



**Mayor Mike Spano**

Thomas G. Meier, Commissioner of Public Works

# City of Yonkers 2014 Annual Water Quality Report



John Speight, Superintendent of Water  
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Assistant Superintendents of Water

Dear Consumer:

The City of Yonkers Bureau of Water, Public Water System ID NY5903465, is pleased to present our Annual Report describing the quality of your drinking water. This report provides an overview of our drinking water quality for calendar year 2014. Included are details about where your water comes from, how it is treated, the importance of conservation and source water protection, what it contains and how it compares to State Standards. The City of Yonkers is proud to report that our Water System in 2014 was in compliance with all State and Federal Drinking Water Standards. To provide our water customers accurate water consumption reads and billings the Department of Public Works with the assistance of the City's Engineering and Finance Departments embarked, in 2014, on an immense undertaking: the implementation of an Automated Water Meter Infrastructure (AMI) system. By the end of 2014, 70% of our 29,186 water customers received new state of the art replacement meters. In addition to improving billing accuracy, our goal is to encourage customer water usage awareness and conservation. At the end of this report we have included simple measures you can take to conserve water and reduce your water billing costs. If you haven't already had your meter replaced, please schedule an appointment with Keystone Utility Systems at (877) 587-2279. To obtain a printed copy of this report and for additional information about this report or any other drinking water issue you would like to personally discuss, please contact Mary Anne Wyatt-Dolan, Assistant Superintendent of Water, at (914) 377-6764. For more information about contaminants and potential health effects call the *Westchester County Department of Health* at (914) 813-5000. More information is also available online at <http://www.awwa.org>.

Thank you,

Thomas Meier, Commissioner of Public Works

### Customer Service

Water Quality Questions	914-377-6764
Water Emergencies 24hr	914-377-6765
Water Billing	914-377-6148
Schedule a Meter Read	914-377-6741
Mayor's Help Line	914-377-HELP (4357)
Yonkers' Problem Solver	<a href="http://www.yonkersny.gov/problemsolver">www.yonkersny.gov/problemsolver</a>



### What is Public Notification?

Subpart 5-1, section 5-1.78 of the NYS Sanitary Code requires the supplier of water to provide public notification for public health hazards and for all MCL, MRDL, treatment technique, monitoring and testing procedure violations and for other situations posing a risk to public health. Public notification requirements are divided into three tiers to take into account the seriousness of the violation:

#### **Tier 1 Public Notification**

Requires the supplier of water to provide public notification no later than 24 hours after a system learns of a public health hazard.

Public Health Hazard is defined as an existing or imminent condition which can be responsible for or cause illness, injury or death and for which immediate corrective or remedial action is required.

#### **Tier 2 Public Notification**

Requires the supplier of water to provide public notification within 30 days of learning of a violation or situation with the potential to have serious adverse effects on human health after long-term exposure, such as most MCL, MRDL and treatment technique violations that are not public health hazards. Depending on the violation the NYS DOH may grant extensions.

#### **Tier 3 Public Notification**

Requires the supplier of water to provide public notification within one year of learning of a less serious violation or situation that does not require a Tier 1 or Tier 2 notification, such as monitoring violations.

## Where Does Our Water Come From?

The City of Yonkers obtains its drinking water from the New York City Water Supply System, an unfiltered surface water. Most of this water originates from two protected watershed areas, the Catskill and Delaware, located in Delaware, Greene, Schoharie, Sullivan and Ulster counties west of the Hudson River in upstate New York. The New York City Department of Environmental Protection's (NYC DEP) Bureau of Water Supply, Quality and Protection oversees the operation, maintenance and protection of this upstate reservoir system; consisting of 19 reservoirs and 3 controlled lakes. On average, over a billion gallons of water

travels per day through two NYC DEP owned and operated aqueduct (tunnel) systems, the Catskill and Delaware, to feed the Kensico Reservoir located in Westchester County. Under normal operations, the waters are blended here before traveling further south to the NYC Hillview Reservoir located in Yonkers, New York. Before the water arrives at the Hillview Reservoir it enters our system at several locations. In addition, water also enters the Yonkers System from Westchester County's Water District #1 (WCWD #1) Kensico Line. From these points of entry, the water enters 385 miles of distribution piping to serve approximately 200,000 residents of the City of Yonkers through 29,186 metered service connections.



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## Source Water Assessment Findings

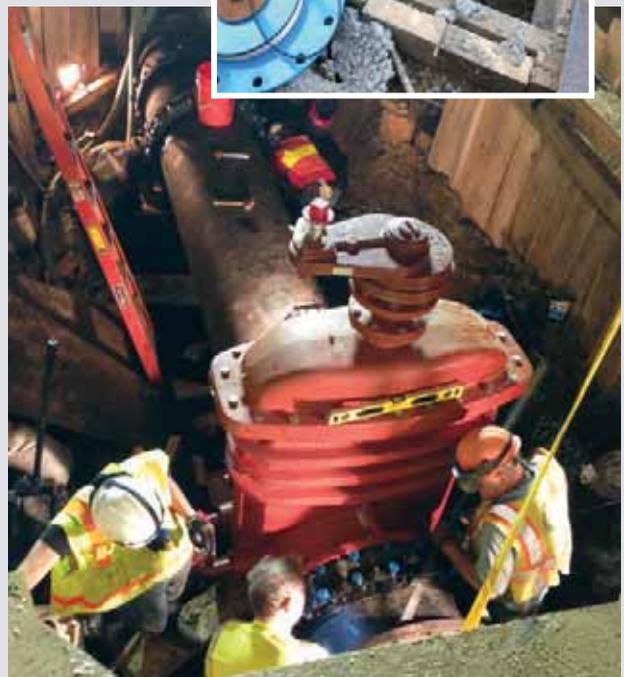
The NYSDOH has evaluated the susceptibility of water supplies statewide for potential contamination under the Source Water Assessment Program (SWAP). Summarized in the paragraphs below are their findings related to our source of supply, the Catskill/Delaware watersheds. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Furthermore, elevated susceptibility ratings do not mean that source water contamination has or will occur for this Public Water System (PWS). Please be advised this PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

