

**Annual Drinking Water Quality Report For 2023**  
**Carmel Water District # 9 – Mahopac Hills**  
**Town of Carmel, New York**  
**(Public Water Supply ID # 3903648)**

## **INTRODUCTION**

To comply with State and Federal regulations, Carmel Water District #9, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of 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 State standards.

If you have any questions about this report or concerning your drinking water, please contact Bee & Jay Plumbing and Mechanical, at 845-628-3924 or the Town Engineer at 845-628-2087. We want you to be informed about your drinking water.

## **WHERE DOES OUR WATER COME FROM?**

In general, 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 can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water system serves less than 300 people through 140 service connections. The system utilizes 3 wells for the drinking water. Each well produces between 30 to 35 gallons per minute each. The well house is located off Locus Road. The water is chlorinated for disinfection before it is sent out to the distribution system. This system also has a 40,000 gallon pneumatic tank at the top of Vista Terrace which helps maintain the pressure in the system.

## **ARE THERE CONTAMINANTS IN OUR DRINKING WATER?**

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include; total coliform, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, synthetic organic compounds, and radiological. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, is more than one year old.

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. 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 (800-462-4791) or the Putnam County Health Department at 845- 808-1390.

**Table of Detected Contaminants**

Contaminant	Violation Yes/No	Date Of Sample	Level Detected	Unit of Measurement	MCLG	MCL	Sources in Drinking Water
<b>Inorganic Contaminants</b>							
Copper	No	7/09/23	0.123 <sup>1</sup> Range 0.167-0.895	mg/l	1.3	1.3 <sup>1</sup>	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	No	7/28/23	0.0006 <sup>1</sup> Range <0.0010-0.0052	ug/l	0.015	0.015 <sup>1</sup>	Corrosion of household plumbing systems, erosion of natural deposit.
Iron	No	7/09/23	0.016 <sup>A</sup>	mg/l	NA	0.3 <sup>A</sup>	Naturally occurring.
Manganese	No	7/09/23	0.004 <sup>A</sup>	mg/l	NA	0.3 <sup>A</sup>	Naturally occurring; Indicative of landfill contamination
Nitrate	No	06/07/23 7/07/23	0.99 4.00	mg/l	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium	No	02/17/23 06/18/23 07/17/23 8/29/23 11/22/23	67.4 41.7 60.4 59.7 82.2	mg/l	NA	See Health Effects	Naturally occurring; Road salt; Water softeners; Animal waste
Barium	No	7/09/23	0.322	mg/l	2	2	Discharge from drilling wastes and metal refineries. Erosion of natural deposits
Chloride	No	7/11/23	202	mg/l	NA	250	Naturally occurring or indicative of road salt contamination
Sulfate	No	7/07/23	24.4	mg/l	NA	250	Naturally occurring.
Zinc	No	7/09/23	0.104	mg/l	NA	5	Naturally occurring. Mining waste.
<b>Disinfection Byproducts</b>							
Total Trihalo-methanes (TTHMs - chloroform, bromodichloromethane, dibromochloromethane, bromoform)	No	7/07/23	0.50	ug/l	NA	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are found when source water contains large amounts of organic matter.
Haloacetic Acids (mono-, di-, and trichloroacetic acid, mono- and di-bromoacetic acid)	No	7/12/23	2.0	ug/l	N/A	60	By-product of drinking water chlorination needed to kill harmful organisms
<b>Radioactive Contaminants</b>							
Gross Alpha	N	7/27/23	4.62 ± 2.6	pCi/L	0	15	Erosion of natural deposits
Radium 226	N	7/25/23	ND±0.15	pCi/L	0	5	Erosion of natural deposits
Radium 226 + 228	N	8/03/23	ND ± 0.48	pCi/L	0	5	Erosion of natural deposits
Radium 228	N	8/03/23	ND ± 0.46	pCi/L	0	5	Erosion of natural deposits
Uranium	N	7/12/23	0.0030	ug/L	0	30	Erosion of natural deposits

<sup>1</sup> The level presented represents the 90<sup>th</sup> percentile of the total number of samples taken. 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 90<sup>th</sup> percentile is equal to or greater than 90% of the Lead/Copper values detected at your water system. Nine samples were collected for your system. The action level for Lead/Copper was not exceeded at any of the 9 sites.

