Drinking Water Quality Report 2005

Bolton Point-Municipal Water System City of Ithaca Water System Cornell University Water System

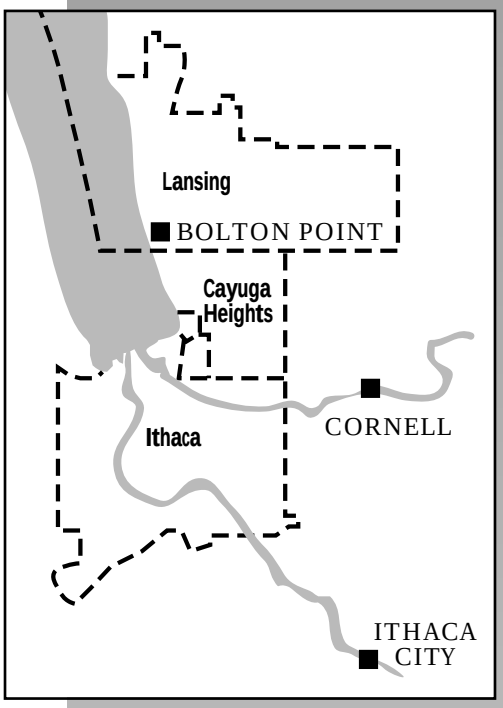
Introduction

In the spirit of municipal cooperation, the Bolton Point, City of Ithaca, and Cornell University water systems have prepared this Drinking Water Quality Report describing the quality of your drinking water. These three interconnected water supply systems are the largest in Tompkins County. The purpose of this report is to provide information on the quality of your drinking water and increase awareness of the need to protect our drinking water sources.

During 2004 there was only one short term violation of state quality standards in one of our systems. On July 21, 2004, the City of Ithaca's routine sampling detected total coliforms in the West Hill portion of their system. The City re-sampled as required. Additional positive samples identified a maximum contaminate level violation and helped the City isolate it to the Elm Street tank and the West Village Apartments. A boil water notice was issued for the affected area. The Elm Street tank was taken out of service and water was flushed through the area to remove possible contamination from the system. The boil water notice was lifted on July 27. The roof of the Elm Street tank will be repaired, and a supplemental chlorination station will be installed at the tank before the tank is placed back in service.

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 your drinking water, contact the appropriate contact person listed to the right. You may also attend any of our regularly scheduled public meetings.

Location and Description of Water Sources



Bolton Point Municipal Water System (Bolton Point or BP-MWS)

Cayuga Lake is the source of water for the BP-MWS. The water intake is approximately three miles north of Stewart Park, 400 feet out from the eastern shore of Cayuga Lake and 65 feet below the surface of the lake. During 2004 the Bolton Point system did not experience any restriction of its water source. Bolton Point serves residents of the Towns of Dryden, Ithaca and Lansing, and the Villages of Cayuga Heights and Lansing. Bolton Point provides water to the City and Cornell during emergencies and planned maintenance periods. Meetings of the Bolton Point Water Commission are held on the first Thursday after the first Tuesday of each month at 4:00 p.m. at the Bolton Point water treatment plant, 1402 East Shore Drive, Ithaca, New York 14850. Questions regarding the Bolton Point information contained in this report should be directed to Ken Butler, Production Manager, at 277-0660. Additional information on the BP-MWS can be found at www.boltonpoint.org.

City of Ithaca Water System (City or CIWS)

Six Mile Creek is the source of water for the CIWS. Water is drawn from a reservoir in the creek and flows by gravity to the water plant. The forested watershed is 46.4 square miles in size. During 2004 the City system did not experience any restriction of its water source. The City system serves residents of the City of Ithaca and supplies water to Bolton Point-Town of Ithaca customers along East Shore Drive. The City water treatment plant is located at 202 Water Street, Ithaca, New York 14850. The Board of Public Works Committee of the Whole meets the first and third Wednesday of the month. An additional voting meeting is held the second Wednesday of the month. These meetings begin at 4:30 p.m. Common Council meets the first Wednesday of the month at 7:00 p.m. All meetings are held in council chambers on the third floor of City Hall, 108 East Green Street, Ithaca, New York 14850. Questions regarding the City information contained in this report should be directed to Chuck Baker, Chief Operator, at 273-4680.

