Annual Drinking Water Quality Report For 2014

Carmel Water District # 2
Town of Carmel, New York
(Public Water Supply ID # 3903641)

INTRODUCTION

To comply with State and Federal regulations, Carmel Water District # 2 will be annually issuing a report describing the quality of your drinking water. This report will cover the time period 1/1/2014 - 12/31/2014. 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, Severn Trent Environmental Services, at 845-228-0460 or the Town Engineer at 845-628-2087.

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 supply comes from Lake Gleneida, located at the intersection of Route 52 and 6 in the Town of Carmel. Water is pumped from the lake to three *Diatomaceous Earth* filters. The water is chlorinated for disinfection. There is also a chemical added for corrosion control. The water is pumped to a 90,000-gallon clear well and then pumped to the distribution system by 4 turbine pumps. While being feed into the system, the water fills into 3 gravity atmospheric storage tanks which have a total capacity of 1.1 million gallons. These 3 tanks provide water to the consumer as well as provide fire protection.

FACTS AND FIGURES

Our water system serves approximately 5425 people through 1500 service connections. The total amount of water produced in 2014 was 256,811,000 gallons. The daily average was 703,592 gallons. On December 22nd the system experienced a catastrophic failure of its main pumps that supplies water to the filtration plant, with efforts from the emergency management and the emergency plan currently in place no loss of water was experienced by any of the systems users. The final repairs were completed on December 24th and the system returned to normal operations.

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, are 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 (845) 808-1390.

Water Quality Data for Carmel Water District #2

Contaminant	Violation Yes/No	Date Of Sample	Level Detected	Unit of Measurement	MCLG	MCL / AL	Sources in Drinking Water
Inorganic Contaminants							
Turbidity [1]	No	9/10/12	0.80	NTU	N/A	TT=>5 NTU	Soil Runoff
Turbidity [1]	No	N/A	100%	NTU	N/A	.TT= 95% of samples <1.0 NTU	Soil Runoff
Copper	No	8-14-13	0.137 [2] Range 0.005-.152	mg/l	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	No	8-14-13	6.0 [2] Range 1-10	ug/l	15	15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate	No	10/1/14	0.05	mg/l	10	10	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits.
Sodium	No	7-8-13	54.8	mg/l	NA	See Health Effects	Naturally occurring: Road salt: Water softeners: Animal waste
Barium	No	7/25/12	0.027	mg/l	2	2	Discharge from drilling wastes and metal refineries. Erosion of natural deposits
Chloride	No	7/25/12	90.7	mg/l	NA	250	Naturally occurring or indicative of road salt contamination
Iron	No	7/25/12	9 [3]	ug/l	NA	300 [3]	Naturally occurring.
Manganese	No	6/9/11	3 [3]	ug/l	NA	300 [3]	Naturally occurring; Indicative of landfill contamination.
Sulfate	No	6/9/11	5.6	mg/l	NA	250	Naturally occurring.
Disinfection Byproducts							
Total Trihalo-methanes (TTHMs - chloroform, bromodichloromethane,di-bromochloromethane, bromoform	No	1-7-14 4-9-14 7-9-14 10-1-14	Annual Average 52.03 Range 32.5 - 82	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	1-7-14 4-9-14 7-9-14 10-1-14	Annual Average 28.8 Range 6.3 - 37.9	ug/l	N/A	60	By-product of drinking water chlorination needed to kill harmful organisms

[1] Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year occurred on 1/21/14 (2.56 NTU). State regulations require that turbidity must always be below 5 NTU. The regulations require that 95% of the turbidity samples collected have a measurement below 0.5 NTU for conventional filtration, 1.0 NTU for slow sand and diatomaceous earth filtration. The recorded turbidity levels were within the acceptable range allowed and did not constitute a treatment technique violation.

[2] 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. Twenty samples were collected for your system. The action level for Lead/Copper was not exceeded at any of the 20 sites.

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

Health Effects:

- 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.

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.

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?

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.

NON-DETECTED CONTAMINANTS.

The following is a list of contaminants, which, were sampled during the year 2012. 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:
Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cyanide Total, Fluoride, Mercury, Selenium, Thallium, 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, Bromodichloromethane, 1,2-Dichloropropane, 1,1-Dichloropropene, Trichloroethene, 1,3-Dichloropropane, Dibromochloromethane, 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, Ethybenzene.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATION?

During 2014, 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.
- 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 Severn Trent Services 845-228-0460. We are the operators of your water system and are here to answer any of your questions.