

## WATER CONSERVATION TIPS

The ECWA encourages water conservation. Although Lake Erie and the Niagara River are a vast source of high quality fresh water, it must not be wasted. A few simple steps will preserve this precious resource for future generations:

- Use low flow shower heads and faucets.
- Repair all leaks in your plumbing system.
- Water your lawn sparingly in early morning or late evening.
- Do only full loads of laundry and dishes.
- Wash your car with a bucket and hose with a nozzle.
- Don't cut the lawn too short; longer grass saves water.

## CRYPTOSPORIDIUM & GIARDIA ANALYSIS

The ECWA's Water Quality Laboratory is recognized as one of the most well equipped labs in North America that is capable of testing for Giardia and Cryptosporidium. In fact, our lab was one of the first labs in the country to gain EPA approval for the analysis of Cryptosporidium and Giardia, and continues to participate in the EPA's Laboratory Quality Assurance Evaluation Program for the analysis of Cryptosporidium. The ECWA also tests for these protozoa for other major public water suppliers throughout the country.

These microscopic protozoa are widely present in the environment and most surface water sources throughout the United States. They can cause intestinal illnesses if ingested. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the illnesses within a couple of weeks. However, both can be serious for people with weak immune systems. Although filtration removes Cryptosporidium, even the most commonly used filtration methods can not guarantee 100 percent removal. Giardia is removed by a combination of filtration and disinfection.

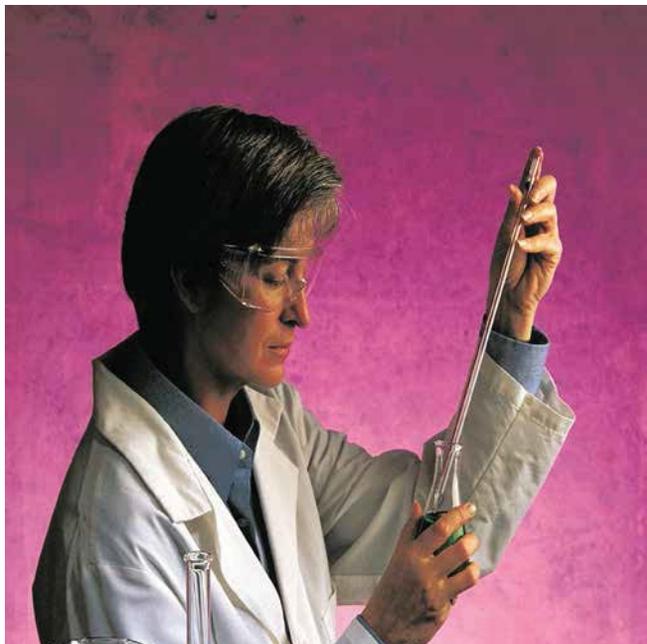
In 2012, the ECWA analyzed 48 total water samples for Giardia and Cryptosporidium. No positive samples were detected in the ECWA's treated water supply. Giardia was found to be present in our source water.

The ECWA encourages immune compromised individuals to consult their physicians regarding appropriate precautions to avoid infection. Both protozoa must be ingested to cause disease, and they may spread through other means than drinking water. For additional information on Cryptosporidiosis or Giardiasis, please contact the Erie County Health Department at (716) 961-6800.

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 at (800) 426-4791.

# 2012

## Water Quality Report



## PROVIDING WATER YOU CAN TRUST

PUBLIC WATER SYSTEMS IDENTIFICATION NUMBERS ECWA PWS# NY 1400443			
PWS#	NAME	PWS#	NAME
NY1421651	ECWA ALDEN	NY1400515	ECWA HAMBURG (V)
NY1400399	ECWA AMHERST	NY1400421	ECWA LANCASTER
NY1450033	ECWA AURORA	NY1430016	ECWA MARILLA
NY1421897	ECWA BOSTON	NY1422651	ECWA NEWSTEAD
NY1400443	ECWA DIRECT	NY1421762	ECWA ORCHARD PARK
NY1400435	ECWA EDEN	NY1404543	ECWA WEST SENECA
NY1400488	ECWA HAMBURG (T)		

**If you would like additional copies of this report,  
please contact Customer Service at  
(716) 849-8444 or e-mail [questionscomments@ecwa.org](mailto:questionscomments@ecwa.org).**



**Erie County Water Authority**  
Administrative Offices  
295 Main Street, Room 350  
Buffalo, New York 14203

# FREQUENTLY ASKED QUESTIONS

## Who sets and enforces drinking water standards?

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of your drinking water. Under the SDWA, the United States Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. In New York, the State Health Department enforces the EPA's regulations and often makes them even more stringent.

