



# TOWN OF GREENBURGH

## Consolidated Water & Sewer Districts

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## 2009 ANNUAL WATER QUALITY REPORT

Public Water Supply ID# 5903429

### INTRODUCTION

To comply with State regulations, the Town of Greenburgh Consolidated Water District No. 1, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact Randy P. Cairns, Asst. Superintendent at (914) 993-1592. The Westchester County Health Department, Bureau of Environmental Quality has regulatory jurisdiction over the District and their phone number is (914) 813-5000. We want you to be informed about your drinking water. If you want to learn more all official business of the District is conducted as part of the Official business of the Town during regularly scheduled public Town Board meetings. These meetings are normally held the second and fourth Wednesday of each month at Town Hall at 7:30 PM. Only one meeting is scheduled for July and August.

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

The District purchases all of its water from the City of New York, Department of Environmental Protection - Bureau of Water Supply. This "surface" water originates in protected watershed areas 120 miles northwest of Greenburgh in the Catskill Mountains after which it travels through a N.Y.C. owned system. During 2009, our system did not experience any restriction of our water source. The water we received from NYC's system had already undergone some of the required treatment prior to reaching us. This source water is of such high quality that it meets the requirements for a "Filtration Avoidance" waiver from the U.S Environmental Protection Agency (EPA). Additionally, NYC disinfects the water with chlorine and adds a small amount of fluoride to help prevent tooth decay. All treatment complies with the New York State Health Department and the U.S. EPA. The District performed additional treatment consisting of additional disinfection utilizing *chlorine* and corrosion control utilizing *blended liquid zinc orthophosphate* and *sodium hydroxide*.

### FACTS AND FIGURES

Our water system serves 45,500 people (including the Vil. of Irvington and a small number of customers in Mt. Pleasant, Yonkers and White Plains), based on the 2000 census, through 11,500 service connections. The total water produced in 2009 was 3.526 billion gallons. Of the total amount produced 332.5 million gallons was sold to other water districts. The daily average of water treated and pumped into the distribution system was 6.920 million gallons per day. Our highest single day was 10.4 million gallons. The amount of water of water delivered to customers was 2.273 billion gallons. This leaves an unaccounted for total of 252.6 million gallons. This water was used to flush mains, fight fires and leakage, accounts for the remaining 252.6 million gallons ( 10% of the total amount produced). In 2009, water customers were charged \$2.39 per 1,000 gallons for the first 10,999 gallons in a three month period; \$2.87 per 1,000 gallons for 11,000 up to 50,999 and \$2.99 per 1,000 gallons for 51,000 gallons and up per three month period. Monthly bill customers have the same rates with limits 1/3 of the quarterly limits. Out of District customers are charged \$5.99 per 1,000 gallons. The average residential household uses approximately 120,000 gallons per year and the annual average water charge per user was \$324.

### 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, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds*. 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 (800-426-4791)** or the Westchester County Health Department at (914-813-5000).

### Table of Detected Contaminants

<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Date of Sample</u>	<u>Level Detected (Maximum)</u>	<u>Unit Measure-ment</u>	<u>MCLG<sup>1</sup></u>	<u>Regulatory Limit (MCL)<sup>2</sup></u>	<u>Likely Source of Contamination</u>	
<b><u>MICROBIOLOGICAL CONTAMINANTS:</u></b>								
Turbidity <sup>3</sup>	No	4/21/09	1.692	NTU <sup>4</sup>	n/a	5	Soil Runoff.	
<b><u>RADIOACTIVE CONTAMINANTS:</u></b>								
Gross Alpha	No	2004	-0.1 - 05	pCi/L <sup>5</sup>	0	15 <sup>6</sup>	Erosion of natural deposits.	
Gross Beta	No	2004	1.0 – 3.3	pCi/L	0	50 <sup>7</sup>	Decay of natural deposits	
Radium 226	No	2004	0.0 – 0.05	pCi/L	0	5 <sup>8</sup>	and man-made emissions.	
Radium 228	No	2004	-1.2 – 0.6	pCi/L	0	5 <sup>9</sup>	“	
<b><u>INORGANICS:</u></b>								
Barium Chloride	No	7/15/09	0.021	mg/l	2	2	Erosion of natural deposits.	
	No	7/15/09	9.0	mg/l <sup>10</sup>	n/a	250	Naturally occurring or indicative of road salt contamination.	
Fluoride	No	7/15/09	.95	mg/l	n/a	2.2	Erosion of natural deposits, Water additive that promotes strong teeth.	
Manganese	No	7/15/09	13.0	ug/l <sup>11</sup>	n/a	300	Naturally occurring.	
Sodium	No	7/15/09	9.6	mg/l	n/a	see note <sup>12</sup>	Naturally occurring; Road salt; Animal waste.	
Zinc	No	7/15/09	1,400	ug/l	n/a	5000	Naturally occurring; Water additive for corrosion treatment	
Color (apparent)	No	7/15/09	2.5 <sup>13</sup>	units	n/a	15	Large quantities of organic chemicals, decaying leaves, plants and soil organic matter.	
<b><u>CORROSION RULE:</u></b>								
Lead	No <sup>14</sup>	6/4–9/2/09	1.4 <sup>15</sup> (0-15.0)	ug/l	0	AL <sup>16</sup> =15	Corrosion of household plumbing systems.	
Copper	No	6/4-9/2/0	72 <sup>17</sup> (11-150)	ug/l	0	AL=1300	Corrosion of household plumbing systems	
<b><u>INORGANICS - NITRATE and NITRITE:</u></b>								
Nitrate	No	quarterly at four sites.	1.00 (0.77-1.30)	mg/l	10	10	Runoff from fertilizer use, leaching from septic tanks, sewage, Erosion of natural deposits.	
<b><u>DISINFECTION BYPRODUCTS:</u></b>								
Total Trihalomethanes (TTHMs - chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	No		4 sites quarterly	43.67 (34.1-49.2)	ug/l	n/a	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source