Cornell University Water System (Cornell or CUWS)

Fall Creek is the source of water for the CUWS. The water intake is on Forest Home Drive near the Cornell Plantations Arboretum entrance. Fall Creek originates in Lake Como northeast of Ithaca and flows through a 125 square mile watershed. During 2004 the Cornell system did not experience any restriction of its water source. The Cornell system serves residents of the University's campus and supplies water to City customers in the Cornell Heights area and to Bolton Point-Town of Ithaca customers on the south side of Fall Creek in the Forest Home area. The Cornell water treatment plant is located at 101 Caldwell Road, Ithaca, New York 14853. Questions regarding the Cornell information contained in this report should be directed to Henry Van Ness, Water Filter Plant Manager, at 255-3381.

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Common Water Quality Definitions

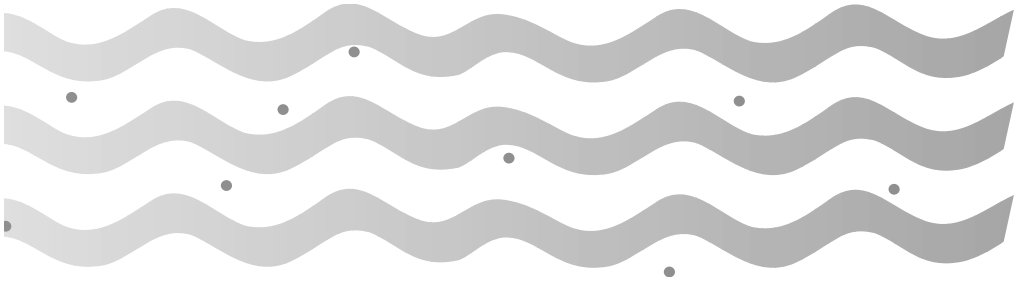
ALKALINITY: Alkalinity is a measure of the capability of water to neutralize acids. Bicarbonates, carbonates and hydroxides are the most common forms of alkalinity

HARDNESS: Hardness is a measure of the calcium and magnesium content of natural waters. The harder the water, the greater the tendency to precipitate soap and to form mineral deposits. Alkalinity and hardness occur naturally due to the contact of water with minerals in the earth's crust.

pH: The pH indicates how acidic or alkaline a water sample is. A reading of 7 is neutral, 0-6 is acidic and 8-14 is alkaline.

TOTAL ORGANIC CARBON (TOC): TOC is a measure of the organic content of a water. A high concentration of TOC in water may lead to high levels of disinfection byproducts.

TURBIDITY: Turbidity is a measure of the cloudiness of water. It is an indication of the effectiveness of water treatment. NYS regulations require that treated water turbidity always be below 1 NTU (nephelometric turbidity unit). For filtered systems 95% of the composite effluent samples must be below 0.3 NTU.



A Water Treatment Processes

The three water systems use the following conventional treatment process.

PRE-TREATMENT: Chlorine and coagulating agents such as alum or polymers are added to the water to destroy microorganisms, remove impurities and control taste and odor.

MIXING: The water is rapidly mixed to distribute the treatment chemicals evenly.

COAGULATION AND FLOCCULATION: The water flows into large basins where the coagulants react with impurities in the water (coagulation) causing them to form larger, heavier particles called floc (flocculation).

SEDIMENTATION: Flocculated water flows into basins where the floc particles settle to the bottom, thereby removing impurities and chemicals from the water.

FILTRATION: Following the settling process, water flows through layers of anthracite coal, sand and gravel where further removal of particulate impurities occurs.

POST-TREATMENT: Chlorine is added to inhibit bacterial growth in the distribution system, and the pH is adjusted to inhibit the corrosion of metal pipes and fixtures.

B Health Effects and Individuals At-Risk

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.

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.

Environmental Protection Agency/Center for Disease Control (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). No trace of either cryptosporidium or giardia has been detected in previous testing of the treated water of any of the three systems. Individuals who think they may have one of these illnesses should contact their health care provider immediately. For additional information contact the Tompkins County Health Department, 401 Harris B. Dates Drive, Ithaca, New York 14850 or by phone at 274-6688.

C Security Concerns

Until recently security threats to the three water systems have been primarily minor vandalism and property damage. Recent events have changed the security focus to a much less likely, but more serious, threat of intentional contamination of the water supply. All three water systems have performed security assessments of their entire systems and modified their Emergency Response Plans to cover the possibility of terrorism. Weaknesses in procedures have been corrected, and improvements to increase the security of the infrastructure have been undertaken. For instance a security camera system has been installed in the Bolton Point plant. Local police are aware of the security needs of the water systems and have increased patrolling of the facilities. Your awareness and reporting of suspicious activity throughout the three systems will be appreciated.