The EPA sets standards for approximately 150 regulated contaminants in drinking water. For each of these contaminants, EPA sets a legal limit, called a maximum contaminant level (MCL). EPA regulations specify strict testing and reporting requirements for each contaminant. Water suppliers may not provide water that doesn't meet these standards. Water that does meet these standards is safe to drink. In Erie County, the Erie County Health Department is the agency that administers and enforces these standards. Their phone number is (716) 961-6800.

## Where does my water come from?

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 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 New York State Department of Health (NYSDOH) and the EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The NYSDOH and the Food and Drug Administration (FDA) set regulations that limit contaminants in bottled water, which must provide the same protection for public health.

Your water comes from two sources. The ECWA's Sturgeon Point Treatment Plant in the Town of Evans draws water from Lake Erie to supply the southern part of Erie County and some communities in Chautauqua and Cattaraugus Counties. The Van de Water Treatment Plant in Tonawanda draws water from the Niagara River and services municipalities in northern Erie County as well as some in Genesee and Wyoming Counties. These two plants serve more than a half-million consumers in Western New York.

## How is my water treated?

Both ECWA treatment facilities use the conventional filtration method. First, raw water flows by gravity through a large intake tunnel to the raw water building. Pumps draw the water through traveling screens to prevent large objects such as driftwood and fish from entering the system. A chemical, poly-aluminum chloride, is added to the water, which causes suspended particles in the water to clump together to form floc. Floc particles then settle to the bottom of large sedimentation basins. The water is filtered through layers of anthracite, sand, and gravel, to remove any remaining particles. Chlorine is added for disinfection to kill bacteria. Small amounts of fluoride are added to help prevent tooth decay. Caustic soda is added to stabilize the alkalinity of the water and prevent corrosion in home plumbing. Powdered activated carbon may be added in summer months to help remove unpleasant tastes and odors. Water is temporarily stored in clearwells or storage tanks before it is pumped to the public. High service pumps deliver the clean water through more than 3,510 miles of water mains to homes and businesses. The ECWA closely monitors its 38 pump stations and 38 water storage tanks to assist in the distribution process. On average, the ECWA delivers 67.86 million gallons a day to serve more than a half million consumers in Western New York.

## Are there contaminants in our water? Do I need to take special precautions?

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline at (800) 426-4791 or the Erie County Health Department at (716) 961-6800.

Although our drinking water met or exceeded all 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 at (800) 426-4791.

## How will I know if my water is not safe to drink?

In the unlikely event that water becomes unsafe to drink, the EPA mandates the ECWA notify its customers. Water is not safe to drink when testing reveals that contaminants in the water exceed federal or state limits for contaminant levels. If the water is not safe to drink, ECWA will alert the public through proper media channels and electronic communications that a "boil water order" has been issued, along with advice regarding measures that should be taken to protect your health.

## Does ECWA add fluoride to drinking water?

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. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water. The New York State Health Department (NYSDOH) recommends an optimal range from 0.8 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the NYSDOH requires that the ECWA monitor fluoride levels on a daily basis. In 2012, monitoring showed fluoride levels in your water were in the optimal range 99% of the time. None of the monitoring results during fluoride addition showed fluoride at levels that approached the 2.2 mg/l maximum contaminant level (MCL) for fluoride.

## How can I participate in decisions that affect drinking water quality?

Any member of the public may participate in decisions affecting their water quality. The ECWA's Board of Commissioners ultimately makes those decisions on behalf of our customers. Board meetings take place every other Thursday in the board meeting room, Erie County Water Authority, 295 Main Street, Room 350, Buffalo, New York 14203. Occasionally a board meeting is rescheduled. Call (716) 849-8444 or visit [www.ecwa.org](http://www.ecwa.org) for updated board meeting information.

# For 2012, your tap water met all federal and state drinking water standards for quality and safety.

## ABOUT THE ERIE COUNTY WATER AUTHORITY

The ECWA was created in 1949 by a special act of the New York State Legislature to ensure that the people and industry of Erie County would have a safe, plentiful supply of water for the future. Since 1953, the ECWA has produced and reliably delivered water of the highest quality to its customers at an affordable rate.

