ANNUAL WATER QUALITY REPORT

Water Testing Performed in 2015

Presented By
Village of Croton-on-Hudson

PWS ID#: 5903425

Meeting the Challenge

Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. Over the years, we have dedicated ourselves to producing drinking water that meets all State and Federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to your homes and businesses. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

Please remember that we are always available to assist you, should you ever have any questions or concerns about your water.

For more information about this report, or for any questions relating to your drinking water, please call John Spatta, Water Foreman, at (914) 271-3775, or visit Westchester County Department of Health at (914) 813-5000 or www.westchestergov.com/health.

Important Health Information

Some people may be more vulnerable to disease-causing microorganisms or pathogens in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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 from their health care providers about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, Giardia, and other microbial pathogens are available from the Safe Drinking Water Hotline at (800) 426-4791.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. 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. We are responsible for providing high-quality drinking water, but we 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 (800) 426-4791 or at www.epa.gov/safewater/lead.

Substances That Could Be in Water

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.

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 water poses a health risk. In order to ensure that tap water is safe to drink, the State and the U.S. EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the U.S. FDA's regulations establish limits for contaminants in bottled water that must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Facts and Figures

Our water system supplies approximately 8,060 people, primarily in residences but also in businesses and industries, through approximately 2,500 service connections. During 2015, the total amount of water withdrawn from the aquifer was approximately 392 million gallons. The daily average volume of water treated and pumped into the distribution system was slightly more than 1.0 million gallons per day. Approximately 93 percent of the total water produced was billed directly to consumers. The balance or unaccounted-for water was used for firefighting, hydrant use, distribution systems leaks, and unauthorized use.

The 2015 billing charge has six tiers. Tier 1 (base service up to 6,739 gallons per year) is charged at a base rate of $50.23 per billing cycle. Tier 2 (6,740 to 748,000 gallons per year) is $10.06 per 1,000 gallons. Tier 3 (748,001 to 3,740,000 gallons per year) is $11.07 per 1,000 gallons. Tier 4 (3,740,001 to 7,480,000 gallons per year) is $11.27 per 1,000 gallons. Tier 5 (7,480,001 to 11,220,000 gallons per year) is $11.58 per 1,000 gallons. Tier 6 (over 11,220,000 gallons year) is $12.09 per 1,000 gallons.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Village Board of Trustees meets on the first and third Mondays of each month beginning at 8:00 p.m. at the Stanley H. Kellerhouse Municipal Building, One Van Wyck Street, Croton-on-Hudson, NY 10520.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process 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. Here are few tips:

- 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 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 an invisible toilet leak. 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.

Facility Modification and System Improvements

The refurbishment of all wells by Subsurface Technologies, Inc., has been completed. The refurbishment has resulted in increased well pump efficiency. Variable frequency drives have been installed at wells 3 and 4 along with new high-voltage electric service at well 3. These changes also help to increase energy efficiency. A new standby generator system at well 3 is in the process of being completed.

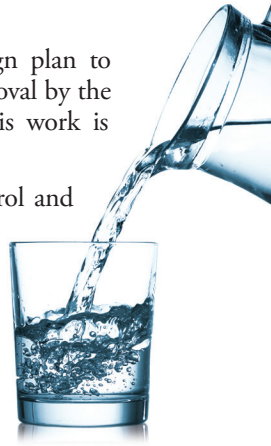
The water main improvement project for the Harmon and Wolf Road/Cook Lane areas is substantially complete. In 2016, it is anticipated that there will be some additional new water main installation and cement lining of existing water mains on various streets in the village. Some valve replacement work will also continue.

The chlorine contact-time improvements at the well field are substantially complete and were placed into operation; the installation of the chlorine residual analyzer is still pending.

The corrosion control treatment-system design plan to reduce copper levels at the tap is awaiting approval by the Westchester County Health Department. This work is expected to be completed in summer 2016.

The installation of the new Supervisory Control and Data Acquisition (SCADA) improvements will be complete by early spring 2016.