Specifically the reservoirs in the Catskill/Delaware watersheds, a mountainous rural area, are relatively deep with little development along their shorelines. The main water quality concerns associated with land cover is agriculture, which can contribute microbial contaminants, pesticides and algae producing nutrients. There are also some potential contamination concerns associated with residential lands and associated wastewater discharges. However, advanced treatments which reduce contaminants are in place for most of these discharges. There are also a number of other discrete facilities, such as landfills, chemical bulk storages, etc. that have the potential to impact local water quality, but large significant water quality problems associated with these facilities are unlikely due to the size of the watershed and the surveillance and management practices currently in place.

Furthermore, the NYC DEP has implemented a series of programs to evaluate and protect source water quality within these watersheds. Their efforts focus on three important program areas: the enforcement of strengthened watershed rules and regulations; the acquisition and protection of watershed lands; and implementation partnership programs that target specific sources of pollution in the watersheds. Additional information on the water quality and protection efforts in these New York City watersheds can be found at DEP's web site at [www.nyc.gov/html/dep/html/watershed\\_protection/index.shtml](http://www.nyc.gov/html/dep/html/watershed_protection/index.shtml).

### Facts and Figures

In 2014, a total of 9.50 billion gallons of water entered our distribution system. Of that total, 6.96 billion was purchased from New York City, 2.54 billion from WCWD #1 and 5.93 million from the Town of Greenburgh. This yielded an average daily citywide consumption of 26.0 million gallons with an average daily per capital usage of 132.8 gallons. Approximately 90 % of the total amount of water that entered our system was billed directly to customers. The balance, or unaccounted for water [10 %], was used for fire fighting purposes, hydrant inspections, hydrant flushing to maintain water quality, hydrant use for street sweeping and new water main installation, distribution system leaks (main breaks and service leaks) and unauthorized use. In 2014, the average annual water bill for a family of 4 ranged between \$400 - \$550. Residential water rates in the City of Yonkers were increased on July 1, 2014, due to an increase in rates passed down by the New York City Water Board, from \$2.55 to \$2.93 per 100 cubic feet (748 gallons) however, they are still among the lowest water rates in Westchester County.



## How is the City of Yonkers' Water Treated?

The water obtained from the New York City Aqueducts is initially treated upstream at the Kensico Reservoir by the NYC DEP with the addition of chlorine, the primary disinfectant, followed by a secondary level of disinfection, ultraviolet light, to comply with the Federal Long Term 2 Enhanced Surface Water Treatment Rule's, LT2ESWTR, disinfection requirements to reduce the risk of exposure to a potentially harmful microbiological contaminant, Cryptosporidium. In addition, the NYCDEP treats the water with a low level of fluoride, 0.8mg/L, pursuant to the NYC Health Code Article 141. According to the US Centers for Disease Control and Prevention (CDC), fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.7 to 1.2 mg/L [parts per million]. However, since Americans have access to more sources of fluoride today than they did when fluoridation was first introduced, the US Department of Health & Human Services (HHS) on 1/7/11 proposed that the recommended level of fluoride in drinking water can be set at the lowest end of the current optimal range. Based on these developments the NYC Dept. of Health & Mental Hygiene authorized the NYC DEP to lower the target dose for fluoride to 0.8 mg/L. This dosage change took effect February 14, 2012. To ensure that the fluoride supplement in your water provides optimal dental protection, the NYSDOH requires that the NYC DEP monitor fluoride levels on a daily basis. During 2014, fluoride was continuously supplied except for brief outages to perform preventative and corrective maintenance. In total, fluoridation was offline 2% of the time. Outside of this DEP met the required fluoride levels and at no time did the fluoride level approach the fluoride maximum contaminant level (MCL) of 2.2 mg/L. Meanwhile, the water that enters the Yonkers System from the WCWD #1 Kensico Line is initially treated upstream, at Kensico, by Westchester County Water District #1, with the addition of sodium hypochlorite to meet New York State disinfection requirements, and sodium hydroxide and a liquid blended orthophosphate to meet New York State and Federal Corrosion Control Regulations. Consequently, during calendar year 2014 the high service sector of Northeast Yonkers, located along the east and west corridor of Central Park Avenue north of Palmer Road, received unfluoridated water. Therefore, these residents may want to discuss with their family dentist if some other form of fluoride supplement should be considered for dental protection. You can confirm if your area is receiving unfluoridated water by calling the Water Bureau at (914) 377-6765. Before all this water enters our distribution system it is again treated at our points of entry with either chlorine gas or calcium hypochlorite, to booster the disinfectant residual so that a detectable chlorine residual is maintained throughout the distribution system. In addition, the water entering the Yonkers system, from our two interconnections to the NYC Catskill Aqueduct and from our multiple interconnections to WCWD #1's source water supply from the NYC Delaware Aqueduct, is treated with corrosion control treatment in order to reduce the amount of lead and copper released into the consumer's tap water from household plumbing and lead service lines.