D General Water Information

Table 1: General Water Data — 2004

Water System Public Water Supply ID#	BP-MWS 5404423	CIWS 0066600	CUWS 5417680
Water source	Cayuga Lake	Six Mile Creek	Fall Creek
Approximate population served	30,000	30,000	27,000
Number of service connections	6,268	5,400	216
Total production in 2003 (MG)	911	1,369	496
Average daily withdrawal (MGD[1])	2.55	3.75	1.34
Average daily delivered (MGD)	2.50	2.87	1.22
Average daily lost (MGD)[2]	0.05	0.88	0.12
Annual charge per 1000 gal.	$2.95	$3.38	$3.77

[1] MGD = million gallons per day

[2] The average daily lost includes water used to flush mains, fight fires, and leakage.

Table 2: General Water Quality Data — 2004

Analyte	Units	BP-MWS Annual Average	CIWS Annual Average	CUWS Annual Average
pH (EP)		8.3	7.7	6.8
Turbidity (EP)	NTU	0.04	0.07	0.06
Total Hardness	mg/l	150	108	180
Total Alkalinity	mg/l	106	96	102
Total Dissolved Solids	mg/l	NR	195	NR
Iron (soluble)	mg/l	NR	0.02	NR
Chlorine Residual (EP)	mg/l	1.40	1.48	1.5
Chlorine Residual (POU)	mg/l	0.70	0.92	0.68
Turbidity (POU)	NTU	0.07	0.28	0.06
Total Organic Carbon (EP)	mg/l	2.0	2.0	1.7
Dissolved Organic Carbon (EP)	mg/l	2.0	2.0	1.9

NR = Not Required; EP = Entry Point; POU = Point of Use;
Definitions of NTU and mg/l follow Tables 3 - 5.

E Source Water Protection

The New York State Health Department is in the process of developing a Source Water Assessment Report for every surface drinking water source in the state. When the reports for the three local sources are completed, the systems will review them and provide a summary. If these reports become available in 2005, a summary will be provided in next year's Annual Water Quality Report.

F Water Quality Data

INTRODUCTION

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. It also can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: pesticides and herbicides, and microbial, inorganic, organic chemical, 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. State Health Department and Federal Drug Administration (FDA) regulations also establish limits for contaminants in bottled water, which must provide the same protection for public health.

In accordance with State regulations, the three water systems routinely monitor your drinking water for numerous contaminants. Tables 3-5 show the analytical test results for contaminants that were detected in your water. The test results are compared to the applicable state guideline or maximum contaminate level (MCL). Table 6 shows the contaminants that were not detected in your water.

The State allows testing less than once per year for some contaminants because their concentrations do not change frequently. Therefore some data, though representative, are more than one year old.

TOTAL COLIFORMS

Coliform bacteria are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. On July 21, 2004, the City of Ithaca's routine sampling detected total coliforms in excess of maximum limits and indicated a contaminate level violation in the West Hill portion of its system. The City re-sampled as required. These additional positive samples helped the City identify the affected area as the Elm Street tank and the West Village Apartments. A boil water notice was issued for the affected area. The Elm Street tank was taken out of service and water was flushed through the area to remove possible contamination from the system. The boil water notice was lifted on July 27. The roof of the Elm Street tank will be repaired and a supplemental chlorination station will be installed at the tank before it is placed back into service.

LEAD

While the three water systems had no violations of State standards, it should be noted that in 2002 the action level for lead was exceeded in two of the thirty samples collected for Bolton Point and the City of Ithaca. Based on these occurrences, the systems are required to provide the following information on lead in drinking water:

Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. You can also flush your tap for thirty seconds to two minutes before using the water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).

SODIUM

People who are on severely restricted sodium diets should not drink water containing more than 20 mg/l of sodium. Since the level of sodium in Bolton Point water was 30 mg/l in 2004, customers on severely restricted sodium diets may wish to consult their health care providers. People who are on moderately restricted sodium diets should not drink water containing more than 270 mg/l of sodium. The sodium levels of the water from all three systems are well below this level.

