



CITY HALL – ROOM 2
CITY OF MOUNT VERNON, NY
BOARD OF WATER SUPPLY

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YEAR 2003 WATER QUALITY REPORT
PWSID NY5903441

Board of Water Supply of the City of Mount Vernon (**Public Water System Identification Number 5903441**) is pleased to present the Annual Water Quality Report on 2003's drinking water, as required by the 1996 Federal Safe Drinking Water Act Amendments. The purpose of this report is to raise your understanding of drinking water and your awareness of the need to protect our drinking water resources. It provides information on where your water comes from, what it contains and how it compares with standards set by Federal and State regulatory agencies. For more information or to discuss any drinking water issues, feel free to contact Marianne Vogel, Superintendent, at (914) 668-7820. Or, you may call the Westchester County Department of Health, Bureau of Environmental Quality at (914) 813-5400. You may also participate in decisions affecting your water by reading the information provided on your bill.

Source of Water Supply

The Board of Water Supply receives all its water from New York City's Catskill / Delaware reservoir system, an unfiltered surface supply located in a protected watershed area in upstate New York west of the Hudson River. New York City's Department of Environmental Protection (DEP) oversees the operation, maintenance and protection of their reservoir system. It consists of 19 reservoirs and three controlled lakes, all of which allow for maximum flexibility in delivering the highest quality water possible. The water travels through the Catskill and Delaware Aqueducts to the Kensico Reservoir, where it is blended under normal operating conditions. This blending enhances overall water quality. The Kensico Reservoir also acts as a large settling basin, since it takes from twenty to thirty days for the water to travel from one end to the other. During this time, any particulate matter or "turbidity" from spring run-off or heavy rains can settle out in the reservoir, thereby clarifying the water. From Kensico, the water continues south, entering Mount Vernon at two locations.

The first location takes its water from the Kensico Line which is owned and operated by Westchester County Water District #1. Water enters the Kensico Line from the Delaware Aqueduct at Shaft 22 in Yonkers. Under certain operating conditions, water can enter the Kensico Line at Kensico Reservoir and be delivered all the way south to Mount Vernon.

The second entry point for Mount Vernon is also in Yonkers. Water from the Catskill Aqueduct passes into a large transmission main just before reaching the Hillview Reservoir. It travels through Yonkers and into Mount Vernon.

From these entry points, the water enters the 105 miles of distribution piping to serve Mount Vernon's 68,381 residents through 10,133 metered service connections. In 2003 alone, 3.27 billion gallons of water coursed through the city's mains. The average daily flow was 8.95 million gallons (MG) and the highest single day was 10.48 MG. Unaccounted for water (resulting from leaks and main breaks, fire fighting, hydrant flushing, and under-registration of meters) comprised 16.4% of the total. The industry average is 25 to 35% unaccounted for water, with anything below 20% considered a "tight" system.

Water Treatment

The water is chlorinated (for disinfection purposes) and fluoridated (for protection against tooth decay) by New York City DEP at Kensico Reservoir Shaft 18. Fluoridation was interrupted between January 29 and April 22, 2003, so that NYC DEP could complete critical system repairs at their Kensico Reservoir facility. Either Westchester County Water District #1 or Mount Vernon again adds chlorine at the entry point in order to provide a detectable chlorine residual throughout the distribution system. Additionally, sodium hydroxide is added for pH adjustment, and orthophosphate is added to coat the interior surface of the pipes, thereby shielding them from the corrosive action of the water. The goal of this treatment is to reduce the amount of lead and copper leaching into the water from the individual service lines and household plumbing. Test results indicate that it has been quite effective.

Board of Water Supply Responsibilities

The Board of Water Supply ensures Mount Vernon's compliance with all federal and state monitoring and reporting requirements, and maintains and repairs water mains, service lines (from the curb valve to the main), fire hydrants, and water meters. During 2003, the Water Board installed 8 and repaired 127 hydrants; installed, repaired, or replaced 187 meters; repaired 19 main breaks and 82 street side service leaks, and made 28 water taps.

Capital Improvements

In the fall of 2003, the Board of Water Supply cleaned and cement lined approximately 5,500 lineal feet of 6 and 10-inch water mains north and south of East Devonia Avenue between Douglas Place and Central Parkway. The purpose of this project was to improve the availability of water for fire fighting purposes. An additional 9,300 feet of 6 and 10 inch pipeline north and south of East Devonia Avenue between Douglas Place and Gramatan Avenue remain to be done this spring.

Cost of Water

Given that the typical annual consumption for a family of four is 100,000 gallons, the average quarterly water bill was approximately \$43. Residential water rates (which were raised from \$1.20 to \$1.30 per 100 cubic feet in October 2003) are still among the lowest in Westchester County.