### What is Turbidity?

Turbidity is a measure of water clarity. Its source is soil runoff. We monitor it because it is a good indicator of water quality. Although turbidity has no health effects, elevated turbidity can interfere with the disinfection process.

### What is Disinfection?

A chemical or physical process designed to destroy or inactivate pathogenic organisms. The most widely used chemical disinfectant is chlorine.

### What is Ultraviolet Disinfection?

The process of passing water by special lamps that emit UV light to inactivate pathogenic microorganisms. UV treatment does not change the water chemically, as nothing is added except energy.

### Corrosion Control Treatment

A chemical process that coats the interior surface of pipe walls especially lead pipes and surfaces. The City of Yonkers uses food grade phosphoric acid as the corrosion inhibitor with caustic soda for pH control.

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## Capital Improvements

In our continuing efforts to improve and maintain our Water Bureau's infrastructure and to comply with existing and future State and Federal Regulations, the City of Yonkers' Bureau of Water implemented the following capital improvement projects during calendar year 2014: made substantial progress on major electrical and pumping upgrades at the Water Bureau's Pumping Facilities. They included: the installation of a new primary and redundant secondary electrical service, installation of redundant discharge piping, the installation of variable frequency motor control panels and high efficiency variable frequency drive water pumps. Continued working on the construction phase of the Crestwood Piping Project. This project will improve fire protection to the areas in Crestwood presently served by 4 inch water mains. In calendar year 2014, 669 lineal feet of new 8 inch water main was installed. Replaced a 1928 pressure control valve and vault on Odell Avenue with a state of the art pressure sustaining / regulating control valve and underground vault. This new valve, in addition to providing redundant domestic pressure and fire flow availability to the low pressure zone of northwest Yonkers, along Warburton Avenue, will also sustain domestic pressure on the high service upstream side of the valve to ensure satisfactory domestic pressure is maintained for two critical Healthcare related customers. Upgraded several on-line water quality analyzers that continuously monitor the pH and free chlorine residual on the water entering our distribution system. In addition, during calendar year 2014 the Water Bureau inspected 3,098 fire hydrants, repaired 486 and replaced 117 inoperable hydrants as part of its ongoing Hydrant Replacement Program. This program ensures that the Fire Department has operational hydrants for fire protection. Water Bureau personnel also repaired 99 main breaks, replaced 10 inoperable gate valves, investigated 896 leaks, installed 57 water taps and 7 wet connections, repaired 4 manhole frames, performed 4,617 code 753 mark outs of the City's underground water mains so that the City's water mains will not be damaged during excavations performed by other underground utilities and maintained an aggressive Cross Connection Control Program, reviewed 843 back flow mitigation applications, to protect the Water System from possible contamination. Finally, to provide our customers accurate water meter reads, the City of Yonkers commenced the replacement of water meters city-wide through an 18 month \$12.25 Million Dollar contract with Mueller Systems / Keystone Utility Systems. In calendar year 2014, 21,000 of our 29,186 water customers received new, state of the art, replacement water meters containing wireless two-way communication capabilities to allow the City to automatically read and track customer water usage. Once the meter is installed, the Water Bureau will no longer require access to a customer's premises to obtain a billing period's water consumption.

The following capital improvement projects are scheduled for calendar year 2015: complete the construction phase of the major electrical and pumping capital improvement upgrades at our Water Pumping Facilities; continue improving fire protection in the Crestwood section with the installation of new 8 inch water mains in the areas presently served by 4 inch mains; upgrade some of our Water Laboratory's instrumentation; conduct a city-wide leak detection survey to identify system water losses occurring from undetected leaks. The subsequent repair of these leaks will reduce the City's unaccounted for water losses and water purchase costs. Additional improvements include repairs to our Chemical Bulk Storage (CBS) Tank systems and perform the 5 Year Inspection on these tank systems to ensure compliance with NYS DEC 6 NYCRR Part 598 Regulations; and complete the water meter replacement phase of the new Automatic Water Meter Infrastructure (AMI) system.



## Water Quality

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. More information about contaminants and potential health effects can be obtained by calling the EPA's *Safe Drinking Water Hotline (1-800-426-4791)* or contacting them on the *World Wide Web* at [water.epa.gov/drink/index.cfm](http://water.epa.gov/drink/index.cfm). 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 activity. 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 that limit the amount of certain contaminants in water provided by public

water systems. The State Health Department and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The New York State Sanitary Code and the EPA require us to test our water on a regular basis to ensure its safety. Every day, throughout the City, Water Department personnel conduct tests to monitor the quality of our drinking water. Most of the required compliance monitoring for the City of Yonkers, including daily bacteriological analyses, physical, inorganic and trace metal analyses was performed by the City of Yonkers, Bureau of Water's NELAC accredited Environmental Laboratory, NYS Lab ID No. 10176. Other required monitoring tests (e.g. Synthetic Organic Contaminants including pesticides and herbicides, Radiological Contaminants, Volatile Organic Contaminants and Disinfection Byproducts including Haloacetic Acids (HAA5s) and Trihalomethanes (THMs)) were conducted by New York State Certified Laboratories. Last year Water Department Personnel collected 10,502 water samples. From those samples, tests were conducted for 168 different water contaminants. Of the 168 contaminants monitored, 33 were detected as denoted in this report.

The tables on the following pages list the names and the amounts of all the drinking water contaminants that were detected during the 2014 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The data presented in this report is from the most recent testing done in accordance with regulations. Unless otherwise noted, the data presented in these tables is from testing done from January 1, 2014 to December 31, 2014. Oftentimes, the state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Therefore, some of the data, though representative of the water quality, is more than one year old.



