

# Irvine Municipal Utilities

## Water Quality Report for year 2019

0330205

238 Broadway  
Irvine, Ky 40336

Meetings: 238 Broadway  
Meeting Dates and Time: 3rd Thursday of the month 9:00 AM

Manager: **Billy F. Williams**  
Phone: **(606) 723-2197**

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**Water - Essential for Life**

This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide our customers with a safe, clean, and reliable supply of drinking water. We want to assure that we will continue to monitor, improve, and protect the water system and deliver a high quality product. Water is the most indispensable product in every home and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system.

We at IMU use the Kentucky River as our source for water. We only take about 1.3 million gallons a day on average to supply 15,000 people with safe drinking water. Although we have a ample supply of water there is always room for conservation. There are two types of water sources, ground water and surface water. The Kentucky River is a surface water source. Like all water sources it is susceptible to pollutants, not only directly dumped in to it, but also those contaminants that can enter from creeks, carsts and caverns hundreds of yard away. We have developed a source water assessment which identifies all the areas with in a large radius of the rivers edge to help us determine what could be a potential hazard to our source of water. The Kentucky River is at moderate risk for hazards due to the pesticides, fertilizers and straight pipes in the area. We monitor closely for these types of hazards to maintain our high quality of safe drinking water. This Source Water Assessment is updated and checked on a regular basis and is available for review upon request at our office.

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 may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 may pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: Microbial contaminants, such as viruses and bacteria, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or 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. FDA regulations establish limits for contaminants in bottled water to 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).*

Some or all of these definitions may be found in this report:

#### Information About Lead:

**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.

**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 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

**Below Detection Levels (BDL)** - laboratory analysis indicates that the contaminant is not present.

**Not Applicable (N/A)** - does not apply.

**Parts per million (ppm)** - or milligrams per liter, (mg/l). One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb)** - or micrograms per liter, (µg/L). One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per trillion (ppt)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Parts per quadrillion (ppq)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

**Picocuries per liter (pCi/L)** - a measure of the radioactivity in water.

**Millirems per year (mrem/yr)** - measure of radiation absorbed by the body.

**Million Fibers per Liter (MFL)** - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

**Nephelometric Turbidity Unit (NTU)** - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the

**Variances & Exemptions (V&E)** - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system shall follow.

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

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. Your local public water system 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://www.epa.gov/safewater/lead>.

**Spanish (Español)** Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old. Unless otherwise noted, the report level is the highest level detected.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.44	94	Yes	Soil runoff

### Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
<b>Inorganic Contaminants</b>							
Barium [1010] (ppm)	2	2	0.018	0.018 to 0.018	Feb-19	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.235 (90 <sup>th</sup> percentile)	0.038 to 0.358	Aug-19	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	1.01	0.76 to 1.2	May 2019	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	2 (90 <sup>th</sup> percentile)	2 to 2	Aug-19	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	0.186	0.186 to 0.186	May-19	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

### Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.05 (lowest average)	0.00 to 1.90 (monthly ratios)	N/A	No	Naturally present in environment.
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\*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average of the monthly ratios must be 1.00 or greater for compliance.

HAA (ppb) (all sites) [Haloacetic acids]	60	N/A	42 (system average)	5 to 77 (range of system sites)	N/A	No	Byproduct of drinking water disinfection
HAA (ppb) (IDSE) [Haloacetic acids]	IDSE (individual distribution system evaluation) is a study to determine future individual sites.			6 to 75 (range of individual sites)	IDSE initiated Feb-19	No	Byproduct of drinking water disinfection
HAA (ppb) (Individual Sites) [Haloacetic acids]	60	N/A	49 (locational average)	5 to 77 (range of individual sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) (IDSE) [total trihalomethanes]	IDSE (individual distribution system evaluation) is a study to determine future individual sites.			6 to 83 (range of individual sites)	IDSE initiated Feb-19	No	Byproduct of drinking water disinfection
TTHM (ppb) (all sites) [total trihalomethanes]	80	N/A	49 (system average)	6 to 83 (range of system sites)	N/A	No	Byproduct of drinking water disinfection.

TTHM (ppb) [total trihalomethanes] (Individual Sites)	80	N/A	57.5 (locational average)	6 to 83 (range of individual sites)	N/A	No	Byproduct of drinking water disinfection.
<b>Other Contaminants</b>							
Cryptosporidium [oocysts/L]	0	TT (99% removal)	0 (positive samples)	5 (no. of samples)	N/A	No	Human and animal fecal waste

*EPA has not established drinking water standards for unregulated contaminants. There are no MCL's and therefore no violations if found.*

## Violations

### Turbidity (NTU)

Water samples for November 2019 showed that 5 percent of turbidity measurements were over 0.3 turbidity units – the standard is that no more than 5 percent of samples may exceed 0.3 turbidity units per month. The turbidity levels are relatively low. However, their persistence is a concern. Normal turbidity levels at our plant are 0.2 turbidity units. We routinely monitor your water for turbidity (cloudiness). This tells us whether we are effectively filtering the water supply.

Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Turbidity DOES NOT contribute to Covid 19.

### Total Organic Compound (TOC) Removal

Testing results we recently received show our system did not meet the required removal ratio for TOC's. Even though TOC is not a contaminant, and therefore does not have a maximum contaminant level (MCL), a treatment technique is used to maintain acceptable levels. Each month the percent of TOC removed is compared to the percent of TOC required to be removed and a ratio is determined. These monthly ratios are used to calculate an annual average.

TOC has no health effects. However, total organic carbon, provides a medium for formation of disinfection byproducts. These byproducts include trihalomethanes, or THM's and haloacetic acids, or HAAs. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Higher than normal readings were obtained during renovation of certain systems of the plant. We were back in compliance as of 4/1/2020. The violation presented a 0% removal of TOC. Our normal removal is 35% and we have achieved this since the violation occurred. This DOES NOT contribute to Covid 19

### 2018 CCR

This water system failed to submit the Consumer Confidence Report (CCR) to the Department of Environmental Protection. The system is required to distribute the CCR to the customer and submit a copy to the Kentucky Department of Environmental Protection by July 1st each year.

## Secondary contaminants

Secondary contaminants do not have a direct impact on the health of consumers and are not required in the Consumer Confidence Report. They are being included to provide additional information about the quality of the water.

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sample
Corrosivity	Noncorrosive	-1.38	N/A	Feb-19
Fluoride	2.0 mg/l	0.8	0.8 to 0.8	Feb-19
pH	6.5 to 8.5	7.74	7.74 to 7.74	Feb-19
Sulfate	250 mg/l	5.24	5.24 to 5.24	Feb-19
Total Dissolved Solids	500 mg/l	97	97 to 97	Feb-19
Sodium	optimum level =20 mg/L	5.7	5.7 to 5.7	Feb-19

***Download our new app (IMU Advisory) from Google Play or the Apple store to get important notifications or pay you bill!***