

# DETECTED UNREGULATED PARAMETERS

PARAMETERS	NYS DOH MCL	CATSKILL/DELAWARE SYSTEM			CROTON SYSTEM			GROUNDWATER SYSTEM			SOURCES IN DRINKING WATER
		# SAMPLES	RANGE	AVERAGE	# SAMPLES	RANGE	AVERAGE	# SAMPLES	RANGE	AVERAGE	
<b>UNREGULATED CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS</b>											
Alkalinity (mg/L CaCO <sub>3</sub> )	-	293	9.9 - 28.7	13.8	12	49.2 - 58.2	55.2	254	5.5 - 194.9	64.3	Erosion of natural deposits
Aluminum (µg/L)	50 - 200 <sup>(13)</sup>	524	ND - 109	24	121	ND - 133	14	61	ND - 58	13	Erosion of natural deposits
Boron (µg/L)	-	17	10 - 60	38	-	-	-	4	70 - 120	90	Erosion of natural deposits
Calcium (mg/L)	-	491	3.2 - 25.1	6.6	111	17 - 28	25.6	256	6.8 - 81.6	24.9	Erosion of natural deposits
Chemical Oxygen Demand (mg/L O <sub>2</sub> )	-	17	4.2 - 6.2	5	-	-	-	4	2.6 - 4.8	3.7	
Chlorine Residual, Free (mg/L)	4 <sup>(14)</sup>	10249	0 - 1.6	0.6	224	0.2 - 1.2	0.9	648	ND - 1.4	0.6	Water additive for disinfection
Color - distribution system (color units)	-	9146	2 - 30	7	135	5 - 36	14	648	1 - 23	5	Presence of iron, manganese, and organics in water
Corrosivity (Langelier index)	0 <sup>(13)</sup> <sup>(15)</sup>	197	-3.0 to -1.6	-2.4	12	-1.6 to -1.1	-1.2	94	-2.1 to 0.5	-0.9	
Foaming Agents (mg/L linear alkyl sulfonate)	0.5 <sup>(13)</sup>	21	ND	ND	-	-	-	53	ND - 0.01	<0.01	Residual of washing detergents
Hardness (mg/L CaCO <sub>3</sub> )	-	417	12 - 96	23	111	63 - 105	98	255	35 - 349	110	Erosion of natural deposits
Hardness (grains/gallon[US]CaCO <sub>3</sub> ) <sup>(16)</sup>	-	417	0.7 - 5.5	1.3	111	3.6 - 6.1	5.7	255	2.0 - 20.2	6.3	Erosion of natural deposits
Magnesium (mg/L)	-	417	ND - 8	1.5	111	4.9 - 8.9	8.3	255	3 - 35.3	11.6	Erosion of natural deposits
Nickel (µg/L)	-	462 <sup>(6)</sup>	ND - 802	8	109	ND - 4	<2	65	ND - 5	<2	Erosion of natural deposits
pH (pH units) <sup>(17)</sup>	6.5 - 8.5 <sup>(13)</sup>	10249	6.8 - 8	7.3	224	7 - 7.4	7.2	648	6 - 8.4	7.3	
Phosphate, Ortho- (mg/L)	-	10249	1 - 3.1	2	224	1.2 - 3.1	2.2	648	0.6 - 2.8	1.5	Water additive for corrosion control
Phosphate, Total (mg/L)	-	196	1 - 2.4	1.8	12	1.2 - 2.3	1.8	94	0.4 - 5.7	2.1	Water additive for corrosion control
Potassium (mg/L)	-	410	0.4 - 6.1	0.6	111	1.5 - 2.6	2.3	55	0.8 - 2.2	1.3	Erosion of natural deposits