### Contaminants Monitored But Not Detected

The **Inorganic contaminants** monitored at the points of entry to our system but not detected in calendar year 2014 include: antimony, arsenic, beryllium, cadmium, cyanide, lead, mercury, nitrite, selenium, silver, thallium, total chromium and zinc. **Specified Organic contaminants** (*Pesticides, Herbicides, Dioxin, and PCB's*) monitored in our source waters but not detected include: Alachlor, Aldicarb, Aldicarb sulfoxide, Aldicarb sulfone, Atrazine, Carbofuran, Chlordane, 2,4-D, Endrin, Heptachlor, Heptachlor epoxide, Lindane, Methoxychlor, Polychlorinated biphenyls (PCB's), Pentachlorophenol, Toxaphene, 2,4,5-TP (Silvex), Aldrin, Benzo (a) pyrene, Butachlor, Carbaryl, Dalapon, bis (2-Ethylhexyl) adipate, bis (2-Ethylhexyl) phthalate, Dicamba, Dieldrin, Dinoseb, Hexachlorobenzene, Hexachlorocyclopentadiene, 3-Hydroxycarbofuran, Methomyl, Metolachlor, Metribuzin, Oxamyl vydate, Picloram, Propachlor, Simazine, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane and Methyl tert-butyl ether(MTBE). The **Principal and Unspecified Organic contaminants** that were monitored for, in 2014, and not detected in our source waters include: Bromoform, Dibromochloromethane, Benzene, Bromobenzene, Bromochloromethane, Bromomethane, N-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, 2-Chlorotoluene, 4-Chlorotoluene, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 1,1-Dichloropropene, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, Ethylbenzene, Hexachlorobutadiene, Isopropylbenzene, p-Isopropyltoluene, Methyl tert-butyl ether, Methylene Chloride, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Toluene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethene, Trichlorofluoromethane, 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, m-Xylene, o-Xylene, p-Xylene, Naphthalene, Vinyl chloride. In 2010 the NYS Department of Health [NYS DOH] waived the source monitoring requirement [every 18 months] for the following Pesticides, Herbicides and Dioxin: 1,2-Dibromo-3-chloropropane, Ethylene Dibromide [1,2-Dibromoethane], Diquat, Endothal, Glyphosate and 2,3,7,8-TCDD [Dioxin]. The NYS DOH has determined that the NYC DEP's source waters are not vulnerable to contamination by these compounds. In addition, in calendar year 2014 the bacteria *Escherichia coli* (*E. coli*), used to monitor the microbiological quality of the City of Yonkers' Water Distribution System, was not detected. In accordance with US EPA's 3<sup>rd</sup> Unregulated Contaminant Monitoring Rule (UCMR3) the City of Yonkers in calendar year 2014 tested but did not detect the following contaminants: chromium (total), cobalt, molybdenum, vanadium, 1,1-dichloroethane, 1,2,3-trichloropropane, 1,3-butadiene, bromochloromethane, bromomethane, chlorodifluoromethane, chloromethane, perfluorobutanesulfonic acid, perfluoroheptanoic acid, perfluorohexanesulfonic acid, perfluorononanoic acid, perfluorooctanoic acid, perfluorooctanesulfonic acid, 17- $\beta$ -estradiol, 17- $\alpha$ -ethynylestradiol, estriol, equilin, estrone, testosterone and 4-androstene-3,17-dione. The purpose of UCMR 3 monitoring was to provide assessment and occurrence data to support future decisions concerning the regulation of these contaminants. Furthermore, in calendar year 2009 the **Inorganic contaminant** asbestos was not detected at any of the vulnerable locations monitored within the City of Yonkers' water distribution system. In accordance with the monitoring requirements in subpart 5-1, section 5-1.52 Table 8A, of the NYS Sanitary Code our next round of asbestos compliance monitoring is scheduled in calendar year 2018.

The definitions below will assist you in your interpretation of the data:

**Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal or 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.

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

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Variations and Exemptions:** State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**90<sup>th</sup> Percentile Value:** The values reported for lead and copper represent the 90<sup>th</sup> percentile. 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 and copper concentrations detected in our water system.

**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 public health.

To convert from ppm (mg/L) to ppb (ug/L) multiply ppm level by 1000.

KEY TO TABLES	
AL = Action Level	NDL = No Designated Limits
EP = Entry Point; last point of treatment before first customer connection.	NTU = Nephelometric Turbidity Units; a measure of the clarity of water.
GT = Greater Than	pCi/L = picocuries per liter; a measure of radioactivity in water.
LT = Less Than	ppb = parts per billion or micrograms per liter (ug/L)
MCL = Maximum Contaminant Level	ppm = parts per million or milligrams per liter (mg/L)
MCLG = Maximum Contaminant Level Goal	TT = Treatment Technique
MRDL = Maximum Residual Disinfectant Level; effective January 2002.	uS/cm = microsiemens per centimeter; a measure of the ability to conduct current.
N/A = Not Applicable	1/cm = inverse centimeter
ND = Not Detected	HRL = Health Reference Level used by EPA to evaluate occurrence data

## Footnotes

<sup>1</sup>The NYS DOH allows the gross alpha particle measurement to substitute for the required uranium measurement provided the gross alpha particle activity does not exceed 15pCi/L.

<sup>2</sup>The State considers 50pCi/L to be the level of concern for beta particles.

<sup>3</sup>The MCL listed for Radium 226 and 228 represents the combined Radium 226 / 228 MCL.