Health Considerations

All 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 (800-426-4791).

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, radioactive contaminants, and organic chemical contaminants.

In order to ensure that tap water is safe to drink, the State and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Although our water met or exceeded state and federal regulations, there are some people who 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 about their drinking water from their health care providers. EPA/CDC guidelines on the proper 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 *Cryptosporidium* and *Giardia*

Cryptosporidium is a microbial pathogen found in surface water and ground water under the influence of surface water. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. During 2003, as part of routine sampling, NYC collected 141 - 50 liter samples from their source water at Kensico Reservoir and analyzed them for *Cryptosporidium* oocysts. In these samples, 56 oocysts were detected. Therefore, the testing indicates the presence of *Cryptosporidium* 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. The method also cannot distinguish among different species of *Cryptosporidium*, only a few of which can infect humans. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, a gastrointestinal infection. 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 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.

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. During 2003, as part of routine sampling, NYC collected 141 - 50 liter samples from their source water at Kensico Reservoir, and analyzed them for *Giardia* cysts. Of these samples, 331 *Giardia* cysts were detected. 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. The source water is disinfected before reaching our distribution system to inactivate the *Giardia* cyst. Ingestion of *Giardia* may cause giardiasis, an intestinal disease. 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 or food. Person to person transmission may also occur in day care centers or other similar settings where hand washing practices are poor.

Since October 2001, NYC DEP has been using a more sensitive method for the analysis of *Cryptosporidium* and *Giardia*. It is possible that the increases in frequency and concentration of *Cryptosporidium* oocysts and *Giardia* cysts detected in 2003 as compared with previous years were a result of the change in methodology, rather than a change in water quality. Additional information on *Cryptosporidium* and *Giardia* can be found on New York City DEP's website at www.nyc.gov/html/dep/html/pathogen.html.

Water Quality Testing and Variances

Water quality is monitored daily by Board of Water Supply personnel. Bacteriological and chemical samples are collected as required and analyzed by a New York State approved Environmental Laboratory to insure that the water meets all the physical, chemical, and bacteriological standards of the New York State Sanitary Code. In 2003, we conducted more than 6000 tests for approximately 158 different water contaminants. We only detected 25; none of them exceeded the regulated levels.

Under the Surface Water Treatment Rule, surface supplies such as those of New York City must be filtered unless certain stringent water quality and monitoring criteria are met. In 1992, New York was granted filtration avoidance through December 31, 2002, for the Catskill and Delaware supplies south of the Kensico Reservoir. This was based on the high quality of the source water and New York City's long term efforts to protect its watershed areas.

Early in 2002, New York City submitted to the EPA their "2002-2007 Filtration Avoidance Proposal". It included an evaluation of their watershed protection plan and demonstrated that the supply meets all the water quality criteria of the Surface Water Treatment Rule. Based on this information, in November the EPA extended New York City's filtration waiver for the Catskill and Delaware supplies to 2007, provided that watershed protection measures are significantly enhanced and expanded.

Also in 1992, Mount Vernon applied for and received filtration avoidance. This variance is still in effect, contingent on Mount Vernon and the City of New York continuing to meet avoidance criteria.

The Board of Water Supply was granted a biofilm variance from the New York State Department of Health on August 29, 1994. This variance recognizes that the Maximum Contaminant Level can not be used to determine the public health significance of coliform bacteria detected in the distribution system when biofilms, and not contaminated water, are the source of the bacteria. The continuation of this variance requires an ongoing "Biofilm Control Program". The Board of Water Supply's program consists of regular hydrant flushing, cleaning and cement lining of water mains, and maintaining adequate chlorine residuals throughout the distribution system. This variance also remains in effect.

Water Quality Data

The following table lists all the drinking water contaminants we detected during the 2003 calendar year. The presence of contaminants in the water does not necessarily indicate the water poses a health risk. In fact, during 2003, our system complied with all applicable State drinking water operating, monitoring, and reporting requirements.

The data in this report is from the most recent testing done in accordance with regulations. Unless otherwise indicated the data in this table is from testing done between January 1 and December 31, 2003. Lead and copper values are from 2001. Since the Board of Water Supply has maintained optimal water quality parameters with respect to corrosion control for three consecutive years, we received permission from the state to reduce the sampling frequency for first draw lead and copper samples to once every three years. We will be conducting lead and copper testing again in 2004. The state also requires us to monitor for certain other contaminants less than once per year because their concentrations are not expected to vary significantly from year to year. None of these contaminants has been detected during analyses conducted over the last five years.

