the potential for viral contamination exists, it should be noted that the Village’s source water for the railroad well and well #2 has not indicated any bacteriological contamination to date. As stated in previous sections of this document, these wells utilize source water from an “unconfined”, highly fractured bedrock aquifer, and without documented, mapped subsurface hydraulic conditions, it is therefore considered vulnerable to viral contamination. At the time of this writing, the Village is actively researching the option of utilizing the Vulnerability Waiver process for well #2. In regards to well #3, the source water is not considered vulnerable to viral contamination. This determination is based upon the evaluation of the following criteria during the Vulnerability Waiver process: well #3 is properly constructed with sound integrity and proper siting conditions; a hydrogeologic barrier exists which should prevent pathogen movement; all potential routes and sanitary defects have been mitigated such that the source water is adequately protected; monitoring data did not indicate a history of disease outbreak; and the sanitary survey of the water supply did not indicate a viral contamination threat. Because well #3 is constructed in a “confined” aquifer, which should prevent the movement of pathogens into the well, well hydraulics was not considered to be a significant factor in this determination. Hence, well hydraulics was not evaluated for this system’s ground water supply.

Here are a few definitions and scientific terms which will help you understand the information in the contaminant detection tables.

AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Avg	Regulatory compliance with some MCLs is based on running annual average of monthly samples.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal: 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.
MRDL	Maximum Residual Disinfectant Level: The highest level of 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 disinfectant in drinking water 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.
N/A	Not Applicable
NTU	Nephelometric Turbidity Units
pCi/L	picocuries per liter (a measure of radioactivity)
mrem	Millirems per year (a measure of radiation absorbed by the body)
ppb	parts per billion or micrograms per liter (ug/L) - or one ounce in 7,350,000 gallons of water.
ppm	parts per million or milligrams per liter (mg/L) - or one ounce in 7,350 gallons of water.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

2018 Regulated Contaminants Detected

Definitions:

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health.

ALGs allow for a margin of safety. Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper								
	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2018	1.3	1.3	0.27	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2018	0	15	0.0	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits

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. The Village of Kirkland 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](http://www.epa.gov/safewater/lead) or at <http://www.epa.gov/safewater/lead>.

Disinfectants and Disinfection Byproducts	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	12/31/2018	0.6	0.4 – 0.98	MRDLG=4	MRDL=4	ppm	N	Water Additives used to control microbes
Total Trihalomethanes (TTHM)	2018	6	6 – 6	No Goal	80	ppb	N	By-product of drinking water disinfection
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2018	1.5	0.2 – 1.5	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2018	0.327	0.276 – 0.327	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Iron	2018	0.49	0.25 - 0.49		1.0	ppm	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.

Manganese	2018	13	7.7 - 13	150	150	ppb	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.
Sodium	2018	8.5	6.2 – 8.5			ppm	N	Erosion from naturally occurring deposits: Used in water softener regeneration.
Zinc	2018	0.037	0.011 – 0.037	5	5	ppm	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Naturally occurring; discharge from metal.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	07/13/2017	3.07	3.07 – 3.07	0	5	pCi/L	N	Erosion of natural deposits

Violation Summary Table

We are happy to announce that **NO** monitoring, reporting, treatment technique, maximum residual disinfectant level, or maximum contaminant level violations were recorded during 2018.