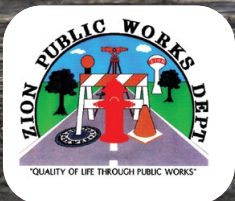


ANNUAL WATER QUALITY REPORT

Reporting Year 2023



Presented By
City of Zion

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID#: 097-2000



Our Commitment

We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2023. Included are details about your source of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and providing you with this information because informed customers are our best allies.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from our water source and sent to an aeration tank, which allows for oxidation of high iron levels. The water then goes to a mixing tank where polyaluminum chloride and soda ash are added. The addition of these substances causes small particles (called floc) to adhere to one another, making them heavy enough to settle into a basin from which sediment is removed. Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller suspended particles are removed, turbidity disappears and clear water emerges.

Chlorine is added again as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, soda ash (to adjust the final pH and alkalinity), fluoride (to prevent tooth decay), and a corrosion inhibitor (to protect distribution system pipes) are added before the water is pumped to sanitized underground reservoirs, water towers, and your home or business.

“When the well is dry, we know the worth of water.”

—Benjamin Franklin

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the first and third Tuesday of each month at 7:00 p.m. at City Hall, 2828 Sheridan Road.

Where Does My Water Come From?

The City of Zion's customers are fortunate because we enjoy an abundant water supply from Lake Michigan. The City of Zion purchases all of its water from the Lake County Public Water District (LCPWD). For more information about water treatment, please contact Jeremy Thompson at (847) 746-2052.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. Environmental Protection Agency (U.S. EPA)/Centers for Disease Control and Prevention (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 at (800) 426-4791 or water.epa.gov/drink/hotline.



QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Victor Ransom, Superintendent of Operations, at (847) 746-4054.



Source Water Assessment

Susceptibility is defined as the likelihood for the source water of a public water system to be contaminated at concentrations that would pose a concern. The Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems. The very nature of surface water allows contaminants to migrate into the intake with no protection beyond dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois. LCPWD's intake has a moderate sensitivity and therefore has greater protection from shoreline contaminants due to mixing and dilution. While the shoreline contaminants are not perceived as an immediate threat, the combination of land use, proximity to North Point Marina, and stormwater discharge from Kellogg Ravine adds to the susceptibility of LCPWD's intake. The proximity of Illinois Beach State Park adds to the protection of the intake by acting as a natural buffer from shoreline contaminants.

The best way to ensure a safe source of drinking water for a water supply is to develop a program designed to protect the source water against potential contamination on the local level. Since the predominant land use within the Illinois boundary of the Lake Michigan watershed is urban, a majority of watershed protection activities in this document are aimed at this purpose. Citizens must be aware that activities around the house may have a negative impact on their source water. The main efforts of the immediate community should be an awareness of stormwater drains and the direct link to the lake within the identified Lake Michigan watershed. A proven best management practice for this purpose has been the identification and stenciling of stormwater drains within a watershed. Stenciling, along with an educational component that relates the proper use, storage, and disposal of potential contaminants, is necessary to keep the lake a safe, reliable source of drinking water. Finally, Lake Michigan, as well as all the Great Lakes, has a variety of organizations and associations that are currently working to either maintain or improve water quality.

The assessment report can be reviewed by contacting our office during regular business hours.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which 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. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



What Causes Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, and toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including humans). The bacteria can be introduced into the house through any of the above-mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive. The best solution to this problem is to clean and dry these surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence. *Serratia* will not survive in chlorinated drinking water.

About Our Violation

Monitoring Requirements Not Met by LCPWD

Our water system violated drinking water requirements over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we have done to correct the situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether our drinking water meets health standards. In May 2023, we did not complete all monitoring or testing for total organic carbon (TOC) and therefore cannot be sure of the quality of your drinking water during that time.

What Should I Do?

There is nothing you need to do at this time.

The table below lists the contaminant we did not properly test for during the last year, how often we are supposed to sample for TOC, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were taken.

| CONTAMINANT | REQUIRED SAMPLING FREQUENCY | NUMBER OF SAMPLES TAKEN | WHEN SAMPLES SHOULD HAVE BEEN TAKEN | WHEN SAMPLES WERE TAKEN |
|----------------------|-----------------------------|-------------------------|-------------------------------------|-------------------------|
| Total Organic Carbon | Monthly | 0 | May 1-31, 2023 | June 1-30, 2023 |

What Is Being Done?