<sup>4</sup>Calcium contributes to the total hardness of water. The total hardness of our drinking water is  $\approx$  20.0 mg/L as CaCO<sub>3</sub>. This is considered soft. In general surface waters, such as the NYC water supply, are softer than groundwater [well waters].

<sup>5</sup>On November 22, 2014 our Hillview Entry Point's chlorine residual exceeded the Maximum Residual Disinfectant Level, 4.0 ppm, for 30 minutes due to an over treatment by the NYC DEP while they were re-establishing flow into their Catskill Aqueduct following an Aqueduct shutdown. This exceedance did not constitute a violation because compliance is based on a running annual arithmetic average as opposed to single measurements.

<sup>6</sup>The level presented represents the 90th percentile concentration of the 58 first draw residential tap samples collected between June 1, 2012 and September 30, 2012. The 90th percentile value was the 52nd ascending copper concentration of the 58 samples collected. The Action Level for copper was not exceeded at any of the sites tested.

<sup>7</sup>The reported maximum level detected is the highest average observed in calendar year 2014 at anyone of our Entry Points.

<sup>8</sup>If Iron and Manganese are present; the total concentration of both should not exceed 500 ppb.

<sup>9</sup>The level presented represents the 90th percentile concentration of the 58 first draw residential tap samples collected between June 1, 2012 and September 30, 2012. The 90th percentile value was the 52nd ascending lead concentration of the 58 samples collected. The Action Level for lead was exceeded at two of the sites tested.

<sup>10</sup>Water containing more than 20 ppm 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 sodium diets.

<sup>11</sup>Coliforms are bacteria, which are naturally present in the environment. They are used as indicators that other, potentially harmful bacteria may be present.

<sup>12</sup>Entry Point data are single turbidity measurements whereas; the Distribution System data is representative of the monthly distribution sample average.

<sup>13</sup>TTHM is the sum of the concentration of chloroform, bromodichloromethane, dibromochloromethane and bromoform. These compounds have the potential to form as a result of chlorine (the disinfectant added to our drinking water) combining with the natural organics in water. The reported level detected, 37.1 ug/L, is the highest locational running annual average calculated from quarterly data results observed at one of the City's eight Stage 2 monitoring locations. Compliance was based on the average of 4 quarters of sampling results.

<sup>14</sup>There is no collective MCLG for this contaminant group.

<sup>15</sup>HAA5 is the sum of the concentration of mono-, di- and trichloroacetic acids and mono- and dibromoacetic acids. They have the potential to form as a result of chlorine (the disinfectant added to our drinking water) combining with the natural organics in water. The reported level detected, 39 ug/L, is the highest locational running annual average calculated from quarterly data results observed at one of the City's eight Stage 2 monitoring locations. Compliance was based on the average of 4 quarters of sampling results.

## RADIOLOGICAL DETECTED CONTAMINANTS

Contaminant	Date Teste	Unit	MCL	MCLG	Level Detected	Range of Detected Levels	Major Sources	Violation
<sup>1</sup> Gross Alpha	Oct. 2013	pCi/L	15	0	0.92	0.36 - 0.92	Erosion of natural deposits.	No
Gross Beta	Oct. 2013	pCi/L	50 <sup>2</sup>	0	0.69	0.44 - 0.69	Decay of natural deposits and man-made emissions	No
Combined Radium 226 & 228	Oct. 2013	pCi/L	5 <sup>3</sup>	0	0.52	-	Erosion of natural deposits.	No

## Detected Contaminants

### WATER QUALITY PARAMETERS USED TO ASSESS CORROSION CONTROL TREATMENT

Contaminant	Date Tested	Unit	MCL	MCLG	Max. Level Detected	Range of Detected Levels	Major Sources	Violation
pH (Hydrogen Ion) - EP Distribution System	2014	units	NDL	N/A	7.84 7.30	6.50 – 8.49 6.63 – 7.30	Impacted by acid rain and the addition of water treatment chemicals.	No
Total Alkalinity – EP Distribution System	2014	mg/L	NDL	N/A	20.9 20.4	LT 20 (12.8) – 26.8 LT 20 (14.4) – 20.4	Erosion of soil and rock formations. Impacted by Water Treatment chemicals.	No
Conductivity – EP Distribution System	2014	uS/cm	NDL	N/A	97.3 95.0	67.0 – 119 72.0 – 95.0	Presence of ions due to erosion of natural deposits.	No
Water Temperature – EP Distribution System	2014	°C	NDL	N/A	11.7 22.0	2.0 – 19.0 4.0 – 22.0		No
<sup>4</sup> Calcium – EP Distribution System	2014	ppm	NDL	N/A	5.99 6.41	5.12 – 6.73 5.13 – 6.41	Erosion of soil and rock formations.	No
Orthophosphate as P- EP Distribution System	2014	ppm	NDL	N/A	1.98 2.55	LT 0.200 – 3.09 LT 0.200 – 2.55	Water treatment chemical added to reduce the release of lead from household plumbing.	No

