



2022
ANNUAL WATER QUALITY REPORT

Annual Drinking Water Quality Report for 2022 for Johnson City Water Department

Why Are You Getting This Report?

To comply with New York State regulations, the Johnson City Water Department annually issues a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water as well as the need to protect our drinking water sources. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to New York State standards. A detailed summary of any analytical results is available at the Johnson City Water Department which is located at 44 Camden Street, Johnson City, New York. A copy of this report is available at Johnson City Municipal Services, 243 Main Street, Johnson City, New York. Additional information may also be obtained by calling the Johnson City Water Department at 607-797-2523.

Where Does Your Water Come From?

Drinking water sources include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Johnson City's water is produced from an abundant underground aquifer using five wells located throughout the Village. These wells are located on North Broad Street, Olive Street, and at our main plant on Camden Street in Westover. The total pumping capacity of these wells is 12,000,000 gallons per day. In addition, the Village has four reservoir tanks with a holding capacity of 5,000,000 gallons and additional booster stations are used to serve three different elevation zones. The water produced by these wells supplies all of the Village of Johnson City, Airport Road in the Town of Maine, Westover, Fairmont Park and Choconut Center in the Town of Union, and parts of the Town of Dickinson and the Village of Endicott. There are approximately 5,650 homes and businesses connected to 70 miles of water main, bringing safe drinking water to 15,174 (as taken from the 2010 census) people. We also provide water to 550 fire hydrants to help protect you and your home should the need arise. The Village of Johnson City wells are disinfected with liquid chlorination which is introduced at each well site. At our Camden Street treatment plant, Calciquest (a sequestering agent) is added to stabilize the water being pumped through air strippers. Air stripping is a process to remove any volatile contaminant that may be present in the raw water. The NYS Department of Health also supplies a source water assessment for our system showing possible and actual threats to the safety of our drinking water. The ratings, as shown in the **Susceptibility Table**, determine how susceptible each of our wells is to certain contaminants. These range from low to very high. This information is used to implement a plan for disinfection and treatment long before a problem arises.

What Are Some Potential Problems?

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 activities. It should be noted that drinking water, including bottled water, may be reasonably expected to contain at least trace amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. A major disadvantage with groundwater supply is that the water may be excessively hard and contain minerals such as iron and manganese due to the leaching of minerals from the soil. However, groundwater is less susceptible to microbial contamination such as Cryptosporidium.

Is Your Water Safe?

YES! In order to ensure your tap water is safe to drink, New York State and the EPA put regulations in place that limit the number of certain contaminants in the water provided by public water systems. As these regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, inorganic compounds, nitrate, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological

and synthetic organic compounds. The State allows us to test for some contaminants less than once per year as the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Broome County Health Department at 607-778-2887.

During 2022, the Johnson City Water Department was required to take a minimum of 20 bacteriological samples from the water distribution system per month. As you can see by the **Table of Detected Contaminants** (see page 8), we have learned through our testing that some contaminants have been detected. However, these contaminants are below New York State requirements and resulted in no violations.

Emerging Organic Contaminants

Perfluorooctanoic acid (PFOA), Perfluorooctansulfonic acid (PFOS), and 1,4 Dioxane (1,4-D)

PFOA, PFOS, and 1,4-D are relatively ubiquitous in the environment due to their historical widespread use and persistence. The New York State Health Department has instituted regulations requiring water systems to test for these contaminants.

PFOA and PFOS have been used in a variety of consumer and industrial products as surface coatings and/or protectants because of their nonstick properties. Research indicates that these compounds bioaccumulate in various organisms, including fish and humans.

1,4-D has been largely used as a solvent stabilizer for chemical processing but can also be found as a purifying agent in the manufacturing of pharmaceuticals as well as a contaminant in ethoxylated surfactants commonly used in consumer cosmetics, detergents, and shampoos. Research indicates that this chemical does not bioaccumulate in the food chain.

We are informing you that although our testing detected 1,4-Dioxane in all of our wells, it did not exceed the MCL set forth by the New York State Health Department. PFOA and PFOS were not detected in any of our wells during 2022.

Is Our Water System Meeting Other Rules That Govern Operations?

During 2022, our system was in substantial compliance with applicable State drinking water operating, monitoring and reporting requirements.

What Improvements Are We Making?