G Tables of Detected Contaminants

Table 3: Detected Contaminants: Bolton Point Municipal Water System

Contaminant	Units	Violation Yes/No	Date of Sample	Maximum Level Detected (Range)	Regulatory Limit	MCLG	Likely Source of Contamination
Microbiological contaminants							
Turbidity	NTU	No	4/4/04	0.08	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.3NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2004	66 (30-122)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2004	22 (1-33)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2004	1.80 (0-1.80)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	12/2/04	0.024	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	2000	45	MCL=250	N/A	Naturally occurring or road salt.
Chromium	mg/l	No	2004	0.037	MCL=.1	.1	Discharge from steel and pulp mills; erosion of natural deposits.
Copper	mg/l	No	2002	0 .078 (ND-0.954)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Fluoride	mg/l	No	12/2/04	0.18	MCL=2.2	N/A	Erosion of natural deposits; fertilizers.
Lead	ug/l	No	2002	8.8 (ND-16.9)	AL=15	0	Corrosion of household plumbing; erosion of natural deposits.
Manganese	ug/l	No	1/29/01	12	MCL=300	N/A	Naturally occuring landfill contamination.
Nickel	mg/l	No	12/2/04	0.0034	N/A	N/A	Discharge from steel and pulp mills; erosion of natural deposits.
Nitrate	mg/l	No	12/2/04	1.2	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	12/2/04	30	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	12/13/01	29.1	MCL=250	N/A	Naturally occurring.
Radioactive							
Gross alpha	pCi/l	No	12/13/01	<2	MCL=15	0	Erosion of natural deposits.
Gross beta	pCi/l	No	12/13/01	<2	MCL=15	0	Erosion of natural deposits.

Notes and Definitions for Tables 3-5:

AL: (action level) - the concentration of a contaminant that, if exceeded, triggers additional treatment or other requirements that a water system must follow.

Lead and Copper: the maximum level values reported for lead and copper represent the 90th percentile of the samples taken. This means that 90 percent of the individual samples tested for lead and copper were at or below the action level (AL) set by the state. Testing for lead and copper is only required every three years. The last time the three water systems last collected samples for lead and copper in 2002.

Maximum Level Detected: The highest measurement detected for the contaminant during the year. For total THMs and HAA5, the maximum level detected is the highest of the four quarterly running annual averages during the year.

MCL: (maximum contaminant level) - the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

MCLG: (maximum contaminant level goal) - the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

mg/l: (milligrams per liter) - corresponds to one part in one million parts of liquid (parts per million, ppm).

MRDL: (maximum residual disinfection level) – the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG: (maximum residual disinfectant level goal) - the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

N/A: (not applicable)

ND: (not detected) - Laboratory analysis indicates that the contaminant is not present.

NTU: (nephelometric turbidity unit) - a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable by the average person.

pCi/l: (picocuries per liter) - a measure of radioactivity in water.

Range: the range of lowest to highest measurements detected for contaminants measured during the year.

THM: Trihalomethanes - bromodichloromethane, bromoform, chloroform, dibromochloromethane. These compounds result from the disinfection of water. The maximum level detected of THMs is the highest of the four quarterly running annual averages calculated during the year and is the basis of the MCL for these compounds.

TT: (treatment technique) - a required process intended to reduce the level of a contaminant in drinking water.

ug/l: (micrograms per liter) - corresponds to one part in one billion parts of liquid (parts per billion, ppb).