As an independent public-benefit corporation, ECWA is not an agency of New York State and is totally independent of Erie County government. ECWA operates as a financially self-sustaining public utility and pays all operating expenses from revenues generated by the sale of water to its 160,355 customers.

In 2012, the ECWA produced approximately 24.8 billion gallons of high-quality water for residential, commercial, and industrial use in 35 municipalities throughout Western New York. Some of this water was used for flushing water mains, fighting fires, training firefighters, filter backwashing, plant processes, equipment and hydrant testing and was lost to leaks. Approximately 18.3 billion gallons were sold to our customers.

The ECWA owns and operates two water treatment plants, a nationally recognized water quality lab, 38 pump stations, 38 water storage tanks and maintains 3,510 miles of water mains, 17,651 fire hydrants, 33,044 valves and numerous appurtenances.

The cost per thousand gallons of water for residential customers was \$2.96 in 2012. The rate remains the same for 2013 and continues to be one of the lowest rates in New York State. In 2012, for the average rate-payer who used 19,750 gallons of water per quarter, it cost \$257.84, or about 70 cents per day, to be provided with a plentiful supply of safe, high quality drinking water.

## IMPROVEMENTS TO YOUR WATER SYSTEM

In 2012 the Authority invested more than \$13 million in system wide infrastructure including:

- Waterline replacements were completed in Cheektowaga and Hamburg
- The ECWA continued with the ongoing inspections of its water storage tanks and completed the interior and exterior surface rehabilitation of the Wehrle Tank ("Big Blue Water Tower") in Amherst.
- The ECWA completed the replacement of two of the five raw water pumps at the Sturgeon Point Water Treatment Plant in Evans.
- A major interconnection with the City of Buffalo water system was completed to allow the purchase of water on an as needed or emergency basis.

 The seal of the Partnership for Safewater as seen on this document indicates that we are part of a select group of water systems nationwide who have voluntarily committed themselves toward a proactive approach to strengthen the safety of drinking water for our customers above and beyond the current regulatory requirements. For additional information on the Partnership for Safewater visit [www.awwa.org/science/partnership](http://www.awwa.org/science/partnership).

Dear Customer,

Thank you for allowing the Erie County Water Authority (ECWA) to supply you with high quality drinking water. We are committed to not only providing you with an excellent product and reliable service, but also with furnishing you with detailed information about the drinking water you consume and use everyday.

It is with great pleasure that we provide you with the ECWA's 2012 Annual Water Quality Report (AWQR). Included are details about where your water comes from, how your water is treated and tested, and how it compares to standards set by regulatory agencies. This report fulfills the United States Environmental Protection Agency's (EPA) requirement to prepare and deliver a Consumer Confidence Report (CCR) and the New York State Department of Health's requirement to prepare and deliver an AWQR.

The ECWA is committed to providing its customers safe, high quality drinking water. That is why we maintain a rigorous quality control program through constant monitoring and testing, and continue to invest substantial financial resources to improve our two treatment facilities, distribution system and nationally recognized water quality lab, which this year will be relocated from its current, stand-alone location in Lackawanna to our Van de Water Treatment Plant in Tonawanda. This facility consolidation will result in a new, state-of-the-art water quality lab with enhanced analytical capabilities being housed at an ECWA owned facility as well as cost savings over the long term.

Each year ECWA strives to provide its customers with the high quality drinking water and professional service that they deserve. As we enter a new year, the ECWA has positioned itself to continue to achieve its mission of providing a high-quality product and reliable, cost-effective service at an affordable rate to the more than 550,000 consumers that rely on us 24 hours a day, 365 days a year.