<sup>A</sup> If iron and manganese are present, the total concentration of both should not exceed 500 ug/l.

Synthetic Organic Contaminants including Pesticides and Herbicides							
Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit of Measurement	MCLG	MCL	Sources in Drinking Water
Perfluorooctanoic acid (PFOA)	Yes	Quarterly	10.15 Range 8.37-12.2	ng/l	n/a	10	Released into the environment from widespread use in commercial & industrial applications
Perfluorooctanoic sulfonic (PFOS)	Yes	Quarterly	9.62 Range 7.87-12.5	ng/l	n/a	10	Released into the environment from widespread use in commercial & industrial applications

Contaminant	Location	1 <sup>st</sup> Quarter 2023	2 <sup>nd</sup> Quarter 2023	3 <sup>rd</sup> Quarter 2023	4 <sup>th</sup> Quarter 2023
PFOA	Entry	9.53	12.2	9.56	8.37
	Entry	10.5	12.1	8.80	
PFOS	Entry	11.8	12.2	11.9	8.47
	Entry	11.1	12.5	7.87	

### WHAT DOES THIS INFORMATION MEAN?

As you can see from the above tables, our system had two violations for PFOA & PFOS. The health effects are listed below for those contaminates. All other contaminants that were detected are below the level allowed by the state. The town is working on returning to compliance with PFAS regs.

#### Health Effects Language

**Sodium** - 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.

**Iron** - Iron has no health effects. At 1,000 ug/l a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/l, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/l represents a reasonable compromise as adverse aesthetic effects are minimized at this level. Many multivitamins may contain 3,000 or 4,000 micrograms of iron per capsule.

**PFOA** – PFOA caused a range of health effects when studied in animals at high exposure levels. The most consistent findings were effects on the liver and immune system and impaired fetal growth and development. Studies of high-level exposures to PFOA in people provided evidence that some of the health effects seen in animals may also occur in humans. The United States Environmental Protection Agency considers PFOA as having suggestive evidence for causing cancer based on studies of lifetime exposure to high levels of PFOA in animals.

**PFOS** – PFOS caused a range of health effects when studied in animals at high exposure levels. The most consistent findings were effects on the liver and immune system and impaired fetal growth and development. Studies of high-level exposures to PFOA in people provided evidence that some of the

health effects seen in animals may also occur in humans. The United States Environmental Protection Agency considers PFOS as having suggestive evidence for causing cancer based on studies of lifetime exposure to high levels of PFOS in animals.

## **NON-DETECTED CONTAMINANTS.**

The following is a list of contaminants, which, were sampled during the year 2022. These sample results indicated a “non-detect”. A non-detect means that laboratory analysis indicates that the constituent is not present. The list of non-detects are as follows:

1,4-dioxane, MTBE, HAA, Chloromethane, m,p-Xylene, o-Xylene, Isopropylbenzene, Styrene, n-Propylbenzene, tert-Butylbenzene, sec-Butylbenzene, 1,3,5-trimethylbenzene, 4-Isopropyltoluene, 1,2,4-Trimethylbenzene, Bromomethane, n-Butylbenzene, Hexachlorobutadiene, 1,2,4-Trichlorobenzene, Naphthalene, 1,2,3-Trichlorobenzene, MTBE, Dichlorodifluoromethane, Vinyl Chloride, Chloroethane, Methylene Chloride, Trichlorofluoromethane, 1,1-Dichloroethene, Bromochloromethane, 1,1-Dichloroethane, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, Chloroform, 1,2-Dichloroethane, 2,2-Dichloropropane, Dibromomethane, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dichloropropane, 1,1-Dichloropropene, Trichloroethene, 1,3-Dichloropropane, 1,1,2-Trichloroethane, 1,2-Dibromoethane, Bromoform, 1,1,1,2-Tetrachloroethane, 1,2,3-Trichloropropane, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Chlorobenzene, 2-Chlorotoluene, 4-Chlorotoluene, 1,3-Dichlorobenzene, 1,2-Dichlorobenzene, 1,4-Dichlorobenzene, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, 1,2-Dibromo-3-Chloropropane, Benzene, Toluene, Ethylbenzene.