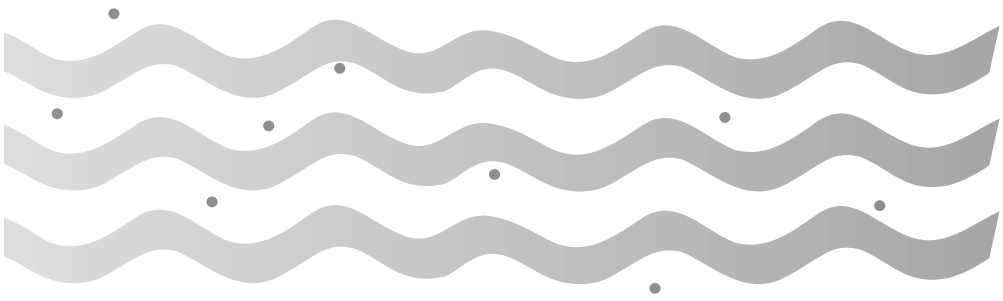


Table 4: Detected Contaminants: City Of Ithaca Water System

Contaminant	Units	Violation Yes/No	Date of Sample	Maximum Level Detected (Range)	Regulatory Limit	MCLG	Likely Source of Contamination
Microbiological contaminants							
Turbidity	NTU	No	11/18/04	0.14	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.3NTU	N/A	Soil runoff.
Total Coliforms	**#/100ml**	**Yes**	**7/21/04**	**2**	**>2/mo.**	**0**	**Naturally present in the environment.**
Disinfection by-products							
Total THMs	ug/l	No	2004	66 (24-114)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	Yes	2004	43 (18-76)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2004	2.1 (0.9-2.1)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Arsenic	ug/l	No	7/1/04	1.5	MCL=10	N/A	Erosion from natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	mg/l	No	7/1/04	0.046	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	7/1/04	29	MCL=250	N/A	Naturally occurring or road salt.
Copper	mg/l	No	2002	0.97 (0.08-1.2)	AL=1.3	1.3	Corrosion of household plumbing; erosion of natural deposits; wood preservatives.
Flouride	mg/l	No	7/1/04	0.19	MCL=2.2	N/A	Erosion of natural deposits: discharge from fertilizer.
Iron	ug/l	No	7/1/04	220	MCL=300	N/A	Naturally occurring.
Lead	ug/l	No	2002	10 (1.0-15)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Manganese	ug/l	No	7/1/04	55	MCL=300	N/A	Naturally occuring; indicative of landfill contamination.
Nickel	mg/l	No	7/1/04	0.017	N/A	N/A	Discharge from steel and pulp mills; erosion of natural deposits.
Nitrate	mg/l	No	7/1/04	0.45	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Selenium	ug/l	No	7/1/04	<6	MCL=50	50	Discharge from petrolwum & metal refineries; erosion of natural deposits; discharge from mines.
Silver	ug/l	No	7/1/04	<10	MCL=100	N/A	Naturally occurring; discharge from photographic & radiographic processing; manufacturing of electronic products; je;wery making; plating & soldering.
Sodium	mg/l	No	2004	18 (14-19)	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	7/1/04	10	MCL=250	N/A	Naturally occurring.
Zinc	mg/l	No	7/1/04	0.064	MCL=5	N/A	Naturally occurring; mining waste.
Radioactive							
Gross alpha	pCi/l	No	6/19/02	0.61	MCL=15	0	Erosion of natural deposits.

Table 5: Detected Contaminants: Cornell University Water System

Contaminant	Units	Violation Yes/No	Date of Sample	Maximum Level Detected (Range)	Regulatory Limit	MCLG	Likely Source of Contamination
Microbiological contaminants							
Turbidity	NTU	No	5/16/04	0.21	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.3NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2004	78 (21-84)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2004	53 (19-59)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2004	2.2 (0.9-2.2)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	12/1/04	0.017	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	9/22/00	24	MCL=250	N/A	Naturally occurring or road salt.
Copper	mg/l	No	2002	0.18 (0.006-1.2)	AL=1.3	1.3	Corrosion of household plumbing; erosion of natural deposits; wood preservatives.
Flouride	mg/l	No	12/1/04	0.13	MCL=2.2	N/A	Erosion of natural deposits; discharge from fertilizer.
Iron	ug/l	No	1/29/01	100	MCL=300	N/A	Naturally occurring.
Lead	ug/l	No	2002	1.3 (ND-7.3)	AL=15	0	Corrosion of household plumbing; erosion of natural deposits.
Manganese	ug/l	No	1/29/01	12	MCL=300	N/A	Naturally occurring; lamdfill contamination.
Nickel	mg/l	No	12/1/04	0.0019	N/A	N/A	Discharge from steel and pulp mills; erosion of natural deposits.
Nitrate	mg/l	No	2/19/04	2.1	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	1/29/01	15	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	9/22/00	16	MCL=250	N/A	Naturally occurring.
Zinc	mg/l	No	1/29/01	0.0031	MCL=5	N/A	Naturally occurring; mining waste.
Radioactive							
Gross alpha	pCi/l	No	2/2/02	0.174	MCL=15	0	Erosion of natural deposits.