### REGULATED INORGANIC and PHYSICAL CONTAMINANTS

Contaminant	Date Tested	Unit	MCL	MCLG	Max. Level Detected	Range of Detected Levels	Major Sources	Violation
Aluminum	May 2014	ppb	NDL	N/A	27.2	14.3 – 27.2	Erosion of natural deposits	No
Barium	May 2014	ppb	2000	2000	18.0	17.3 – 18.0	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	No
Chloride	May 2014	ppm	250.0	N/A	13.5	13.0 – 13.5	Naturally occurring or indicative of road salt contamination.	No
Chlorine, Free Entry Point Distribution System Disinfectant Residual	2014	ppm	MRDL 4.0	MRDLG 4	1.35 Average 0.97 Average	0.20 – <sup>5</sup> 4.8 0.12 – 1.80	Water additive used to control microbes.	No
Color Apparent	July 2014	Units	15	N/A	10	2.5 – 10	Presence of metals, copper, iron, manganese and decaying leaves, plants and soil organic matter.	No
Copper	June – Sept. 2012	ppm	AL=1.3	1.3	<sup>6</sup> 0.166	0.026 – 0.242	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.	No
Fluoride	2014	ppm	2.2	N/A	<sup>7</sup> 0.86	LT 0.10 – 1.00	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factories.	No
<sup>8</sup> Iron	May 2014	ppb	300	N/A	46.4	28.1 – 46.4	Erosion of soils and natural deposits, corrosion of the interior walls of water mains.	No
Lead	June – Sept. 2012	ppb	AL=15	0	<sup>9</sup> 4.70	LT 1.00 – 56.1	Corrosion of household plumbing systems; erosion of natural deposits.	No
<sup>8</sup> Manganese	May 2014	ppb	300	N/A	14.0	10.7 – 14.0	Naturally occurring; Indicative of landfill contamination.	No
Nickel	May 2014	ppb	NDL	NDL	0.361	0.338 – 0.361	Erosion of natural deposits.	No
Nitrate mg/L as Nitrogen	March 2014	ppm	10	10	0.281	0.230 – 0.281	Run off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	No
pH (Hydrogen Ion)	2014	Units	NDL	N/A	<sup>7</sup> 7.48	6.46 – 9.10	Impacted by acid rain & the addition of water treatment chemicals.	No
<sup>10</sup> Sodium	May 2014	ppm	NDL	N/A	11.4	8.05 – 11.4	Naturally occurring; road salt.	No
Sulfate	May 2014	ppm	250.0	N/A	4.53	4.50 – 4.53	Naturally occurring.	No
<sup>11</sup> Total Coliform Bacteria	July 2014	% Positive Samples in any 1 month	GT 5%	N/A	Highest Monthly % 2% July 2014 3 Positive Samples	N/A	Naturally present in the environment.	No
<sup>12</sup> Turbidity Entry Point Distribution System	March 2014 February 2014	NTU	TT ≤ 5 5	N/A	1.88 1.37	0.39 – 1.88 0.72 – 1.37	Soil run off	No

### REGULATED ORGANIC CONTAMINANTS

Contaminant	Date Tested	Unit	MCL	MCLG	Level Detected	Range of Detected Levels	Major Sources	Violation
<sup>13</sup> TTHMs Total Trihalomethanes Disinfection Byproducts	2014 Quarterly Monitoring	ppb	80	<sup>14</sup> N/A	37.1 Highest Locational Running Annual Average	14 – 44	By-product of drinking water chlorination. TTHMs are formed when source water contains large amounts of organic matter.	No
<sup>15</sup> HAA5 Total Haloacetic Acids (5) Disinfection Byproducts	2014 Quarterly Monitoring	ppb	60	<sup>14</sup> N/A	39 Highest Locational Running Annual Average	3.3 – 48	By-product of drinking water disinfection. Disinfection is needed to kill harmful organisms.	No

### UCMR 3 DETECTED CONTAMINANTS

Contaminant	Date Tested	Unit	MCL	MCLG	Level Detected	Range of Detected Levels	Major Sources	Violation
Chlorate	2014	ppb	HRL = 210	NDL	76.5	LT 20 – 86	Agricultural defoliant; disinfection by-product.	No
Chromium-6	2014	ppb	NDL	NDL	0.069	0.031 – 0.076	Naturally-occurring element; used in making steel and other alloys, chrome plating and leather tanning and wood preservation.	No
Strontium	2014	ppb	HRL = 1500	NDL	21.5	18 - 22	Naturally-occurring element used in the face plate glass of cathode ray tube TVs to block X-Ray emissions.	No

### UCMR 3 DETECTED CONTAMINANTS

Contaminant	Date Tested	Unit	MCL	MCLG	Level Detected	Range of Detected Levels	Major Sources	Violation
1,4-dioxane	2014	ppb	50	NA	0.0725	LT 0.07 – 0.11	Used as a solvent in the manufacturing of paper cotton, textile products, cosmetics and shampoos.	No

#### What Do These Results Mean?

In accordance with State and Federal Drinking water regulations the City of Yonkers is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. Through our testing we have learned that some contaminants have been detected; however these contaminants were detected at levels below New York State requirements. As you can see from the tables our water system had *no violations* in calendar year 2014.



#### Is Our Water System Meeting Other Rules That Govern Operations?

The City of Yonkers is proud to report that in calendar year 2014 the City's Water System was in compliance with all applicable State and Federal Drinking Water requirements.

#### Information on Cryptosporidium and Giardia

Cryptosporidium (a protozoan) is a microbial pathogen found in surface water and groundwater under the influence of surface water. Federal and State Law require all water suppliers to notify their customers about the potential risks of Cryptosporidium. During 2014, as part of routine source water monitoring, NYC collected 52 weekly plus 2 additional, 50 liter volume, samples from their Kensico Reservoir effluent and analyzed them for Cryptosporidium oocysts. Of these samples, 4 tested positive for between 1 - 3 Cryptosporidium oocysts. Cryptosporidium must be ingested to cause the gastrointestinal infection cryptosporidiosis and it may be spread through means other than drinking water. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing this life-threatening illness. We encourage immuno-compromised individuals to consult with their health care provider regarding appropriate precautions to take to avoid infection. Throughout calendar year 2014 NYC DEP's new Ultraviolet Disinfection Facility provided the required 2 Log Cryptosporidium Inactivation credit as defined in the US EPA's Long Term 2 Enhanced Surface Water Treatment Rule (LT2SWTR) for unfiltered water systems. Therefore, in 2014 90% of the City of Yonkers' source water supply received the required level of treatment to satisfactorily reduce the risk of exposure to Cryptosporidium.