Silica [silicon oxide] (mg/L)	-	204	1.8 - 9	2.7	12	3.6 - 6.7	4.6	182	4.3 - 24	12.6	Erosion of natural deposits
Specific Conductance (µmho/cm)	-	10249	61 - 214	88	224	215 - 355	323	648	152 - 613	308	
Strontium (µg/L)	-	214	10 - 76	22	103	50 - 83	78	53	10 - 130	37	Erosion of natural deposits
Temperature (°F)	-	10249	32 - 76	53	224	44 - 64	54	648	36 - 78	58	
Total Dissolved Solids (mg/L)	500 <sup>(13)</sup>	197	32 - 91	52	12	174 - 218	187	101	78 - 455	205	Metals and salts naturally occurring in the soil; organic matter
Total Organic Carbon (mg/L carbon)	-	196	0.8 - 2.1	1.3	12	2.1 - 2.9	2.5	53	ND - 1.3	0.7	Organic matter naturally present in the environment
UV 254 Absorbency (absorbency unit)	-	197	0.021 - 0.035	0.029	12	0.057 - 0.063	0.059	54	0.004 - 0.077	0.022	Organic matter naturally present in the environment
<b>UNSPECIFIED ORGANIC CHEMICALS</b>											
<b>Disinfection By-Products detected:</b>											
Bromochloroacetic Acid (µg/L)	50	183	0.6 - 2.3	1.5	17	1.3 - 4.1	3.2	61	ND - 2.1	1	By-product of drinking water chlorination
Chloral Hydrate (µg/L)	NA	163	1.5 - 18.2	6.6	8	5.7 - 25.7	15.2	53	ND - 9.3	2.5	By-product of drinking water chlorination
Chloropicrin (µg/L)	NA	152	0.2 - 0.8	0.5	4	0.6 - 0.7	0.6	52	ND - 0.6	0.2	By-product of drinking water chlorination
Haloacetic Acid 5 (HAAS) (µg/L)	60 <sup>(18)</sup>	148	16.5 - 63.7	35.7	13	49.2 - 72.2	58.9	53	ND - 35.9	15.4	By-product of drinking water chlorination
Haloacetamides (HANs) (µg/L)	50	142	1.2 - 4.7	3	4	4.6 - 5.6	5.2	46	0.05 - 4.4	2	By-product of drinking water chlorination
Halogenated Ketones (HKs) (µg/L)	50	152	1.5 - 4.8	3.1	4	4 - 4.7	4.4	52	ND - 3	1.1	By-product of drinking water chlorination
Total Organic Halogen (µg/L)	NA	197	91 - 209	144	12	202 - 278	248	54	ND - 157	71	By-product of drinking water chlorination
<b>Unspecified Organic Chemicals detected:</b>											
Acetone (µg/L)	50	178	ND - 12	<10	144	ND	ND	48	ND	ND	Occurs naturally and is used in the production of paints, varnishes, plastics, adhesives, organic chemicals and alcohol. Also used to clean and dry parts of precision equipment.
Methyl Tert-Butyl Ether (MTBE) (µg/L)	50	502 <sup>(19)</sup>	ND - 14	0.5	154	ND	ND	149	ND - 11.7	0.8	Additive to gasoline in the winter