Thank you for taking the time to learn about your water supply. Customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

If you have comments and questions about the report, please submit them to: Matthew J. Baudo, Secretary to the Authority, 295 Main Street, Room 350, Buffalo, NY 14203, or by e-mail to [questionscomments@ecwa.org](mailto:questionscomments@ecwa.org), or by phone at (716) 849-8444

Sincerely,

BOARD OF COMMISSIONERS  
Francis G. Warthling, Chairperson  
Earl L. Jann Jr., Vice-Chair  
John F. O'Donnell, Treasurer

## ECWA'S TEST RESULTS FOR 2012

The ECWA's water system operated under "NO VARIANCE OR EXEMPTION" from any federal or state regulatory requirements. To comply with EPA mandated requirements, water quality data tables of detected regulated and unregulated contaminants are detailed in this report. The tables summarize test results for the past year or from the most recent year that tests were conducted in accordance with regulatory requirements. They also list the maximum contaminant levels (MCL). The EPA is responsible for establishing the MCL standards. Some tests are not required to be performed on an annual basis. For your convenience, important terms and abbreviations are defined throughout this document. More information regarding all substances tested for, but not detected, can be obtained upon request from the ECWA Water Quality Laboratory by calling (716) 685-8570 or at [www.ecwa.org](http://www.ecwa.org)

# 2012 Water Quality Monitoring Report - Annual Water Quality Report Supplement

## DETECTED CONTAMINANTS

Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date (or date of highest detection)	MCL	MCLG	Level Detected	Sources in Drinking Water
Barium	No	11/12	2 mg/liter	NE	0.020 - 0.020 mg/liter: Average = 0.020	Erosion of natural deposits; drilling and metal wastes
Chloride	No	3/12	250 mg/liter	NE	16 - 30 mg/liter: Average = 20	Naturally occurring in source water
Chlorine	No	3/12	MRDL = 4.0 mg/liter	MRDLG = 4 mg/liter	<0.20 - 2.20 mg/liter: Average = 0.73	Added for disinfection
Copper	No	8/10	1.3 mg/liter (AL)	0 mg/liter (AL)	0.0005 - 0.04 mg/liter, 90th percentile 0.03mg/liter, 0 of 79 above AL	Home plumbing corrosion natural erosion
Fluoride <sup>4</sup>	No	4/12	2.2 mg/liter	2.2 mg/liter	0.64 - 1.26 mg/liter, Average = 0.98, 99% in optimum range 0.8 - 1.2	Added to water to prevent tooth decay
Lead <sup>2</sup>	No	8/10	15 ug/liter (AL)	0 ug/liter (AL)	ND - 8 ug/liter, 90th percentile 3 ug/liter, 0 of 79 above AL	Home plumbing corrosion; natural erosion
Nitrate	No	12/12	10 mg/liter	10 mg/liter	0.17 - 0.18 mg/liter. Average = 0.18	Runoff from fertilizer use
pH	No	4/12	NR	NE	7.42 - 8.13, Average = 7.90 SU	Naturally occurring; adjusted for corrosion control
Turbidity <sup>3</sup>	No	11/12	TT	NE	0.47 NTU highest detected; 98.8% was lowest monthly % < 0.30 NTU	Soil runoff

<sup>4</sup> 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. According to the United States Centers for Disease Control, the addition of fluoride is a very effective means of preventing cavities when present in drinking water at a properly controlled level. To ensure that the fluoride supplement in your water provides optimal dental protection we monitor fluoride levels on a daily basis to make sure fluoride is maintained at a target value of 1.0 mg/l. During 2012, monitoring showed fluoride levels in your water were within 0.2 mg/l of the target level 99% of the time. None of the monitoring results during fluoride addition showed fluoride at levels that approached the 2.2 mg/l MCL for fluoride.

<sup>2</sup> Lead is not present in the drinking water that is treated and delivered to your home. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. The Erie County Water Authority 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>. The level presented represents the 90th percentile of the 79 sites tested. A percentile is a value on a scale of 100 that indicates a percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead or copper values detected in the water system. In this case, 79 samples were collected in the water system and the 90th percentile value for lead was the eighth highest value (3 ug/L). The action level for lead was not exceeded in any of the samples tested. The action level for copper also was not exceeded at any of the samples tested.

<sup>3</sup> Turbidity is a measure of the cloudiness of water. Erie County Water Authority monitors turbidity because it is a good indicator of the effectiveness of our filtration system. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for bacterial growth. State regulations require that the delivered water turbidity must always be below 1 NTU in the combined filter effluent. The regulations also require that 95% of the turbidity samples collected have measurements below 0.3 NTU. The Van de Water Treatment Plant was shut down for a period of time from 11/01/12 to 11/02/12, because of plant improvements construction projects that started to affect the treatment plant filtered water turbidity. The maximum turbidity recorded during this water period was 0.47 ntu in the combined filtered effluent and no violations of treatment standards occurred. There was no interruption of service in the water system, and the distribution system water quality was not affected.