<sup>1</sup>Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below, which there is no known or expected risk to health. MCLGs allow for a margin of safety.

<sup>2</sup>Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.

<sup>3</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

<sup>4</sup>Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

<sup>5</sup>Picocuries per liter (pCi/L) is a measure of the radioactivity in water.

<sup>6</sup>A MCL violation occurs when the annual composite of four quarterly samples or the average of the analysis of four quarterly samples exceeds the MCL.

<sup>7</sup>The State considers 50 pCi/L to be the level of concern for beta particles.

<sup>8</sup>MCL is 5 pCi/l combined with Ra 228.

<sup>9</sup>MCL is 5 pCi/L combined with Ra 226.

<sup>10</sup>Milligrams per liter (mg/l) corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

<sup>11</sup>Micrograms per liter (ug/l) corresponds to one part of liquid in one billion parts of liquid (parts per billion=ppb)

<sup>12</sup>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.

<sup>13</sup>MRL (minimum reporting level) is the lowest concentration of a given analyte that a laboratory feels confident reporting to data users.

<sup>14</sup>The District's efforts in treating the water to reduce the corrosiveness has succeeded and the Health Dept. allowed us to move to the next level of "reduced monitoring". The District continues to treat for corrosion to keep metal levels below the Action level.

<sup>15</sup>The level presented represents the 90th percentile of the 30 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 values detected at customer's taps in the distribution system.

<sup>16</sup>Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

<sup>17</sup>The level presented represents the 90<sup>th</sup> percentile of the 30 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 90<sup>th</sup> percentile is equal to or greater than 90% of the values detected at a customer's taps in the distribution system.

<u>Contaminant</u>	<u>Violation Yes/No</u>	<u>Date of Sample</u>	<u>Level Detected (Maximum)</u>	<u>Unit Measurement</u>	<u>MCLG</u>	<u>Regulatory Limit (MCL)</u>	<u>Likely Source of Contamination</u> water contains large amounts of organic matter.
Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)	No	4 sites quarterly	44.79 (41.3-51.3)	ug/l	n/a	60	By-product of drinking water chlorination.
Chlorine Residual	No	2005 Year Avg.	1.62	mg/l	n/a	MRDL <sup>18</sup> =4	By-product of drinking

### **NON-DETECTED CONTAMINANTS:**

The contaminants listed below were required to be tested for in our drinking water. The results showed that **none of these contaminants were detected** in our water. These Non-Detected contaminants are: Asbestos, Antimony, Arsenic, Barium, Beryllium, Cadmium, Iron, Mercury (Inorganic), Chromium Hexavalent), Nickel, Silver, Cyanide, Selenium, Thallium, Odor, Nitrite (as N), Benzene; 1, 3-Dichloropropane; 1, 3, 5-Trimethylbenzene; Bromobenzene, 2, 2- Dichloropropane; P & M-Xylene; Bromochloromethane; 1, 1-Dichloropropene; O-Xylene; Bromomethane; cis-1, 3-Dichloropropene; Aldrin, N-Butylbenzene; trans-1, 3-Dichloropropene; Carbaryl; sec-Butylbenzene; Ethylbenzene; Dalapon; tert-Butylbenzene; Hexachlorobutadiene, Di(2-ethylhexyl)adipate; Carbon Tetrachloride; ; Isopropylbenzene; Dicamba; Chlorobenzene; p-Isopropyltoluene; Dieldrin; Chloroethane; Methylene, Chloride; Glyphosate; Chlororomethane; n-Propylbenzene; Hexachlorocyclopentadiene; 2-Chlorotoluene; Styrene; 3-Hydroxycarbofuran; 4-Chlorotoluene, 1, 1, 1, 2-Tetrachloroethane; Methomyl; Dibromomethane; 1, 1, 2, 2-Tetrachloroethane; Oxamyl vydate; 1, 2-Dichlorobenzene; Tetrachloroethene, Picloram; 1, 3-Dichlorobenzene; Toluene; Propachlor; 1, 4-Dichlorobenzene 1, 2, 3-; Trichlorobenzene; Naphthalene; Dichlorodifluoromethane; 1, 2, 4-Trichlorobenzene; Methyl T-Butyl Ether; 1, 1-Dichloroethane; 1, 1, 1-Trichloroethane; Methyl Isobutyl Keytone; 1, 2-Dichloroethane; 1, 1, 2-Trichloroethane; 1,2-Dibromo-3-Chloropropane; 1, 1-Dichloroethene; Trichloroethene; 2,4,5-T; cis-1, 2-Dichloroethene; Trichlorofluoromethane; 1,2-Dibromoethane; trans-1, 2-Dichloroethene; 1, 2, 3-Trichloropropane; 1, 2-Dichloropropane; 1, 2, 4-Trimethylbenzene; Alachlor; Diquat; Aldicarb; Endrin; Aldicarb sufone; Heptachlor epoxide; Aldicarb sulfoxide; Hexachlorobenzene; Atrazine; Lindane; Benzo(a)pyrene; Methoxychlor; Carbofuran; Pentachlorophenol; Chlordane; Polychlorinated biphenyls; Di(2-ethylhexl)phthalate; Simazine; 2,4-D; Toxaphene; Dinoseb; 2,4,5-TP (Silvex); Vinyl chloride; Strontium 90; Tritium (HTO).