# UNDETECTED PARAMETERS

<b>NON-DETECTED CONVENTIONAL PHYSICAL AND CHEMICAL PARAMETERS</b>											
<b>Regulated Conventional Physical and Chemical Parameters not detected:</b>											
Antimony, Arsenic, Asbestos <sup>(20)</sup> , Beryllium, Cadmium, Cyanide, Gross Alpha Particle, Mercury, Silver, Thallium											
<b>Unregulated Conventional Physical and Chemical Parameters not detected:</b>											
Bromide, Chlorate, Lithium, Phenols, <sup>90</sup> Strontium - radiological, Tritium ( <sup>3</sup> H) - radiological											
<b>NON-DETECTED ORGANIC CONTAMINANTS</b>											
<b>Principal Organic Contaminants not detected:</b>											
Benzene, Bromobenzene, Bromochloromethane, n-Butylbenzene, sec Butylbenzene, tert-Butylbenzene, Carbon tetrachloride, Chlorobenzene, Chloroethane, 2-Chlorotoluene, 4-Chlorotoluene, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 1,1-Dichloropropene, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, Ethylbenzene, Isopropylbenzene, p-Isopropyltoluene, Methylene chloride, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, Trichlorofluoromethane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, o-Xylene											
<b>Specified Organic Contaminants not detected:</b>											
Alachlor, Aldicarb (Temik), Aldicarb sulfone, Aldicarb sulfoxide, Aldrin, Atrazine, Benzo(a)pyrene, Butachlor, Carbaryl, Carbofuran (Furadan), Chlordane, 2,4-D, Dalapon, 1,2-Dibromo-3-chloropropane, Dicamba, Dieldrin, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl) phthalate, Dinoseb, Diquat, Endothal, Endrin, Ethylene dibromide (EDB), Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, 3-Hydroxycarbofuran, Lindane, Methomyl, Methoxychlor, Metolachlor, Metribuzin, Oxamyl (Vydate), Pentachlorophenol, Picloram, Polychlorobiphenyls [PCBs], Propachlor, Toxaphene, 2,4,5-TP (Silvex), Vinyl chloride											
<b>Unspecified Organic Chemicals not detected:</b>											
Acenaphthene, Acenaphthylene, Acetochlor, Acifluorfen, Anthracene, Bentazon, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[g,h,i]perylene, a-BHC, b-BHC, d-BHC, Bromacil, Bromodichloroacetic acid, Butylbenzylphthalate, Caffeine, a-Chlordane, g-Chlordane, Chlorobenzilate, Chloroneb, Chlorothalonil (Draconil, Bravo), Chrysene, Cloramben, Clorpyrifos, 2,4-DB, DCPA, DCPA mono-acid degradate, p,p'DDD, p,p'DDE, p,p'DDT, Diazinon, Dibenz[a,h]anthracene, Di-n-Butyl phthalate, 3,5-Dichlorobenzoic acid, Dichlorprop, Diclorvos, Diethylphthalate, Dimethoate, Dimethylphthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Di-N-octylphthalate, Endosulfan I, Endosulfan sulfate, Endrin aldehyde, Etridiazole, EPTC, Fluoranthene, Fluorene, Indeno[1,2,3-cd] pyrene, Isophorone, Malathion, Methiocarb, MGK - 264, Molinate, Naphthalene, Nitrobenzene, 4-Nitrophenol, trans-Nonachlor, Norflurazon, Paraquat, Parathion, Perchlorate, Permethrin, Phenanthrene, Prometryn, Propoxur (Baygon), Pyrene, 2,4,5-T, Terbacil, Terbufos, Tetrachloroterephthalic acid (DCPA di-acid degradate), Thiobencarb, Trifluralin, Vernolate											

## FOOTNOTES

- (1) Included are 186 samples analyzed by Westchester County Lab for barium, all of which were non detects (<0.2 mg/L). However, these results were not included in the average due to a higher detection limit (Distribution Lab's detection limit is <0.002).
  - (2) Determination of MCL violation: If a sample exceeds 15 color units, a second sample must be collected from the same location within 2 weeks. If the average of the two results exceeds 15 color units, then an MCL violation has occurred.
  - (3) Action Level (not an MCL) measured at the tap. The data presented in this table were collected from sampling stations at the street curb.
  - (4) New York State considers 50 pCi/L to be the level of concern for beta particles.
  - (5) If iron and manganese are present, the total concentration of both should not exceed 500 µg/L. Values in the groundwater system above the MCL are not a violation because the water at particular wells is treated, as allowed by the State, to meet aesthetic concerns.
  - (6) On January 9, 2001, elevated levels of lead were detected in all Catskill/Delaware System samples of which 6 were above the Action Level. On the same day, nickel was detected in 2 samples: site 38250 at 620 ug/L and site 18450 at 802 ug/L. These unusual findings prompted an investigation which determined that the January 9, 2001 samples represented an isolated event.
  - (7) 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.
  - (8) Turbidity is a measure of cloudiness of the water. Turbidity is monitored because it is a good indicator of water quality and can hinder the effectiveness of disinfection.
  - (9) MCL for turbidity is the monthly average rounded off to the nearest whole number. Data presented are the range and average of monthly averages.
  - (10) This MCL only applies to the Croton System. The MCL and data presented are monthly averages rounded off to the nearest whole number. The highest monthly average turbidity measurement (1.43 NTU) occurred in October 2001. This MCL was not exceeded.
  - (11) MCL for TTHMs is the calculated quarterly running average. In 2001 the MCL was never exceeded. Data presented are the range of individual sampling results and the highest running average.
  - (12) If a sample and its repeat sample are both positive for coliform bacteria and one of the two samples is positive for E. coli, then an MCL violation has occurred.
  - (13) USEPA Secondary MCL; NYSDOH has not set an MCL for this parameter.
  - (14) Value represents MRDL which 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. The MRDL is enforceable in the same manner as MCLs.
  - (15) A Langelier Index of less than zero indicates corrosive tendencies.
  - (16) Hardness of up to 3 grains per gallon is considered soft water; between 3 and 9 is moderately hard water.
  - (17) The average of pH is the median value.
  - (18) HAA5 were not regulated in 2001. The data presented are individual sampling results. The MCL, which will be 60 as a quarterly running average, will take effect for the Catskill/Delaware and Croton Systems in 2002 and for the Groundwater System in 2004.
  - (19) 146 of the Catskill/Delaware MTBE samples were analyzed by Westchester County Lab; of these, 6 positive results were considered suspect but were included in the data presented here.
  - (20) Reported asbestos data was collected in 1993. Regulations require this parameter to be sampled every 9 years.
- \* The contaminant was detected in only one sample. The level found was below the MCL.