Giardia (a protozoan) is another microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection alone. During 2014, as part of routine source water monitoring, NYC collected 52 weekly plus 2 additional, 50 liter volume, samples from their Kensico Reservoir effluent and analyzed them for Giardia cysts. Of these samples, 31 tested positive for between 1 – 6 Giardia cysts. Therefore, testing indicates the presence of Giardia in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Please be advised, that in 2014, the City of Yonkers complied with both State and Federal disinfection requirements that ensure that the Giardia cysts, found in our source water, were satisfactorily inactivated before the water reached our 1<sup>st</sup> customer's service connection except for two instances: 2/19/14 and 6/11/14. On these days the Contact Time (CT) Inactivation Ratio, for the inactivation of Giardia, was not achieved for approximately a 1 hour each day at our Entry Point serving the northeast high service sector of Yonkers. These failures were due to chlorination interruptions by WCWD#1 at Kensico Dam. Please be advised that these exceptions did not constitute a public health hazard or violation because Federal and State Regulations allow up to one failure per month. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances, no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with giardiasis. Individuals who think that they may have been exposed to Giardia should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other similar settings where hand washing practices are poor. Additional information on Cryptosporidium and Giardia can be found on NYC DEP's website at [www.nyc.gov/html/dep/html/drinking\\_water/pathogen.shtml](http://www.nyc.gov/html/dep/html/drinking_water/pathogen.shtml).

#### Unregulated Contaminant Monitoring Rule (UCMR)

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that every 5 years the US EPA issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems. The 1<sup>st</sup> and 2<sup>nd</sup> rounds of UCMR monitoring, UCMR 1 and UCMR 2, were conducted between 2001 - 2003 and 2008 – 2010. During calendar years 2013 - 2015, all public water systems serving a population greater than 10,000 conducted occurrence and assessment monitoring under UCMR 3 for 21 unregulated contaminants suspected to be present in drinking water but do not have health based standards under the Safe Drinking Water Act. Furthermore, public water systems serving greater than 100,000 will monitor for 7 additional contaminants. In accordance with the Rule, the City of Yonkers performed UCMR 3 monitoring between September 2013 and June 2014. EPA will use this data to support future decisions concerning the regulation of these contaminants. Of the 28 UCMR3 contaminants monitored in calendar year 2014, 4 were detected as indicated in the tables on page 9 and 10.

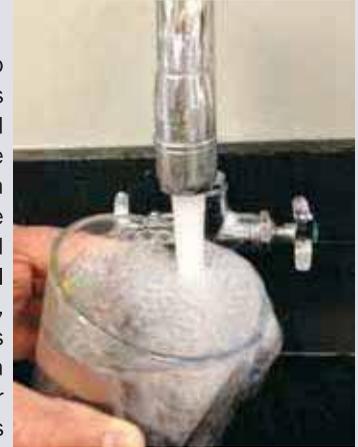
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## Do I Need To Take Special Precautions?

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons 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 provider 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 1-800-426-4791*.

### Lead in Drinking Water

Although, based on our 2012 1<sup>st</sup> draw Lead and Copper monitoring results, we are not mandated to present information on lead in drinking water the City of Yonkers has included it due to the serious health problems associated with lead exposure. According to the EPA the greatest exposure to lead is swallowing or breathing in lead paint chips or dust. But lead in drinking water can also cause a variety of adverse health effects. Pregnant women and their fetuses, infants and young children are more vulnerable to lead in drinking water than the general population because their bodies are developing at a rapid rate of growth. Elevated levels of lead can cause damage to the brain, red blood cells, kidneys and can significantly harm a fetus causing lower birth weights and slow down its normal mental and physical development. Exposure to even low levels of lead in children can cause low IQ, hearing impairment, reduced attention span and poor classroom performance. The City of Yonkers is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components, including faucets and fixtures. Therefore, it is possible that lead levels in 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 levels in your home water, you may wish to have it tested. To reduce your exposure to lead in drinking water, flush your cold water tap for 30 seconds to 2 minutes before using water that has been standing in the pipes for several hours. Periodically remove and clean the aerator on faucets used for human consumption. Use only cold water for cooking, drinking and making baby formula. Additional information is available from the *Safe Drinking Water Hotline 1-800-426-4791* or [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead) and the *Westchester County Health Department, Childhood Lead Poisoning Prevention Program (914) 813-5240*.



