

CITY OF FREEPORT

2021 WATER QUALITY REPORT

The Freeport Department of Public Works - Water & Sewer Division is pleased to present to you this year's Water Quality Report. This report is a summary of the quality of water that we provided last year. Included in the report are details about where your water comes from, what it contains and how it compares to Environmental Protection Agency (EPA) and state health standards. We are committed to providing you with information because informed customers are our best allies. For more information about this report, please feel free to visit our web page at <https://cityoffreeport.org/directory/water-and-sewer/> or contact Rob Boyer at 815-297-1166, or pwdirector@cityoffreeport.org.

During the 2020 calendar year the Water & Sewer Division conducted tests for 90 drinking water contaminants. We are pleased to report that no drinking water quality violations were recorded during 2020. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water "is safe" at these levels. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling USEPA's Safe Drinking Water Hotline (800-426-4791).

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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. The Water & Sewer Division completed monitoring for EPA's fourth list of unregulated contaminants during the first quarter of 2020. Results for the detected unregulated contaminants are available by either viewing the table below, by visiting our web page or by calling our water office at 815-233-0111.

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. USEPA/CDC guidelines on the appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (800-426-4791).

Freeport obtains its drinking water from wells. Other sources of drinking water (including both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs and springs. 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 human activity. Possible contaminants of source water include: microbial contaminants such as viruses and bacteria, inorganic contaminants such as salts and metals, pesticides and herbicides from residential uses or agricultural runoff, synthetic and volatile organic chemicals from industrial sources and radioactive contaminants from mining or naturally occurring sources.

The Freeport Water Treatment Plant has been in operation since 1882. Through 11,800 service connections, the Water & Sewer Division supplies an average of 2.56 million gallons per day of treated drinking water to the local population. Most of Freeport's groundwater is obtained from two municipal wells drilled around the water treatment plant. These two wells are located in a shallow bedrock aquifer called the Saint Peter Sandstone. Raw well water is pumped to the water treatment plant where it undergoes several treatment processes including aeration, chlorination, filtration and fluoridation.

Well No. 8 was added to the City's water distribution system in October of 2000. This well obtains water from the St. Peter Sandstone aquifer and the much deeper Ironton-Galesville aquifers. The City's newest well (No. 9) was added to the water distribution system in March of 2014. This well also obtains water from the St. Peter Sandstone aquifer and the much deeper Cambrian-Trempealeau aquifers. Because the source water of both these wells is lower in manganese and iron, only the chlorination and fluoridation treatment processes are needed.

To determine Freeport's susceptibility to groundwater contamination the Illinois Rural Water Association conducted a well site survey in January 2003. The survey identified 33 potential sources of ground water contamination that could pose a hazard to

the groundwater utilized by the City of Freeport. Based upon this information, the Illinois EPA determined that Freeport's source water supply for wells numbers 2 and 5 through 7 are susceptible to contamination. The study also determined that the source water for well No. 8 is not susceptible to contamination. As such, the Illinois EPA has provided 5-year recharge area calculations for wells number 2 and 5 through 7. The land use within the recharge areas of the wells was analyzed as part of this susceptibility determination. This land use includes residential, commercial and agricultural properties. Additional information on the Source Water Assessment Summary and source water protection efforts recommended by EPA can be found on our web page or by calling our water office at 815-233-0111. Please note that wells number 2 and 6 were abandoned and sealed in 2018.

In addition to the informational section of this report, we have included a water quality data table for your review. The table will give you a better picture of the contaminants that were detected in Freeport's water. If you would like to learn more about your water utility, please feel free to attend any of the regularly scheduled City Council meetings. The meetings are held on the first and third Monday of every month at 6:00 P.M. in the main floor Council Chambers at 314 West Stephenson Street in Freeport, Illinois.

City of Freeport - 2020 Water Quality Data

Definitions: *Maximum Contaminant Level Goal (MCLG):* The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety. *Maximum Contaminant Level (MCL):* The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology. *Maximum Residual Disinfectant Level Goal (MRDLG):* The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbiological contaminants. *Maximum Residual Disinfectant Level (MRDL):* The highest level of a drinking water disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbiological contaminants. *Action Level (AL):* The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. *Treatment Technique (TT):* A required process intended to reduce the level of a contaminant in drinking water. *Health Advisory (HA):* A non-enforceable level established by USEPA in order to provide technical information to state agencies on contaminants that can cause adverse effects and are known or anticipated to occur in drinking water. *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 on multiple occasions.

Abbreviations: *ND.:* Not detected at testing limits. *N/A:* Not applicable. *ppm:* Parts per million or milligrams per liter. *ppb:* Parts per billion or micrograms per liter. *ppt:* Parts per trillion or nanograms per liter. *pCi/l:* picocuries per liter is a measure of the radioactivity in water. *# of positives/month:* Number of positive samples per month.

The table below lists all the drinking water contaminants that were detected during the period of January 1 to December 31, 2020. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. In most cases, the **Level Found** column represents data from the entry point with the highest level detected. In some cases, the level found represents an average of sampling data collected during the calendar year. The **Range of Detections** column represents a range of individual sampling results, from lowest to highest that were collected during the calendar year. If a date appears in the **Date of Sample** column, the Illinois EPA requires monitoring for this contaminant less than once per year. This is because the concentrations do not frequently change. IEPA has given Special Exception Permits to the Water & Sewer Division for reduced monitoring of some volatile organic and synthetic organic chemicals. A Triggered Source Water Monitoring Special Exception Permit for triggered total coliform and *E. coli* monitoring was given to the Department in 2011.