H Table 6: Non-Detected Contaminates: All Systems

CONTAMINANT	BP-MWS 2004	CIWS 2004	CUWS 2004
Microbiological			
Total Coliform	X	X	D
E. Coli	X	X	X
Inorganics			
Antimony	X	X	X
Arsenic	X	D	X
Asbestos	NR	X	X
Beryillium	X	X	X
Cadmium	X	X	X
Chromium	D	X	X
Color	NR	X	X
Cyanide	X	X	X
Mercury	X	X	X
Nitrite	NR	X	X
Odor	NR	X	X
Selenium	X	D	X
Silver	NR	D	X
Thallium	X	X	X
Synthetic Organics & Pesticides; Groups 1 & 2			
Alachlor	X	X	X
Aldicarb	X	X	X
Aldicarb sulfoxide	X	X	X
Aldicarb sulfone	X	X	X
Atrazine	X	X	X
Carbofuran	X	X	X
Chlordane	X	X	X
Dibromochloropropane	X	X	X
2,4-D	X	X	X
Endrin	X	X	X
Ethylene dibromide	NR	X	X
gamma-BHC	NR	NR	X
gamma-Chlordane	NR	NR	X
Heptachlor	X	X	X
Heptachlor epoxide	X	X	X
Lindane	X	X	X
Methoxychlor	X	X	X
PCB - aroclor 1016	X	X	X
PCB - aroclor 1221	X	X	X
PCB - aroclor 1232	X	X	X
PCB - aroclor 1242	X	X	X
PCB - aroclor 1248	X	X	X
PCB - aroclor 1254	X	X	X
PCB - aroclor 1260	X	X	X
Pentachlorophenol	X	X	X
Toxaphene	X	X	X
2,4,5-TP (silvex)	X	X	X
Aldrin	X	X	X
Benzo(a)pyrene	X	X	X
Butachlor	X	X	X
Carbaryl	X	X	X
Dalapon	X	X	X
Di(2-ethylhexyl) adipate	X	X	X
Di(2-ethylhexyl) phthalate	X	X	X
Dicamba	X	X	X
Dieldrin	X	X	X
Dinoseb	X	X	X
Glyphosphate	NR	X	NR
Hexachlorobenzene	X	X	X
Hexachlorooxyclopentadiene	X	X	X
3-Hydroxycarbofuran	X	X	X
Methomyl	X	X	X
Metolachlor	X	X	X
Metribuzin	X	X	X
Oxamyl vydate	D	X	X
Picloram	X	X	X
Propachlor	X	X	X
Simazine	X	X	X
Principal Organics			
Benzene	X	X	X
Bromobenzene	X	X	X
Bromochloromethane	X	X	X
Bromomethane	X	X	X
N-Butylbenzene	X	X	X
sec-Butylbenzene	X	X	X
tert-Butylbenzene	X	X	X
Carbon tetrachloride	X	X	X
Chlorobenzene	X	X	X
Chloroethane	X	X	X
Chloromethane	X	X	X

CONTAMINANT	BP-MWS 2004	CIWS 2004	CUWS 2004
2-Chlorotoluene	X	X	X
4-Chlorotoluene	X	X	X
1,2-Dibromo-3-chloropropane	X	NR	NR
1,2-Dibromoethane	X	NR	NR
Dibromomethane	X	X	X
1,2-Dichlorobenzene	X	X	X
1,3-Dichlorobenzene	X	X	X
1,4-Dichlorobenzene	X	X	X
Dichlorodifluoromethane	X	X	X
1,1-Dichloroethane	X	X	X
1,2-Dichloroethane	X	X	X
1,1-Dichloroethene	X	X	X
cis-1,2-Dichloroethene	X	X	X
trans-1,2-Dichloroethene	X	X	X
1,2-Dichloropropane	X	X	X
1,3-Dichloropropane	X	X	X
2,2-Dichloropropane	X	X	X
1,1-Dichloropropene	X	X	X
cis-1,3-Dichloropropene	X	X	X
trans-1,3-Dichloropropene	X	X	X
Ethylbenzene	X	X	X
Hexachlorobutadiene	X	X	X
Isopropylbenzene	X	X	X
p-Isopropyltoluene	X	X	X
Methylene chloride	X	X	X
n-Propylbenzene	X	X	X
Styrene	X	X	X
1,1,1,2-Tetrachloroethane	X	X	X
1,1,2,2-Tetrachloroethane	X	X	X
Tetrachloroethene	X	X	X
Toluene	X	X	X
1,2,3-Trichlorobenzene	X	X	X
1,2,4-Trichlorobenzene	X	X	X
1,1,1-Trichloroethane	X	X	X
1,1,2-Trichloroethane	X	X	X
Trichloroethene	X	X	X
Trichlorofluoromethane	X	X	X
1,2,3-Trichloropropane	X	X	X
1,2,4-Trimethylbenzene	X	X	X
1,3,5-Trimethylbenzene	X	X	X
m-Xylene	X	X	X
o-Xylene	X	X	X
p-Xylene	X	X	X
Vinyl chloride	X	X	X
MBTE	X	X	X
UCMR List 1	2001-02	2001-02	2001-02
2,4-Dinitrotoluene	X	X	X
2,6-Dinitrotoluene	X	X	X
Acetochlor	X	X	X
DCPA mono-acid degradate	X	X	X
DCPA di-acid degradate	X	X	X
4,4'-DDE	X	X	X
EPTC	X	X	X
Molinate	X	X	X
Nitrobenzene	X	X	X
Perchlorate	X	X	X
Terbacil	X	X	X
UCMR List 2			
1,2-Diphenylbrazine	NR	X	X
Diazinon	NR	X	X
Disulfoton	NR	X	X
Fonofos	NR	X	X
Nitrobenzine	NR	X	X
Prometon	NR	X	X
Terbufos	NR	X	X
2-Methylphenol	NR	X	X
2,4-Dichlorophenol	NR	X	X
2,4-Dinitrophenol	NR	X	X
2,4,6-Trichlorophenol	NR	X	X
Diuron	NR	X	X
Linuron	NR	X	X
Other			2003
Giardia	NR	NR	X
Cryptosporidium	NR	NR	X