- Well 3 pump shaft was repaired and well was put back in service in October 2022.
- 275 ft of 6in water main between Harrison and Hudson on Grand Ave has been upgraded to 12in as part of an ongoing water main replacement in the Village.
- 18in insertion valve was installed on N. Arch between train tracks and Main St in order to have better water control.
- In July 2022 a valve cluster on Peterson and Burbank was replaced for better control of water flow.
- Water main replacement on Zoa Ave from Leigh St to Miriam St, as well as from Virginia to Miriam for better water quality.
- 5 hydrants replacements also took place in 2022 in various locations throughout the Village.
- Connection of Ave A, Ave B, Ave C and Helen Dr has been done for the EJ Victory building, this allowed for better flow, better water quality and fire protection.

Why Save Water and How to Avoid Wasting It

Are Water Leaks Costing You Money? Periodically You Should:



Check all faucets for drips. Replace worn and leaking washers, gaskets, pipes or defective fixtures.

Check for leaks on outside faucets, and make sure the valve closes properly.

Check toilets for leaks--they are the most common cause of high bills! Check the overflow of the tank to make sure no water is running over (float level may be set too high) The flapper valve in the bottom of the tank is also a location of a possible leaking toilet. To check for a flapper valve leak, put a small amount of food coloring in the toilet tank after it has filled. Do not flush the toilet for at least an hour, or overnight if possible. If the food coloring shows up in the bowl without flushing, you most likely have a leaking flapper or plunger ball valve.

How Much Water Do I Use?

Many customers ask the question "how much water does the average person use each day? The answer to this question requires a definition of the "average person". In general, per capita water use ranges from about 40 to 80 gallons per day (gpd). The following chart shows estimates of personal water use:

USE	Average / Person (gpd)
Bathing	15 - 25
Sink	3 - 5
Toilet	5 - 15
Washing Clothes	10 - 20
Washing Dishes	5 - 10
Cooking	1 - 2
Miscellaneous	1 - 3
Total	40 - 80

How to Check for Leaks



Studies show that dripping faucets and leaking toilets account for as much as 14% of all indoor water use, equivalent to 10 gallons per person of water lost per day.

Read Your Water Meter - Use your water meter to check for leaks in your home. Start by turning off all faucets and water-using appliances and make sure no one uses water during the test period. Take a reading on your water meter, wait for about 30 minutes, and then take a second reading. If the dial has moved, you have a leak.

Check for Leaky Toilets - The most common source of leaks is the toilet. Check toilets for leaks by placing a few drops of food coloring in the tank. If after 15 minutes the dye shows up in the bowl, the toilet has a leak.

Leaky toilets can usually be repaired inexpensively by replacing the flapper.

- Toilets can account for almost 30% of all indoor water use, more than any other fixture or appliance.
- Older toilets (installed prior to 1994) use 3.5 to 7 gallons of water per flush and as much as 20 gallons per person per day.
- Replacing an old toilet with a new model can save the typical household 7,900 to 21,700 gallons of water per year, cutting both your water and wastewater bills.






An average of 20% of all toilets leak!!

Check for Leaky Faucets - The next place to check for a leak is your sink and bathtub faucets. Replacing the rubber O-ring or washer inside the valve can usually repair dripping faucets.

The following table at the bottom of this page shows the amount of water that can be lost (and billed to your account) for various size leaks.

How Can I Check My Water Usage?

To determine your average daily use or to check your appliance usage, you can read your meter on an hourly, daily, or weekly basis. Simply record your meter reading at the beginning of a measurement period and again at the end of a period. The difference between these two meter readings will be the water used during that period. Note that your water meter reads in cubic feet and can easily be converted to gallons by multiplying the reading by 7.48 gallons per cubic foot.

Leak Size		Gallons Per Day	Gallons Per Month	Cubic Feet per Quarter
	A dripping leak consumes:	15 gallons	450 gallons	180 Cubic Feet
	A 1/32 in. leak consumes:	264 gallons	7,920 gallons	3,168 Cubic feet
	A 1/16 in. leak consumes:	943 gallons	28,300 gallons	11,319 Cubic Feet
	A 1/8 in. leak consumes:	3,806 gallons	114,200 gallons	45,681 Cubic Feet
	A 1/4 in. leak consumes:	15,226 gallons	456,800 gallons	182,721 Cubic feet
	A 1/2 in. leak consumes:	60,900 gallons	1,827,000 gallons	730,800 Cubic Feet

Information about water conservation ideas can be found at <https://www.epa.gov/greeningepa/water-conservation-epa>

What Does Your Water Cost You?