The water main improvement projects for Farrington Road/Hunter Place and Elliott Way are anticipated to begin in 2016.



How Is My Water Treated?

Groundwater pumped from the sand and gravel aquifer is treated with chlorine at the water treatment plant for disinfection purposes. We carefully monitor the amount of chlorine, adding the quantity necessary to protect the safety of our water without compromising taste or other water-quality parameters.

Source Water Assessment

The New York State Department of Health (NYS DOH) has completed a Source Water Assessment for this system. Based on available information, potential and actual threats to this drinking water source were evaluated. The State's 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. 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 the section "Sampling Results" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

The Source Water Assessment has rated our three wells as having a medium-high susceptibility to microbials. These ratings are due primarily to the fact that the wells are high-yielding wells, drawing from a possible unconfined aquifer, which is a shallow aquifer that occurs immediately below the ground surface and has no overlying protective layer to prevent contamination from potential sources. While the Source Water Assessment rates our wells as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State's drinking water standards for microbial contamination.

A copy of the Source Water Assessment can be obtained for a fee by contacting the Village Engineering Department at (914) 271-4783.

Where Does My Water Come From?

The Village of Croton-on-Hudson's main water source is a well system located in the Croton River Valley downstream from the New Croton Dam. Treated water is pumped directly from the well field into the distribution system, which consists of a network of water mains, four storage tanks (reservoirs), control valves, booster pump stations, hydrants, and other water-related infrastructure. The Village's total distribution system storage capacity is 2.3 million gallons. Most residents receive water from the municipal water system; the remainder use private wells, which are not covered by this report.

Nondetected Substances

As required by State regulations, we routinely test our drinking water for numerous contaminants. In 2015 and previous years, the following substances were tested for and were not detected:

1,2 Dibromo-3, 1,1-Dichloropropane, 1,2-Dichloropropane, 1,1,1,2-Tetrachloroethane,

1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,2-Dibromo-3, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,3-Dichloropropane, 1,4-Dichlorobenzene, 2,2-Dichloropropane, 2,4,5-Tp (Silvex), 2,4-D,2-Chlorotoluene, 3-Hydroxycarbofuran, 4-Chlorotoluene, 4-Isopropyltoluene.

Alachlor, Aldicarb, Aldicarb Sulfone, Aldicarb Sulfoxide, Aldrin, Antimony, Arsenic, Atrazine, Benzene, Benzo(A)Pyrene, Beryllium, Bromobenzene, Bromochloromethane, Bromomethane, Butachlor, Cadmium, Carbaryl, Carbofuran, Carbon Tetrachloride, Chlordane, Chlorobenzene, Chloroethane, Chloromethane, Chromium, Cis-1,2-Dichloropropene, Cis-1,3–Dichloroethane, Cyanide.

Dalapon, Di(2-Ethylhexyl)Adipate, Di-(2-Ethylhexyl)Phthalate, Dibromoacetic Acid, Dibromochloropropane, Dibromomethane, Dicamba, Dichlorodifluoromethane, Dieldrin, Dinoseb, Dioxin, Diquat, Endothall, Endrin, Ethylbenzene, Ethylene Dibromide, Fluoride, Gamma-Chlordane, Glyphosate, Heptachlor, Heptachlor Epoxide,

Hexachlorobenzene, Hexachlorobutadiene, Hexachlorocyclopentadiene, Isopropylbenzene, Iron.

Lindane, MEK, Mercury, Methomyl, Methoxychlor, Methylene Chloride, Metolachlor, Metribuzin, Microextractables, Monobromoacetic Acid, Monochloroacetic Acid, MTBE (Methy Tert Butyl Ether), Napthalene, N-Butylbenzene, Nitrite, N-Propylbenzene, Odor, Organolhalide, Oxamyl (Vydate).