X = Monitored, but not detected D = Refer to detected list
NR = Not required and not monitored in the past five years
UMCR = Unregulated Contaminant Monitoring Requirements

I Major Modifications Completed in 2004

Bolton Point (BP-MWS):

- Construction of a 7,600 square foot building addition for office space was started in May. The new building was nearly complete by the end of the year when reconstruction of the original office areas began.
- The Coy Glen pump station and West Hill tank were brought on line to serve Bolton Point customers on West Hill in the Town of Ithaca. This project included the installation of 4000 feet of 16 inch main on South Hill.
- Radio telemetry links were established between the plant, the raw water pump station and the new facilities on West Hill. The radio telemetry system for all 35 remote locations has been designed, and the three repeaters at Trumansburg Road, Hungerford Hill and West Hill tanks are operational. A municipal electric service was installed to the Hungerford Hill tank as part of this project.
- Transfer switches and receptacles for trailer mounted backup generators were installed at the Troy Road, Coddington Road, Christopher Circle and Regency Lane pump stations.
- The sludge scraper flights, chains and sprockets in the north sedimentation basin were replaced with new lighter plastic components that will not corrode. The sludge valves in the north basin were replaced. Two new flocculator paddles were fabricated.
- New trip units were installed in the ten large 480 volt breakers. A trip coil was also installed in the raw water pump station main breaker.
- The water tank cathodic protection systems were upgraded by the replacement of rectifiers at the Christopher Circle and Pine Tree tanks, hanging anodes at the Northview Road and Danby Road tanks, and meters at the Trumansburg Road and Danby Road tanks.
- New control valves were installed on two of the four filters.
- A motorized gate operator was installed at the plant entrance gate.
- New chlorine metering valves were installed.
- The hypochlorite storage tank of the zebra mussel control system was replaced. All four hypochlorite feed pumps were rebuilt. Divers replaced the underwater hypochlorite diffuser rings.
- A new variable frequency drive was installed at the Oakwood Lane pump station.
- One of the Regency Lane pumps was rebuilt.
- A new pump station was constructed on

Woolf Lane to supply the Town of

Woolf Lane to supply the Town of Ulysses.

- New motors and variable frequency drives were installed on the sodium hydroxide and alum chemical feed pumps and a new variable frequency drive was installed on the north flocculator to permit computer control.

City (CIWS):

- A new top was installed on the Elm Street tank and modifications were made to the tank piping. Equipment for a re-chlorination station at the tank was purchased.
- The backwash pump and motor at the water plant were rebuilt.
- A new air blower and associated electrical equipment were installed to facilitate filter backwashing.
- The starch and permanganate dry chemical feeders were replaced.
- The rapid mixer controls and motor were replaced at the water plant.
- The water plant electrical service was upgraded.
- Radio telemetry was installed for the Elm Street water tank.
- Fiberglass structures to house sampling and telemetry equipment were installed at Oakwood Lane and Cliff Park Road water tanks.
- 3750 feet of 12" and 3400 feet of 8" water main were installed in the South West development corridor of the City

Cornell (CUWS):

- Baffles were installed in the rapid mix chamber.
- Designs were developed for a plant renewal project.