Water Conservation

During 2003, Mount Vernon residents continued to conserve water and managed to reduce their consumption once again by nearly 500,000 gallons per day. Water is a vital resource. It is just as important to use water wisely when the supply is plentiful as it is to conserve water during times of drought. Careful use of water can result in less money spent on water, energy, and wastewater treatment. Some common sense measures to conserve water include:

- *Shut faucets off tightly. A small drip can waste 25 gallons per day.
 - *Check all toilets for leakage by putting a few drops of food coloring in the tank. Wait 10 to 15 minutes without flushing. If color shows up in the bowl, you have a leak. A bad toilet leak can waste as much as 200 gallons a day.
 - *Don't run the faucet to get a cold drink. Place a container of water in the refrigerator.
 - *Don't run the faucet while shaving or brushing your teeth.
 - *Take shorter showers and half-full baths. Install low flow showerheads and faucets.
 - *Run washing machine and dishwasher only when full. Do not wash dishes under a running faucet.
 - *When cleaning, use a pail or basin instead of running water.
 - *Use your water meter to detect hidden leaks. Turn off all taps and water using appliances, and then check the meter. Check it again after 15 minutes. If it moved, you have a leak.
 - *Do not cut the lawn too short; longer grass saves water.
 - *Water your lawn early in the morning or in the evening to reduce water loss by evaporation.
- Don't overwater.**

(The bacteria E. coli (associated with human and animal fecal waste) was not found in the distribution system. In addition, we monitored entry point samples for inorganic contaminants that were not detected. These include cyanide, ammonia, nitrite, antimony, arsenic, beryllium, mercury, nickel, lead, thallium, selenium, barium, cadmium, chromium, silver, and zinc. Organic contaminants that were tested for and not detected in the source water include 3-Hydroxycarbofuran, Aldicarb, Aldicarb sulfone, Aldicarb sulfoxide, Carbaryl, Carbofuran, Methomyl, Oxamyl, Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Heptachlor Epoxide, Lindane, Methoxychlor, PCB's, Propachlor, Toxaphene, 2,3,7,8-TCDD (Dioxin), Diquat, Endothall, Glyphosate, 2,4,5-T, 2,4-D, Dalapon, Dicamba, Dinoseb, Pentachlorophenol, Picloram, Silvex, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Butachlor, Metolachlor, Metribuzin, Alachlor, Atrazine, Benzo(a)pyrene, bis(2-Ethylhexyl) adipate, bis(2-Ethylhexyl) phthalate, Hexachlorobenzene, Hexachlorocyclopentadiene, Simazine, 1,1,1,2-tetrachloroethane, 1,1,1-trichloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,1-dichloropropene, 1,2,3-trichlorobenzene, 1,2,3-trichloropropane, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-dichlorobenzene, 1,2-dichloroethane, 1,2-dichloropropane, 1,3,5-trimethylbenzene, 1,3-dichlorobenzene, 1,3-dichloropropane, 1,4-dichlorobenzene, 2,2-dichloropropane, 2-butanone (MEK), 2-chlorotoluene, 4-chlorotoluene, Bromoform, Dibromochloromethane, Bromodichloromethane, Chloroform, Benzene, Bromobenzene, Bromochloromethane, Bromomethane, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, cis-1,2-dichloroethene, cis-1,3-dichloropropene, Dibromomethane, Dichlorodifluoromethane, Ethylbenzene, Hexachlorobutadiene, Isopropylbenzene, Methyl iso-butyl ketone (MIBK), Methyl tert-butyl ether (MTBE), Methylene Chloride, n-butylbenzene, n-propylbenzene, Naphthalene, o-xylene, p-xylene, m-xylene, p-isopropyltoluene, SEC-butylbenzene, Styrene, TERT-butylbenzene, Tetrachloroethene, Toluene, trans-1,2-dichloroethene, trans-1,3-dichloropropene, Trichloroethene, Trichlorofluoromethane, and Vinyl chloride. Radiological contaminants tested for and not detected in the source water include Strontium-90, and tritium. Unregulated Contaminants that were tested for and not found in the source water are Perchlorate, DCPA di-acid, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 4,4-DDE, Acetochlor, EPTC, Molinate, Terbacil, MTBE, and Nitrobenzene.)

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu' un qui le comprend bien.

La relazione contiene importante informazione sulla qualita dell' acqua della comunita. Tradurlo o parliamo con un amico che lo comprenda.

O relatório contem informações importantes sobre a qualidade da água da comunidade. Traduza-o ou peça ajuda de uma pessoa amiga para ajuda-lo a entender melhor.

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