PCBs, Pentachlorophenol, Picloram, Propachlor, Sec-Butylbenzene, Selenium, Silver, Simazine, Styrene, Tert-Buytlbenzene, Tetrachloroethene, Thallium, Toluene, Toxaphene, Trans-1, 2-Dichloroethene, Trans-1,3-Dichloropropene, Trichlorethene, Trichlorofluoromethane, Uranium, Vinyl Chloride, Xylene, Zinc.

About Our Violations

Violation Type	Explanation	Date and Length of Violation	Steps Taken to Correct Violation	Health Effects
Ground Water Rule (GWR) Treatment Technique Violation	Inadequate chlorine contact time for compliance	Chlorine contact time violation dated August 24, 2010; length is ongoing.	Improvements at the well field to increase chlorine contact time have been completed with the exception of the chlorine residual analyzer.	Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.
Lead & Copper Rule Action Level Exceedance	The copper sampling 90th-percentile value for the 40 samples collected was 1.77 ppm, which exceeded the action level of 1.3 ppm.	Copper Action Level exceeded April 2012 and the AL continues to be exceeded at every 6-month monitoring schedule.	Westchester County Health Department review of the design plans for the corrosion control treatment system is underway with construction expected in early summer of 2016.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The State requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	06/20/2013	2	2	0.0364	0.0284–0.0364	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta Particle/Photon Activity [from man-made radionuclides][1] (pCi/L)	06/20/2013	50	0	1.51	0.612–1.51	No	Decay of natural deposits and man-made emissions
Chloride (ppm)	06/20/2013	250	NA	60.8	52.9–60.8	No	Naturally occurring or indicative of road salt contamination
Chlorine (ppm)	2015	[4]	[4]	1.0	0.2–1.0	No	Water additive used to control microbes
Color (Units)	06/2013	15	NA	5	ND–5	No	Large quantities of organic chemicals; inadequate treatment; high disinfectant demand; disinfectant by-products like trihalomethanes; the presence of metals such as copper, iron and manganese; decaying leaves, plants, and soil organic matter
Combined Radium [226 and 228] (pCi/L)	06/20/2013	5	0	0.3	ND–0.3	No	Erosion of natural deposits
Gross Alpha Activity [including radium 226 but excluding radon and uranium] (pCi/L)	06/20/2013	15	0	0.185	ND–0.185	No	Erosion of natural deposits
Haloacetic Acids[2] (ppb)	08/06/2015	60	NA	6.76	4.56–6.76	No	By-product of drinking water disinfection needed to kill harmful organisms
Manganese (ppb)	06/20/2013	300	NA	110	ND–110	No	Naturally occurring; Indicative of landfill contamination
Nitrate (ppm)	09/17/2015	10	10	0.26	ND–0.26	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium[3] (ppm)	06/20/2013	(see footnote)	NA	35.6	27.8–35.6	No	Naturally occurring; Road salt; Water softeners; Animal waste
Sulfate (ppm)	06/20/2013	250	NA	10.1	9.7–10.1	No	Naturally occurring
TTHMs [Total Trihalomethanes][4] (ppb)	8/06/2015	80	NA	17.5	3.71–17.5	No	By-product of drinking water chlorination needed to kill harmful organisms; Formed when source water contains large amounts of organic matter

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	January–June 2015	1.3	1.3	1.77	0.07–2.04	12/40	Yes	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	July–December 2015	15	0	10.7	ND–29.2	3/40	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Nickel (ppb)	03/27/2012	1.9	1.7–1.9
Magnesium (ppm)	03/27/2012	10.5	10.0–10.5

[1] The State considers 50 pCi/L to be the level of concern for beta particles.
[2] The haloacetic acids detected were dichloroacetic acid and trichloroacetic acid.
[3] Water containing more than 20 ppm of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 ppm of sodium should not be used for drinking by people on moderately restricted diets.
[4] The trihalomethanes detected were bromodichloromethane, bromoform, chloroform, and dibromochloromethane.

Definitions

90th percentile: The levels reported for lead and copper represent the 90th percentile of the total number of 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 and copper values detected at your water system.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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 contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).