J Future Capital Improvements (Planned for 2005)

Bolton Point (BP-MWS)

- Construct a 3.0 million gallon storage tank on East Hill.
- Complete phase III of the SCADA system for the monitoring and control of the remote tanks, pump stations and control valve stations using a radio telemetry system.
- Replacement of the final filter effluent control valve and one backwash inflow valve.
- Purchase a high voltage transformer

Ulysses.

as part of the electrical backup system for the treatment plant and raw water pump station.

- Acquire three trailer mounted generators as electrical backup for municipal pump stations.
- Rebuilding of one of the 300 hp finished water pumps.
- Replacement of cathodic protection rectifier at the Ridgecrest Road tank.

City (CIWS):

- The City is studying the future supply of water. Options are being considered for rebuilding the existing plant, building a new plant on Six Mile Creek or using Cayuga Lake as a source for a new plant. Talks are also ongoing concerning obtaining water from the Bolton Point plant on Cayuga Lake. A decision is expected by July.
- Installation of a generator to supply emergency power for the control room.
- Upgrading the cathodic protection equipment of the steel water tanks.
- The City is studying the benefits of additional water quality monitoring in the distribution system.
- Continuation of the automatic meter reading program.
- A corrosion inhibitor is being considered to be fed to the water system.
- Replacement of the First Street water main (1600 feet of 12" pipe).

Cornell (CUWS)

- Replacement of the filter pipe header.
- Installation of new filter effluent valves with rate controllers.
- Installation of a new raw water meter.
- Development of a SCADA system.
- Installation of a new pump priming system.
- Replacement of the sedimentation area covering.
- Replacement of the emergency generator.
- Continuation of the distribution water

K

- New motors and variable fre-

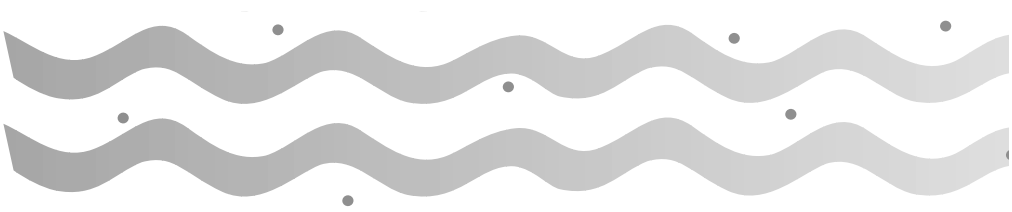
main replacement.

Water Conservation

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. The following are some ideas that can be directly applied to your individual homes.

- Never put water down the drain when there may be another use for it, such as watering a plant or garden, or cleaning.
- An automatic dishwasher uses 9 to 12 gallons of water per load of dishes. Twenty gallons of water are used on average to wash the same amount of dishes by hand.
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.
- A dripping faucet with a 1/16 inch hole wastes 100 gallons of water per day.
- Put 10 drops of food coloring in your toilet tank. If the color shows up in the bowl, you have a leak to repair. It is common to lose up to 100 gallons a day from a toilet leak. Fix it and you save more than 30,000 gallons a year.
- In five minutes, 50 gallons passes through a typical garden hose.
- Use your water meter to detect hidden leaks. Turn off all taps and water using appliances, then record the meter reading, and check the meter after 15 minutes. If it moved, you have a leak.
- Store drinking water in the refrigerator rather than letting the tap run every time you want a cool glass of water.

Saving water can lower your power bills by reducing your demand for hot or pumped water. These few simple steps



Water Trivia

- Of all the earth's water, 97% is oceans or seas, 2% is ice and only 1% suitable for drinking.
- The bathroom accounts for 75 percent of the water used inside the home.
- The manufacture of four tires requires more than 2,000 gallons of water.
- There are approximately one million miles of pipeline and aqueducts in the United States and Canada or enough to circle the earth 40 times.
- It takes 1,500 gallons of water to process one barrel of beer.
- A cornfield of one acre gives off 4,000 gallons of water per day in evaporation.
- The average individual uses 123 gallons of water each day.
- It would take 209 million gallons of water to cover one square mile with one foot of water. That much water would weigh more than 1.7 billion pounds.
- A cow must drink three gallons of water to produce one gallon of milk.

High Quality Drinking Water for Tompkins County Residents

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