## EXCEEDENCES

### Color:

In the Croton System there were 5 color violations on 10/10/01, 10/29/01, 11/12/01, 12/17/01, and 12/22/01. In the Groundwater System there were 3 color violations on 1/10/01, 2/7/01, and 5/7/01. Color has no health effects unless detected in very high concentrations. In some instances, color may be objectionable to some people at as low as 5 units. Its presence is aesthetically objectionable and suggests that the water may need additional treatment.

### Iron:

On the Croton System, the MCL for iron was exceeded on 10/10/01 at site 33450 with a value of 370 ug/L, and at site 33950 with a value of 600 ug/L. Iron has no health effect. At 1,000 ug/L, a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/L, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/L represents a reasonable compromise as adverse effects are minimized at this level. Many multivitamins may contain 3000 to 4000 ug/L of iron per capsule.

### Manganese:

On the Croton System, the MCL for manganese was exceeded on 10/10/01 at site 33450 with a value of 670 ug/L; and at site 33950 on 10/10/01 and 11/14/01 with values of 1,212 ug/L and 330 ug/L, respectively. The Food and Nutrition Board of the National Research Council determined an estimated safe and adequate daily dietary intake of manganese to be 2000-5000 ug/L for adults. However, many people's diet leads them to consume even higher amounts of manganese, especially those who consume high amounts of vegetables or are vegetarian. The infant population is of greatest concern. It would be better if the drinking water were not used to make infant formula since it already contains iron and manganese.

Excess manganese produces a brownish color in laundered goods and impairs the taste of tea, coffee, and other beverages. Concentrations may cause a dark brown or black stain on porcelain plumbing fixtures. As with iron, manganese may form a coating on distribution pipes. These may slough off, causing brown blotches on laundered clothing or black particles in the water.



## Water Conservation

On December 26, 2001, the Department of Environmental Protection declared an official Drought Watch for the City's water supply system. A Drought Watch is declared when there is less than a fifty percent chance that City reservoirs will be full by June 1, the start of the water year when reservoirs are normally full. Reservoirs were well below their normal level, which was attributed to below average rainfall throughout the City's nearly 2,000 square mile watershed over a period of months. Under a Drought Watch New York City residents and businesses are urged to practice voluntary water conservation. The Department made available simple water-saving tips and launched an extensive public outreach campaign on the drought and the need to save water. The Drought Watch was extended to a Drought Warning on January 28, 2002 and water supply users had reduced daily water consumption by over 30 million gallons a day.

DEP's ongoing efforts to save water include: use of sonar equipment to survey all water supply piping for leaks; replacement of approximately 70 miles of old water supply pipe a year; equipping fire hydrants with special locking devices; and installing home water meters to encourage

conservation. These programs and others have proven successful and together have reduced water consumption in the City by approximately 200 million gallons per day in the last ten years. This is more water than the City of Boston or Westchester County uses in a day.

The average single family household in New York City uses approximately 100,000 gallons of water each year, at a cost of \$1.35 per 100 cubic feet of water (748 gallons), or about \$175.00 each year. New York City is fortunate to have reasonably priced drinking water, however, everyone should do their part to conserve this precious resource.

You can help save water by ordering a Home or Apartment Water Saving Kit. If you are an apartment building owner/manager or a homeowner, you can obtain a free leak survey. Call our Leak Survey contractor at (718) 326-9426 for information.

For additional water saving tips follow *The Dos and Don'ts of Water Conservation* on the following page.



Ashokan Reservoir  
under Drought Conditions

# The DOs & DON'Ts of Water Conservation

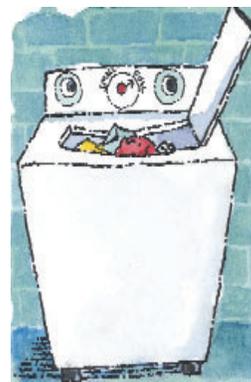
In or out of a drought, every New Yorker can save hundreds of gallons of water each week by following these simple water-saving tips.

