Annual Drinking Water Quality Report For 2020
Carmel Water District # 6 - Shell Valley
Town of Carmel, New York
(Public Water Supply ID # 3905709)

INTRODUCTION

To comply with State and Federal regulations, Carmel Water District #6 will be annually issuing a report describing the quality of your drinking water. This report will cover the time period 1/1/2020 - 12/31/2020. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water standards. 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 want to learn more, you can contact the operators of your water system, Bee & Jay Plumbing and Mechanical, at 845-628-3924 or the Town Engineer at 845-628-2087.

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WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap 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 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 your tap water is safe to drink, the State and the Environmental Protection Agency (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 220 people through 75 service connections. Our water supply consists of three (3) wells located off Tanya Lane in the Town of Carmel. Each well produces between 28 to 30 gallons per minute. The wells pump to two (2) 20,000-gallon atmospheric storage tanks. Chlorine is used for disinfection of the water. Booster pumps deliver water from the storage tank to 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, nitrates, nitrites, 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
Inorganic Contaminants							
Copper	No	08/28/18	0.125 [1] Range 0.078 – 0.156	mg/l	NA	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	No	08/28/18	0.016 [1] Range 0.001-0.062	mg/l	15	15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate	No	5/14/2020	2.41	mg/l	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium	No	2/14/2020 5/14/2020 8/26/2020 11/11/2020	56.9 55.5 54.5 55.3	mg/l	NA	See Health Effects	Naturally occurring; Road salt; Water softeners; Animal waste.
Barium	No	08/16/19	0.246	mg/l	2	2	Discharge from drilling wastes and metal refineries. Erosion of natural deposits
Chloride	No	08/16/19	140	mg/l	NA	250	Naturally occurring or indicative of road salt contamination
Iron	No	08/16/19	<0.001 [A]	ug/l	NA	300 [A]	Naturally occurring.
Manganese	No	08/16/19	0.006 [A]	ug/l	NA	300 [A]	Naturally occurring; Indicative of landfill contamination
Sulfate	No	08/16/19	29	mg/l	NA	250	Naturally occurring.
Zinc	No	08/16/19	0.038	mg/l	NA	15	Naturally occurring. Mining waste.
Disinfection Byproducts							
Total Trihalo-methanes (TTHMs - chloroform, bromodichlor-omethane,di-bromochlorometha ne, bromoform	No	7/15/2020	8.10	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 tricloroacetic acid, mono- and di-bromoacetic acid	No	7/15/2020	3.3	ug/l	N/A	60	By-product of drinking water chlorination needed to kill harmful organisms
Radioactive Contaminants							
Radium 226	N	7/15/2020	ND±0.16	pCi/L	0	5	Erosion of natural deposits
Radium 228	N	7/15/2020	ND±0.63	pCi/L	0	5	Erosion of natural deposits
Radium 226 + 228	N	07/15/2020	ND±0.65	pCi/L	0	5	Erosion of natural deposits
Gross Alpha	No	7/15/2020	ND±2.09	pCi/L	0	15	Erosion of natural deposits
Uranium	No	7/15/2020	0.0015	ug/L	0	30	Erosion of natural deposits

Contaminant	Violation Yes/No	Date Of Sample	Level Detected	Unit of Measurement	MCLG	MCL	Sources in Drinking Water
Synthetic Organic Contaminants including Pesticides and Herbicides							
1,4-Dioxane	No	10/8/20	ND	ug/l	n/a	1	Released into the environment from commercial & industrial sources & is associated with inactive and hazardous waste sites
Perfluoroctanoic acid (PFOA)	No	10/8/2020	6.14	ng/l	n/a	10	Released into the environment from widespread use in commercial & industrial applications
Perfluoroctanoic sulfonic (PFOS)	No	10/8/20	4.64	ng/l	n/a	10	Released into the environment from widespread use in commercial & industrial applications

[1] The level presented represents the 90th 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 90th percentile is equal to or greater than 90% of the Lead/Copper values detected at your water system. In this case, seven samples were collected at your water system and the 90th percentile value was the average (9ug/l) of the two highest values (2ug/l and 16 ug/l). The action level for lead was exceeded at 2 of the 7 sites tested.

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

Health Effects*:*

Gross Alpha – Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

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.

Chloride - No health effects. The MCL for chloride is the level above which the taste of water may become objectionable. In addition, to the adverse taste effects, high chloride concentration levels in the water contribute to the deterioration of domestic plumbing and water heaters. Elevated chloride concentrations may also be associated with the presence of sodium in drinking water.

1,4-Dioxane – Laboratory studies show that 1,4-dioxane caused liver cancer in animals exposed at high levels throughout their lifetime. Whether 1,4-dioxane causes cancer in humans in unknown. The United States Environmental Protection Agency considers 1x4-dioxane as likely to be carcinogenic to humans based upon studies of animals exposed to high levels of this chemical over their entire lifetimes.

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.

Definitions:

Variance & Exemption (V&E) – state or EPA permission not to meet an MCL or treatment technique under certain conditions.
Action Level (AL) – The concentrations of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.
Maximum Contaminant Level (MCL) – The "Maximum Allowed" (MCL) is 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 Contaminant Level Goal (MCLG) – The "Goal" (MCLG) is 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.
Non – Detects (ND) – Laboratory analysis indicates that the constituent is not present.
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 (ug/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) or nanograms per liter (nanograms/l) – One part per trillion corresponds to one minute in 2,000,000 years or a single penny in $10,000,000,000.
Picocuries per liter (pCi/L) – picocuries per liter is a measure of the radioactivity in water.
Millirems per year (mrem/yr) – measures of radiation absorbed by the body.
Nephelometric Turbidity Units (NTU) – is a unit of measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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Mathematical Conversions

1 mg/l = 1 ppm
1 ug/l = 1 ppb
1 ppm / 1000 = 1ppb
1ppb x 1000 = 1 ppm

NON-DETECTED CONTAMINANTS.

The following is a list of contaminants, which, were sampled during the year 2020. 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:

MTBE, Chloromethane, 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, Bromobenzene, 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.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATION?

During 2020 our system was in compliance with applicable State drinking water operating, monitoring and reporting 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 then 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.
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- 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.