Customers Inside of the Village	Up to 1000 cu ft	1,001 cu ft - 5,000 cu ft	5,001 cu ft - 10,000 cu ft	over 10,001 cu ft
Water rates/100 cu ft	\$45.00	\$7.00	\$8.00	\$9.00

Customers Outside of the Village	Up to 1000 cu ft	1,001 cu ft - 5,000 cu ft	5,001 cu ft - 10,000 cu ft	over 10,001 cu ft
Water rates/100 cu ft	\$55.00	\$7.75	\$8.75	\$9.75

Information about water conservation ideas can be found at:

<https://www.epa.gov/greeningepa/water-conservation-epa>

VILLAGE OF JOHNSON CITY MUNICIPAL SERVICES 607-798-7861 243 Main Street, Johnson City, NY 13790					RETURN STUB WITH PAYMENT		PRESORTED FIRST CLASS MAIL U.S. POSTAGE PAID BINGHAMTON, NY 13905 Permit No. 219	
ACCOUNT NUMBER		SERVICE I.D.		DUE DATE		25.96		
012345		012345		04/30/2012		<small>TIME RETURN SERVICE REQUESTED</small>		
PREV. READ DATE		CUR. READ DATE		NET AMOUNT		AFTER DUE DATE		
11/15/2012		02/15/2012		216.32		216.32		
SERVICE		PREVIOUS READING		PRESENT READING		CONSUMPTION		AMOUNT
WATER		1551		1585		3400		60.32
SEWER						3400		94.00
REFUSE								62.00
						ACCOUNT NUMBER		SERVICE I.D.
						012345		012345
SEND PAYMENTS TO: 243 Main Street, Johnson City, NY 13790					Ray Jones 200 Oak Street Anywhere, USA 67890			
PAST DUE AMOUNT		CURRENT CHARGES		NET AMOUNT				
0.00		216.32		216.32				
DUE DATE		AFTER DUE DATE		NET AMOUNT				
04/30/2012		216.32		216.32				
100 Main Street								
SERVICE ADDRESS					25.96			

Each property is assigned an **account number**. There is a minimum of one service billed quarterly. The difference between the **previous** and **present reading** is the **consumption of water** for that quarter. The **amount** is the charge for that specific service. **Water** billing is based on actual **consumption**. We do not estimate readings. Sewer is billed off water consumption, but at a different rate. Rates can be found on our website, <https://www.villageofjc.com/water/>. **Refuse** is a flat fee based on both the property type and number of units. If there is a **past due amount**, it will be noted in the **past due** box. The **past due** plus the **current charges** is the **net amount**. The **net amount** is the total amount due. The **previous** and **current read dates** cover the quarterly period of service. The **due date** is when the bill needs to be paid in full in order to avoid a 12% penalty charge. The **service address** is the property the services are supplied to.

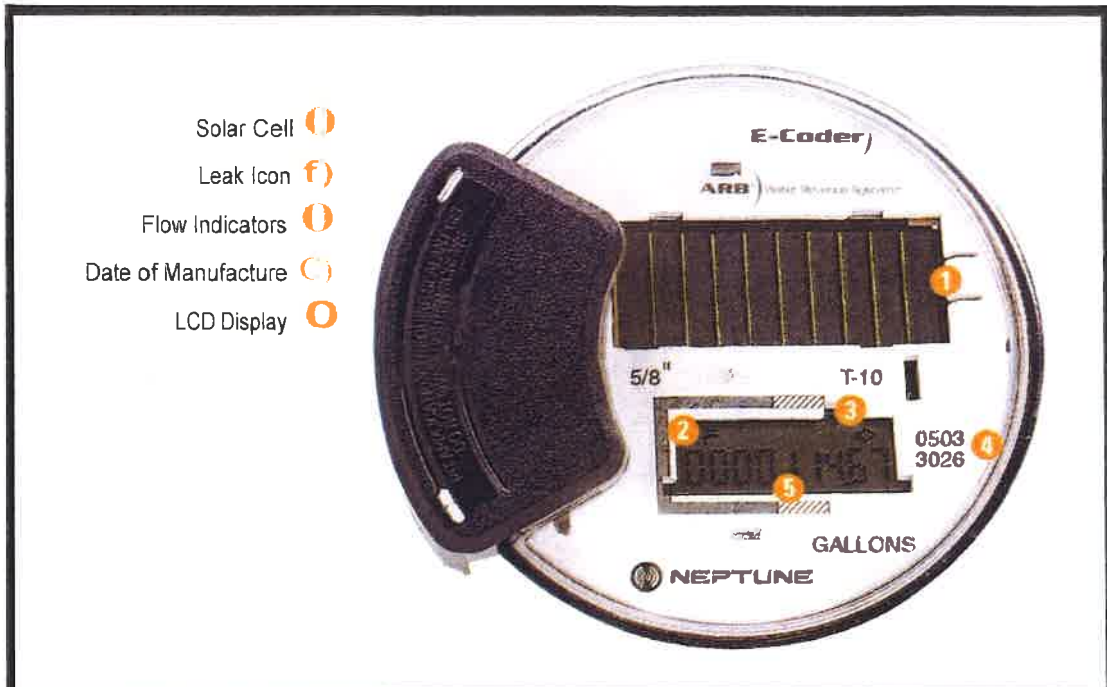
If there is a water meter installed in a property, a minimum bill will continue to be generated. To avoid incurring a minimum bill, the meter must be removed. The water will be shut off, and all services (including refuse pick-up) will be terminated. There is a meter reinstallation fee of \$150.00 for any property.