## BATHROOM



- ✓ Do take short showers and save 5 to 7 gallons a minute.
- ✓ Do fill the tub halfway and save 10 to 15 gallons.
- ✓ Do install water-saving toilets, showerheads and faucet aerators. Place a plastic bottle filled with water in your toilet tank if you can't switch to a low flow toilet.
- ✗ Don't run the water while shaving, washing your hands or brushing your teeth. Faucets use 2 to 3 gallons a minute.
- ✗ Don't use the toilet as a wastebasket, and don't flush it unnecessarily.

## KITCHEN & LAUNDRY



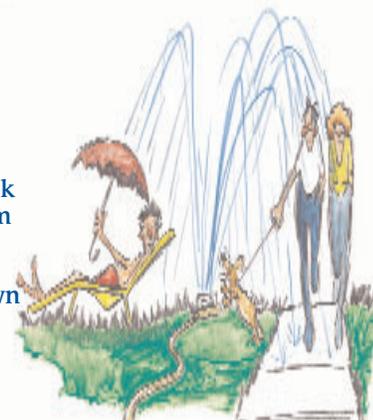
- ✓ Do run the dishwasher and washing machine only when full. Save even more by using the short cycle.
- ✓ Do install faucet aerators.
- ✗ Don't let the water run while washing dishes. Kitchen faucets use 2 to 3 gallons a minute. Filling a basin only takes 10 gallons to wash and rinse.
- ✗ Don't run water to make it cold. Have it chilled in the refrigerator, ready to drink.

## EVERYWHERE



- ✓ Do repair leaky faucets and turn taps off tightly. A slow drip wastes 15 to 20 gallons each day.
- ✗ Don't open fire hydrants.

## OUTDOORS



- ✓ Do use a self-closing nozzle on your hose.
- ✗ Don't water your sidewalk or driveway - sweep them clean.
- ✗ Don't overwater your lawn or plants. Water before 9 a.m. or after 7 p.m.

**Do share this information with family and friends.**

**REPORT LEAKS & WATER WASTE**  
**Call (718) DEP-HELP**

Visit DEP's Web site at: [www.nyc.gov/dep](http://www.nyc.gov/dep)



Michael R. Bloomberg, Mayor  
 Christopher O. Ward, Commissioner

Cut along dotted line and post in your home or office.

## Contact Us

For a copy of this report, to report unusual water characteristics, or to request a free kit to test for lead in your drinking water, call DEP's 24-hour Help Center at (718) DEP-HELP (337-4357).

For more information on *Giardia* and *Cryptosporidium*, please contact the Parasitic Disease Surveillance Unit of the New York City DEP and New York City Department of Health (NYCDOH) at: (212) 788-4728.

To contact NYCDOH about other water supply health related questions call (212) 442-9666 or call the New York State Department of Health Bureau of Public Water Supply Protection at (518) 402-7650.

To report any polluting activities occurring in the watershed, call 1-888-DEP-NYC1 (1-888-337-6921), 24-hours a day.

To view this 2001 Statement, announcements of public hearings, or other information, visit DEP's Web site at:

[www.nyc.gov/dep](http://www.nyc.gov/dep)

Este reporte contiene información muy importante sobre el agua que usted toma. Haga que se la traduzcan o hable con alguien que la entienda.

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

Rapò sa a gen enfòmasyon ki enpòtan anpil sou dlo w'ap bwè a. Fè tradwi-l pou ou, oswa pale ak yon moun ki konprann sa ki ekri ladan-l.

Ten raport zawiera bardzo istotną informację o twojej wodzie pitnej. Przetłumacz go albo porozmawiaj z kimś kto go rozumie.

В этом материале содержится важная информация относительно вашей питьевой воды. Переведите его или поговорите с кем-нибудь из тех, кто понимает его содержание.

這個報告中包含有關你的飲用水的重要信息。請將此報告翻譯成你的語言，或者詢問懂得這份報告的人。

이 보고서는 귀하의 식수에 관한 매우 중요한 정보를 포함하고 있습니다. 이 정보에 대해 이해하는 사람에게 그 정보를 번역하거나 통역해 받으십시오.



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