### Variations, Exemptions

In accordance with the 1986 Federal Surface Water Treatment Rule (SWTR), surface water supplies, such as the New York City Water Supply, were required by June 29, 1993 to implement specific water treatment techniques (filtration and/or disinfection) to comply with the rule's performance standards. In 1992, the New York City Water Supply applied for and was granted a filtration avoidance waiver from the USEPA for the Catskill and Delaware supplies, south of the Kensico Reservoir, through December 31, 2002. In 2002 the EPA, upon review of New York City's Watershed Protection Plan, extended the city's federal filtration avoidance waiver for the Catskill and Delaware systems until 2007. In August 2006, the EPA issued a report indicating that the NYC DEP had "successfully satisfied its obligations specified in the 2002 Filtration Avoidance Determination (FAD)". Subsequently, in December 2006 the NYC DEP submitted to the EPA its 2006 Long Term Watershed Protection Program in support for renewal of its FAD for the Catskill and Delaware Systems. This program consists of several activities to enhance the protection of the City's water supply system from contamination, degradation and pollution: land acquisition, infrastructure upgrades, protection of the watersheds natural resources, monitoring and modeling, public education and the building of a large scale ultraviolet light disinfection facility to treat the Catskill and Delaware effluents from the Kensico Reservoir. Based upon review and extensive consultations between EPA, NYC DEP, NYSDOH and the NYS DEC the EPA on July 30, 2007 issued a 10 year FAD extension, consisting of two 5 year periods 2007 - 2012 and 2012 - 2017, to the NYC DEP for the Catskill and Delaware systems south of the Kensico Reservoir. In 1992, the City of Yonkers also applied for and was granted filtration avoidance. This variance is still in effect, contingent on the City of Yonkers and the City of New York's continued demonstration in meeting the avoidance criteria. On December 1, 2012 the NYC DEP, in accordance with the additional treatment requirements for unfiltered water systems in US EPA's Long Term 2 Enhanced Surface Water Treatment Rule (LT2SWTR), received the required 2 Log *Cryptosporidium* inactivation credit from the NYS DOH for their new ultraviolet Disinfection Facility. Therefore, since December 1, 2012 90% of the COY' source water supply now receives the required level of treatment to satisfactorily reduce the risk of exposure to *Cryptosporidium*.

In August 29, 1994, The City of Yonkers Bureau of Water was granted a Biofilm variance from the New York State Department of Health. This variance recognizes that the Maximum Contaminant Level (MCL) cannot be used to determine the public health significance of coliform bacteria being detected in the distribution system, when biofilms, and not contaminated water, are the source of the bacteria. Biofilms are established colonies of bacteria that have been determined not to represent an unreasonable risk to the public health.

On April 10, 2010 the Westchester County Department of Health granted the City of Yonkers reduced 1<sup>st</sup> draw Lead and Copper at the Tap Monitoring, at the reduced number of sampling sites, from annually to once every three [3] years as a result of achieving compliance with the Lead and Copper Action Levels for three consecutive reduced monitoring periods, 2006 through 2009. This reduction in the monitoring frequency of 1<sup>st</sup> draw Lead and Copper sampling is contingent upon the City of Yonkers in meeting the Lead and Copper Action Levels during our next round of Lead and Copper monitoring scheduled for June 1, 2015 through September 30, 2015. In addition, the City must continually demonstrate that its Water System is operating in compliance with the State specified water quality parameter ranges required to maintain optimal system wide Corrosion Control Treatment.



City of Yonkers  
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## CONSERVE WATER

### Water Conservation

Why save water and how do we avoid wasting it? Fresh water is a vital and limited resource. The replenishment of the NYC Water Supply is dependent upon nature (rainfall and snowfall). Although at this time of year our supply is plentiful, there are times of the year, especially during drought periods, that the source of our supply (precipitation) is limited. Therefore, it must not be wasted. In addition, saving water saves energy and reduces the cost of energy required to treat and pump water. The City of Yonkers encourages water conservation. You can play a role in conserving water and saving yourself money by becoming conscious of the amount of water your household is using. It is not hard to conserve water. Below are a few simple steps you can take that will preserve this resource and also save up to 30% on your water bill. To learn more about other city services visit [www.yonkersny.gov](http://www.yonkersny.gov).

- Take shorter showers and save 5 to 7 gallons. Fill the bathtub only halfway and save 10-15 gallons.
- Don't run the tap unnecessarily e.g. while shaving, brushing your teeth and washing dishes. Flowing faucets use 2 to 3 gallons per minute.
- Shut faucets off tightly.
- Repair all leaks in your plumbing system (check all toilets & faucets). A slow dripping faucet can waste up to 20 gallons per day and a running toilet can waste up to 100 gallons/day.
- Use your water meter to detect hidden leaks. Turn off all taps and water using appliances. Then check the meter after 15 minutes, if it moved you have a leak.
- Limit watering the lawn to early morning and late evening hours when cooler temperatures won't cause quick evaporation.
- Install irrigation sensors on your automatic sprinkler system. They send a signal to the irrigation controller not to irrigate the yard after a good rainfall.
- Don't cut the lawn too short; longer grass saves water.
- Install low flow showerheads, faucets (aerators) and low flush toilets.
- Run the dishwasher only when full. Automatic dishwashers use 15 gallons for every cycle.
- Store drinking water in the refrigerator rather than letting the tap run every time.
- Connect a shut-off nozzle to your hose so water flows only when needed. When finished, turn it off at the spigot to avoid leaks.
- Don't hose down your driveway or sidewalk. Use a broom to clean leaves and debris.
- Never put water down the drain when there may be another use for it such as watering a plant or garden.
- Wash your car with a bucket and hose with a nozzle.
- Wash clothing in full loads only, saves 16 to 25 gallons. When it is time to replace your washing machine look into getting a front load washer. They use 1/3 the water as a top loading machine.

***Please share this report with others! Landlords, businesses, and other enterprises are encouraged to share this important water quality information with users at their locations. Printed copies of this report may be obtained by contacting The City of Yonkers Water Treatment Plant at (914) 377-6764.***

*Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.*