TEST RESULTS - DETECTED CONTAMINANTS							
Contaminant (units)	MCLG	MCL	Level Found	Range of Detections	Violation Y/N	Date of Sample	Likely Source of Contamination
Radioactive Contaminants							
Alpha Emitters (pCi/L)	0	15	6.84	6.84	N	2020	Erosion of natural deposits.
Combined Radium (pCi/L)	0	5	3.16	3.16	N	2020	Erosion of natural deposits.

Microbiological Contaminants							
Total Coliform Bacteria (# positive samples/month)	0	>1 or >5%	1	ND. to 1	N	2020 Data	Naturally present in the environment.
Inorganics Contaminants							
Arsenic (ppb)	0	10	1.2	1.2	N	2020	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes
Barium (ppm)	2	2	0.150	0.150	N	2020	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Copper (ppm)	1.3	AL= 1.3	0.200	0 exceeding AL	N	2019	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride (ppm)	4	4 State	0.71	0.64 to 0.81	N	2020	Water additive which promotes strong teeth.
Iron (ppb)	N/A	1000 State	280	280	N	2020	Erosion from naturally occurring deposits.
Lead (ppb)	0	AL= 15	3.6	1 exceeding AL	N	2019	Corrosion of household plumbing systems, erosion of natural deposits.
Manganese (ppb)	150	150 State	12.8	0.646 to 12.8	N	2020	Naturally-occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemicals; essential nutrient.
Nitrate (ppm)	10	10	0.07	ND. to 0.07	N	2020	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Nitrite (ppb)	1	1	0.24	0.24	N	2020	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Selenium (ppb)	50	50	6.4	6.4	N	2020	Discharge from petroleum and metal refineries; erosion of natural deposit; discharges from mines
Sodium (ppm)	N/A	N/A	4.4	4.4	N	2020	Erosion of naturally occurring deposits; used as a water softener.
Sulfate (ppm)	N/A	N/A	16	16	N	2020	Erosion of naturally occurring deposits.
Disinfectants/Disinfection By-Products							
TTHM [Total Trihalomethanes] (ppb)	N/A	80	42.0	7.8 to 56.3	N	2020	By-product of drinking water chlorination.
Total Haloacetic Acids (ppb)	N/A	60	21.2	2.99 to 22.8	N	2020	By-product of drinking water chlorination.
Chlorine (free) (ppm)	MRDLG =4	MRDL =4	1.1	1 to 1.2	N	2020	Water additive used to control microbes.
Volatile Organic Chemicals							
Cis-1,2-Dichloroethylene (ppb)	70	70	0.61	0.61	N	2020	Discharge from industrial chemical factories.
Test Results – Detected Unregulated Contaminants							
Contaminant (units)	MCLG/MCL	HA	Level Found	Range of Detections	Violation Y/N	Date of Sample	Likely Source of Contamination
Perfluorooctanesulfonic Acid (PFOS) (ppt)	N/A	14	18.0	ND. to 18.0	N	2020	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide active ingredient for insect bait traps; U.S. manufacture of PFOS phased out in 2002; however, PFOS still generated incidentally.
Perfluorooctanoic Acid (PFOA) (ppt)	N/A	2	4.8	ND. to 4.8	N	2020	Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishers, adhesives and photographic films.
Perfluorohexanesulfonic Acid (PFHxS) (ppb)	N/A	140	2.4	ND. to 2.4	N	2020	Manmade chemical; used in products to make them stain, grease, heat and water resistant.
HAA6Br (ppb)	N/A	N/A	20.49	0.592 to 20.49	N	2019	By-product of drinking water chlorination.
HAA9 (ppb)	N/A	N/A	34.31	5.98 to 34.31	N	2019	By-product of drinking water chlorination.

About The Data

Fluoride: Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride range of 0.6 mg/L to 0.8 mg/L.

Iron: This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.

Lead: 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 City of Freeport 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>.

Sodium: There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium restricted diet, you should consult a physician about this level of sodium in the water.

Trihalomethanes: Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous systems and may have an increased risk of getting cancer.

Unregulated Contaminants: A maximum contamination level (MCL) for this contaminant has not been established by either state or federal regulations, nor has mandatory health effects language. The purpose for monitoring this contaminant is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water, and whether future regulation is warranted.

Unregulated Contaminants - Perfluoroalkyl Substances (PFAS): In 2020, the City of Freeport's Public Water Supply was sampled as part of the State of Illinois PFAS Statewide Investigation. Results from this sampling indicated that two PFAS were detected in our drinking water above the health advisory level established by the Illinois EPA. In response to the high readings, the City of Freeport is conducting follow-up monitoring on a quarterly basis, evaluating which wells are affected, reducing or eliminating the flows from the affected wells and working on obtaining new sources of well water which are PFAS free. More information about PFAS health advisories can be obtained by visiting IEPA's web page at <https://www2.illinois.gov/epa/topics/water-quality/pfas/pages/pfas-healthadvisory.aspx> or the City of Freeport's website at <https://cityoffreeport.org/city-of-freeport-pfas-public-notice/>.