Organic Compounds	Violation Yes/No	Sample Date (or date of highest detection)	MCL (ug/liter)	MCLG (ug/liter)	Level Detected (ug/liter)	Sources in Drinking Water
Total Trihalomethanes <sup>4</sup>	No	8/12	RAA = 80, LRAA = 80	NE	14 - 82 ug/liter; RAA = 42, LRAA = 63	By-product of water disinfection (chlorination)
Total Haloacetic Acids <sup>5</sup>	No	6/12	RAA = 60, LRAA = 60	NE	1.1 - 48 ug/liter; RAA = 24, LRAA = 30	By-product of water disinfection (chlorination)
1,2 Dichloroethane <sup>6</sup>	No	6/12	5	0	0.9 - 1.2 ug/liter; Average = 1.0	Industrial discharge from chemical factories

<sup>4</sup> Trihalomethanes are byproducts of the water disinfection process that occur when natural organic compounds react with the chlorine required to kill harmful organisms in the water. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. The level detected represents the highest running annual average (42 ug/L), and the highest single location's running annual average (83 ug/L). Both are below the MCL.

<sup>5</sup> Haloacetic acids are byproducts of the water disinfection process required to kill harmful organisms. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. The level detected represents the system's highest running annual average (24 ug/L) and the highest single location's running annual average (30 ug/L). Both are below the MCL.

<sup>6</sup> Some people who drink water containing 1.2 dichloroethane in excess of the MCL concentration over many years may have an increased risk of getting cancer. The concentrations did not exceed the EPA's MCL for this compound.

Microbiological Parameters	Violation Yes/No	Sample Date (or date of highest detection)	MCL	MCLG	Level Detected (ug/liter)	Sources in Drinking Water
Total Coliform Bacteria	No <sup>7</sup>	7/12 <sup>8</sup>	5% of samples positive	NE	1.3% = highest percentage of monthly positives	Naturally present in environment

<sup>7</sup> A violation occurs when more than 5% of the total coliform samples collected per month are positive. No MCL violation occurred.

<sup>8</sup> During July 2012, two samples at the Trevett Rd Tank and one sample at ECWA Water Quality Lab tested positive for total coliform. In all cases, follow-up sampling, testing and reporting were performed as required by regulation, and the results were negative for both total coliform and E.coli.

Giardia and Cryptosporidium	Violation Yes/No	Sample Date (or date of highest detection)	Number of Samples Testing Positive		Number of Samples Tested
			Giardia	Cryptosporidium	
Source Water	No	5/12	6	0	24
Treated Drinking Water	No	ND	0	0	24

Cryptosporidium is a microscopic pathogen found in surface waters throughout the United States, as a result of animal waste runoff. It can cause abdominal infection, diarrhea, nausea, and abdominal cramps if ingested. Our filtration process effectively removes Cryptosporidium. No Cryptosporidium was detected in any samples taken in 2012. Giardia is a microbial pathogen present in varying concentrations in many surface waters. In 2012, Giardia was detected in 6 of 24 raw source water samples but was not detected in any treated drinking water samples. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection alone.

UNREGULATED SUBSTANCES				
Parameter	MCL	MCLG	Average Level Detected (mg/liter)	Range (mg/liter)
Alkalinity	NR	NE	91	83 - 97
Calcium Hardness	NR	NE	91	83 - 98
Conductivity	NR	NE	305 uS/cm	295 - 329 uS/cm
Magnesium	NR	NE	9	9.0 - 9.1
MIB and Geosmin	NR	NE	ND	ND - 6.0 ng/liter
Potassium	NR	NE	1.6	1.5 - 1.6
Sodium	NR	NE	13.0	12.9 - 13.0
Sulfate	NR	NE	20.8	20.6 - 21.0
Total Dissolved Solids	NR	NE	164	155 - 172
Total Organic Carbon	NR	NE	2.1	1.6 - 5.6

## ABBREVIATIONS AND TERMS

**AL** = Action Level: the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.  
**CFU/100 ml** = Colony Forming Units per 100 milliliters  
**LRAA** = Locational Running Annual Average  
**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/liter** = milligrams per liter (parts per million)  
**MRDL** = Maximum Residual Disinfectant 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.  
**us/cm** = Microsiemens per centimeter (a unit of conductivity measurement)  
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