### **Definitions:**

**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.

**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 contamination.

**Action Level (AL):** The concentration of a contaminant which, if 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.

**Level 1 Assessment:** A Level 1 assessment is an evaluation 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 an evaluation of the water system to identify potential problems and determine, if possible, why an *E. coli* MCL violation has occurred and/or why coliform bacteria total have been found in our water system on multiple occasions.

**Non-Detects (ND):** Laboratory analysis indicates that the constituent is not present.

**Nephelometric Turbidity Unit (NTU):** A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Milligrams per liter (mg/l):** Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

**Micrograms per liter (ug/l):** Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

**Nanograms per liter (ng/l):** Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).

**Picograms per liter (pg/l)**: Corresponds to one part per of liquid to one quadrillion parts of liquid (parts per quadrillion – ppq).

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

**Millirems per year (mrem/yr)**: A 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.

### **Mathematical Conversions**

1 mg/l = 1 ppm

1 ug/l = 1 ppb

1 ppm / 1000 = 1ppb

1ppb x 1000 = 1 ppm

### **WHAT DOES THIS INFORMATION MEAN?**

We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-462-4791).

The major source of copper in the water is corrosion of household plumbing systems, erosion of natural deposits, and leaching from wood preservatives.

### **IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATION?**

During 2023, our system was in compliance with applicable State drinking water operating requirements.

### **DO I NEED TO TAKE SPECIAL PRECAUTIONS?**

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as those with cancer under-going chemotherapy, persons who have undergone organ transplants, and people with HIV/AIDS or other immune system disorders. The elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care provider. Environmental Protection Agency and Center of Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbiological contaminants are available from the **Safe Drinking Water Hot Line (1-800-426-4791)**.

### **WHY SAVE WATER AND HOW TO AVOID WASTING IT?**

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and

- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter. After 15 minutes, if it moved, you have a leak.

## **BACKFLOW PREVENTION**

### **What is “Backflow”?**

Backflow occurs when water is pushed (called backpressure) or pulled (called back siphon). Backpressure is caused when the force of water at a property overcomes city water pressure. Generally backpressure is attributed to pumps, but can also be caused by tall buildings (due to the height and weight of the given column of water). Back siphon occurs when a "reverse siphon" is caused due to pressure loss or fluctuation. Generally water main breaks or large water uses like operating fire hydrants during a fire can cause back siphon to occur. The use of backflow prevention assemblies can help prevent backpressure and/or back siphon.

### **Backflow Prevention**

- Each water spigot (hose bib) should have a hose –bib vacuum breaker installed.
- Never submerge the hose end in any liquid.
- If using a spray nozzle, Release the pressure in the hose AFTER the hose bib is shut, Sun or heat can cause the hose pressure to become greater than the drinking water system pressure.
- Disconnect hoses from faucets or bibs after use.
- Store the hose in a manner that would prevent the end from dropping into a liquid or on the ground.
- Never attach hoses or other devices to tub or sink faucets that could be submerged in a liquid.

## **CLOSING**

Thank you for allowing us to continue to provide your family with quality drinking water. We ask that all our customers help us protect our water sources. If you have any questions regarding the information presented in this report, please do not hesitate to contact Bee & Jay Plumbing and Mechanical, at 845-628-3924. We are the operators of your water system and are here to answer any of your questions.