### **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. We are required to present the following information on lead in drinking water:

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. Greenburgh Consolidated Water District No. 1 is responsible for providing high quality drinking water, but 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 (1-800-426-4791) or at <http://eee.epa.gov/safewater/lead>.

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

During 2009, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

### **INFORMATION ON CRYPTOSPORIDIUM**

*Cryptosporidium* is a microbial pathogen found in surface water and groundwater under the influence of surface water. NYC has collected and analyzed for *Cryptosporidium* oocysts since 1992. The test results indicate the presence of *Cryptosporidium* in the source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

### **INFORMATION ON GIARDIA**

*Giardia* is a 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. NYC has collected, analyzed and monitored source water samples for *Giardia*. Test results indicate the presence of *Giardia* in the source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. 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 Giardiasis 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

<sup>18</sup> Maximum Residual Disinfectant Level (MRDL) is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. MRDLs are currently regulated in the same manner as MCLs.

or food. Person to person transmission may also occur in day care centers or other settings where hand washing practices are poor.

### **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 disease causing microorganisms or pathogens in drinking water than the general population. Immuno-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 (800-426-4791)**.

### **INFORMATION ON FLUORIDE ADDITION**

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. Fluoride is added to your water by the New York City DEP – Bureau of Water Supply before it is delivered to us. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range of 0.8 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of health requires that the NYC DEP – Bureau of Water Supply monitor fluoride levels on a daily basis. During 2009 monitoring showed fluoride levels in your water were in the optimal range 0.9–1.2 mg/l 85% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

### **INFORMATION FOR NON-ENGLISH SPEAKING RESIDENTS**

**Spanish:** Este informe contiene información muy importante sobre su agua beber. Traduzcalo ó hable con alguien que lo entienda bien.

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

Water conservation does not have to mean suffering or inconvenience. It does mean making the most efficient use of the supply available. Water conservation means changing our habits permanently - being aware of water and thinking how much we can save every time we turn on a faucet, push the button to start a dish or clothes-washer, or flush a toilet. There are many things that you can do at home to cut back on unnecessary water use. Leaks can steal more than 10 percent of your water; in one month, a slow, steady drip can waste 350 gallons and *an older toilet, without any telling sound, can sneak away enough water to fill a 10-foot cube.*

Many water saving ideas are simply common sense:<sup>19</sup>

- Use only the water needed to do the task.
- Turn off the water when you are not using it.
- Fix leaks. Often this merely requires replacing a washer.
- Use appliances efficiently; run full loads or adjust water level.
- Water your yard slowly and only when necessary. Mulch your plants. You could cut your outdoor use in half.
- Reduce the number of toilet flushes - put used tissues or gum wrappers in a waste basket instead of flushing them away.
- Reduce the water used in each flush by inserting toilet tank dams or weighted, water-filled one-quart plastic bags or bottles into the tank. (Don't use a brick - it can disintegrate over time, and the gritty crumbs could clog the mechanism.)
- Take your water-conserving habits to school or work. Leaks or running faucets are wasting your money here, too. Notify the building superintendent when something needs to be fixed.

***Want to keep your property looking good – while conserving water?*** The Cornell Cooperative Extension together with the “Water-Wise Council of New York” and the NYC Department of Environmental Protection have produced “***The Water Saver’s Guide to Landscaping and Gardening***”. This full color step-by-step guide to choosing drought resistant plants and how to arrange them is available for \$15 from the:

Cornell Cooperative Extension of Rockland County, PO Box 1000, Thiells, NY 10984.

For more information, visit [www.cce.cornell.edu/rockland](http://www.cce.cornell.edu/rockland) or by contacting the Water Wise Council of New York, PO Box 475, Unionville, NY 10988-0475.

### **SYSTEM IMPROVEMENTS**

No major Capital improvements were performed in 2009 due to budget constraints. Future capital needs and funding are currently under discussion.

### **CLOSING**

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

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<sup>19</sup>Reprinted from NYS DEC’s *the Conservationist*, May-June 1988