Shut Off Policy

After the due date, a 12% penalty will be added to overdue accounts. Notices of Nonpayment will be mailed and posted to any delinquent accounts. A **\$50.00 administration fee** will be added 15 days past the due date in addition to the current outstanding balance. The balance, including all penalties and fees, must be paid in full to avoid having your water service shut off.

If water is **shut off**, payment of a **service charge** of **\$150.00** will be incurred and payment is required prior to restoration of service to these premises. Please note that if your water is shut off, the property will be posted uninhabitable and water service **will not be restored until the next business day**.

This diagram will help you understand your water meter. The digital display will go dormant in order to conserve battery. **Using a flashlight**, shine it on the top of the meter to bring up the numbers and LCD display so you can read your meter and the other indicators explained below.



	<p>SOLAR CELL Located at the top of the E-Coder, supplies power for the LCD panel (light activated.)</p>										
	<p>FLOW INDICATOR Shows the direction of flow through the meter:</p> <table border="0"> <tr> <td style="background-color: #cccccc;">ON</td> <td>Water in use.</td> </tr> <tr> <td style="background-color: #cccccc;">OFF</td> <td>Water not in use.</td> </tr> <tr> <td style="background-color: #cccccc;">FLASHING</td> <td>Water is running slowly.</td> </tr> <tr> <td style="background-color: #cccccc;">(-)</td> <td>Reverse flow.</td> </tr> <tr> <td style="background-color: #cccccc;">(+)</td> <td>Forward flow.</td> </tr> </table>	ON	Water in use.	OFF	Water not in use.	FLASHING	Water is running slowly.	(-)	Reverse flow.	(+)	Forward flow.
ON	Water in use.										
OFF	Water not in use.										
FLASHING	Water is running slowly.										
(-)	Reverse flow.										
(+)	Forward flow.										
	<p>LEAK INDICATOR Displays a possible leak:</p> <table border="0"> <tr> <td style="background-color: #cccccc;">OFF</td> <td>No leak indicated.</td> </tr> <tr> <td style="background-color: #cccccc;">FLASHING</td> <td>Intermittent leak indicates that water has been used for at least 50 of the 96 15-minute intervals during a 24-hour period.</td> </tr> <tr> <td style="background-color: #cccccc;">CONTINUOUSLY</td> <td>Indicates water use for all 96 15-minute intervals during a 24-hour period.</td> </tr> </table>	OFF	No leak indicated.	FLASHING	Intermittent leak indicates that water has been used for at least 50 of the 96 15-minute intervals during a 24-hour period.	CONTINUOUSLY	Indicates water use for all 96 15-minute intervals during a 24-hour period.				
OFF	No leak indicated.										
FLASHING	Intermittent leak indicates that water has been used for at least 50 of the 96 15-minute intervals during a 24-hour period.										
CONTINUOUSLY	Indicates water use for all 96 15-minute intervals during a 24-hour period.										