We have taken the required samples, as described in the table. The results showed we were meeting drinking water standards. For more information, please contact Jeremy Thompson at (847) 746-2052 or 500 17th Street, Zion, IL 60099.

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.

This notice is being sent to you by Lake County Public Water District, State Water System ID IL0975790.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water and removing lead pipes, but we cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, or doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute-accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact Superintendent of Operations Victor Ransom at (847) 746-4054. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa.gov/safewater/lead.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level): The concentration of a contaminant that triggers treatment or other required actions by the water supply.

MCL (Maximum Contaminant Level): 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.

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 a 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 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 contaminants.

NA: Not applicable.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

| | | | | City of Zion | | Lake County Public Water District | | | |
|---|--------------|------------------------------------|--------------|-----------------|----------------|-----------------------------------|----------------|-----------|---|
| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
| Arsenic (ppb) | 2023 | 10 | 0 | NA | NA | <1.0 | NA | No | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes |
| Barium (ppm) | 2023 | 2 | 2 | NA | NA | 0.020 | 0.020–0.020 | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| Chlorine (ppm) | 2023 | [4] | [4] | 1.2 | 1–1.23 | NA | NA | No | Water additive used to control microbes |
| Combined Radium (pCi/L) | 2022 | 5 | 0 | NA | NA | 1.25 | 1.25–1.25 | No | Erosion of natural deposits |
| Di(2-ethylhexyl) Phthalate (ppb) | 2022 | 6 | 0 | NA | NA | <1.8 | NA | No | Discharge from rubber and chemical factories |
| Fluoride (ppm) | 2023 | 4 | 4 | NA | NA | 0.730 | 0.614–0.730 | No | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Haloacetic Acids [HAAs]–Stage 1 (ppb) | 2023 | 60 | NA | 24 | 8.5–34.7 | 17.3 | 17.3–17.3 | No | By-product of drinking water disinfection |
| Nitrate (ppm) | 2023 | 10 | 10 | NA | NA | 0.33 | 0.33–0.33 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| Selenium (ppb) | 2023 | 50 | 50 | NA | NA | <1.0 | NA | No | Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines |
| Sodium (ppm) | 2023 | NA ¹ | NA | NA | NA | 8.2 | 8.2–8.2 | No | Erosion of naturally occurring deposits; Used in water softener regeneration |
| TTHMs [total trihalomethanes]–Stage 1 (ppb) | 2023 | 80 | NA | 62 | 16.7–87 | 31.4 | 31.4–31.4 | No | By-product of drinking water disinfection |
| Turbidity ² (NTU) | 2023 | TT | NA | NA | NA | 0.20 | NA | No | Soil runoff |
| Turbidity (lowest monthly percent of samples meeting limit) | 2023 | TT = 95% of samples meet the limit | NA | NA | NA | 100 | NA | No | Soil runoff |
| Zinc (ppb) | 2023 | 5,000 | NA | NA | NA | <0.006 | NA | No | Naturally occurring; Discharge from metal factories |

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AL | MCLG | AMOUNT DETECTED (90TH %ILE) | SITES ABOVE AL/ TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|-----------------------------|--------------|-----|------|-----------------------------|-----------------------------|-----------|--|
| Copper (ppm) | 2023 | 1.3 | 1.3 | 0.099 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |

UNREGULATED SUBSTANCES³

| | | | | City of Zion | | Lake County Public Water District (LCPWD) | | | |
|--|--------------|-----------------|----------------|-----------------|----------------|---|--|--|--|
| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE | | | |
| Perfluorooctanesulfonate Acid [PFOS] (ppt) | 2022 | NA | NA | 2.1 | 2.1–2.1 | NA | | | |
| Perfluorooctanoic Acid [PFOA] (ppt) | 2022 | NA | NA | 2.5 | 2.5–2.5 | NA | | | |

¹ Sodium is not currently regulated by the U.S. EPA; however, the state has not set an MCL for this contaminant for supplies serving a population of 1,000 or more.

² Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

³ No MCL or mandatory health effects language has been established for these contaminants by either state or federal regulations. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.