TABLE OF DETECTED CONTAMINANTS - Village of Johnson City 2022

Contaminant	Violation Yes/No	Sample Location	Date of Sample	Level Detected (range)	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants								
Barium	No	Camden St. Well #6 Well #7	5/19/2020 5/19/2020 5/19/2020	0.111 0.112 0.0852	mg/l	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Lead ²	No	Distribution	9/7-9/9/2022	1.9 (ND-7.0)	ug/l	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits.
Copper ²	No	Distribution	9/7-9/9/2022	0.431 (0.0104-0.798)	mg/l	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Nitrate (as Nitrogen)	No	Camden St. Well #6 Well #7	3/14/2022 3/14/2022 3/14/2022	ND 1.01 1.00	mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Sodium ³	No	Camden St. Well #6 Well #7	3/14/2022 3/14/2022 3/14/2022	154 156 124	mg/l	N/A	See Health Effects	Naturally occurring; Road salt; Water softeners; Animal waste.
Disinfection Byproducts								
Total Trihalomethanes ⁴	No	Distribution	8/10/2022 10/11/2022	20.6 24.8	ug/l	N/A	80	By product of drinking water chlorination.
Haloacetic Acids ⁵	No	Distribution	8/10/2022 10/11/2022	3.15 6.57	ug/l	N/A	60	By-product of drinking water chlorination.
Emerging Organic Contaminants								
1,4-Dioxane	No	Camden St. Well #6 Well #7	2022 Quarterly	0.468-0.670 0.110-0.662 0.100-0.590	ug/l	N/A	1	Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites.
Radiological Contaminants								
Gross Alpha	No	Camden St. Well #6 Well #7	2/12/2019 2/12/2019 2013-2015	0.811 0.565 1.29	pCi/L	0	15	Erosion of natural deposits.
Radium-226 & Radium-228	No	Camden St. Well #6 Well #7	2/12/2019 2/12/2019 2013-2015	0.426 0.312 0.95	pCi/L	0	5	Erosion of natural deposits.

Notes:

2

The level presented represents the 90th percentile of the sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead/copper values detected at your water system.

3	Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.
4	These levels represent the Locational Running Annual Average levels (annual sampling) of the following contaminants: chloroform, bromodichloromethane, dibromochloromethane, bromoform.
5	These levels represent the Locational Running Annual Average levels (annual sampling) of the following contaminants: dibromoacetic acid, dichloroacetic acid, monochloroacetic acid, monobromoacetic acid, and trichloroacetic acid.

Definitions:

	<u>Maximum Contaminant Level (MCL):</u> The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.
	<u>Maximum Contaminant Level Goal (MCLG):</u> 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.
	<u>Action Level (AL):</u> The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
	<u>Non-Detects (ND):</u> Laboratory analysis indicates that the constituent is not present.
	<u>Milligrams per liter (mg/l):</u> Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).
	<u>Micrograms per liter (ug/l):</u> Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).
	<u>Nanograms per liter (ng/l):</u> Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).
	<u>Picocuries per liter (pCi/L):</u> A measure of the radioactivity in water.

**Johnson City Water Works
 NY0301668
 AWQR Source Water Assessment Summary**

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells, called the well sensitivity. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See section “Are there contaminants in our drinking water?” for a list of the contaminants that have been detected. While inorganic and organic contaminants were detected in our water, it should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants from natural sources. The presence of contaminants does not necessarily indicate that the water poses a health risk.

As mentioned before, our water is derived from four active drilled wells and one emergency well (not evaluated in this assessment). The source water assessment has rated wells #2, #3 (Camden St.) and #6 (Burns St.) as highly sensitive to both chemical and microbial contaminants. The wells rate a high sensitivity because of historic detections of chemical contaminants and because the wells are located in a very productive, unconfined aquifer where the subsurface soils allow large volumes of water to move through the aquifer. Well #7 (North Broad St.) is in an area where the aquifer is somewhat protected with a low permeability layer above and has rated a medium sensitivity to microbials but a high sensitivity to chemical contaminants, also due to historic chemical detections.

Potential contaminant sources were then evaluated and given a contaminant prevalence rating. The sensitivity and contaminant prevalence then determine the susceptibility of a particular well. The source water assessment has rated the Johnson City Water Works wells as having a low to high susceptibility to microbials, such as enteric bacteria and enteric viruses, and a medium-high to very high susceptibility to various chemical contaminants as noted in the table below. While significant sources of some types of contamination have not been identified in the assessment area, wells may have been given an elevated susceptibility rating for other chemicals because of high well sensitivities.

SUSCEPTIBILITY TABLE				
CONTAMINANT	Well #2	Well #3	Well #6	Well #7
Cations/Anions (Salts)	High	High	High	High
Enteric Bacteria	High	High	Medium-High	Low
Enteric Viruses	High	High	Medium-High	Low
Halogenated Solvents	Very High	Very High	Very High	Very High
Herbicides/Pesticides	High	High	Medium-High	Medium-High
Metals	High	High	High	High
Nitrate	High	High	High	High
Other Industrial Organics	High	High	High	High
Petroleum Products	Very High	Very High	High	High
Protozoa	High	High	Medium-High	Low

While the source water assessment rates our wells as being susceptible to microbials, please note that our water is disinfected to ensure that that the finished water delivered into your home meets New York State’s drinking water standards for microbial contamination.

The Village of Johnson City currently has an active wellhead and watershed protection plan in place to ensure drinking water safety. The source water assessment is another tool that can help direct further refinements to the plan. County and state health departments will also use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning, and education program.