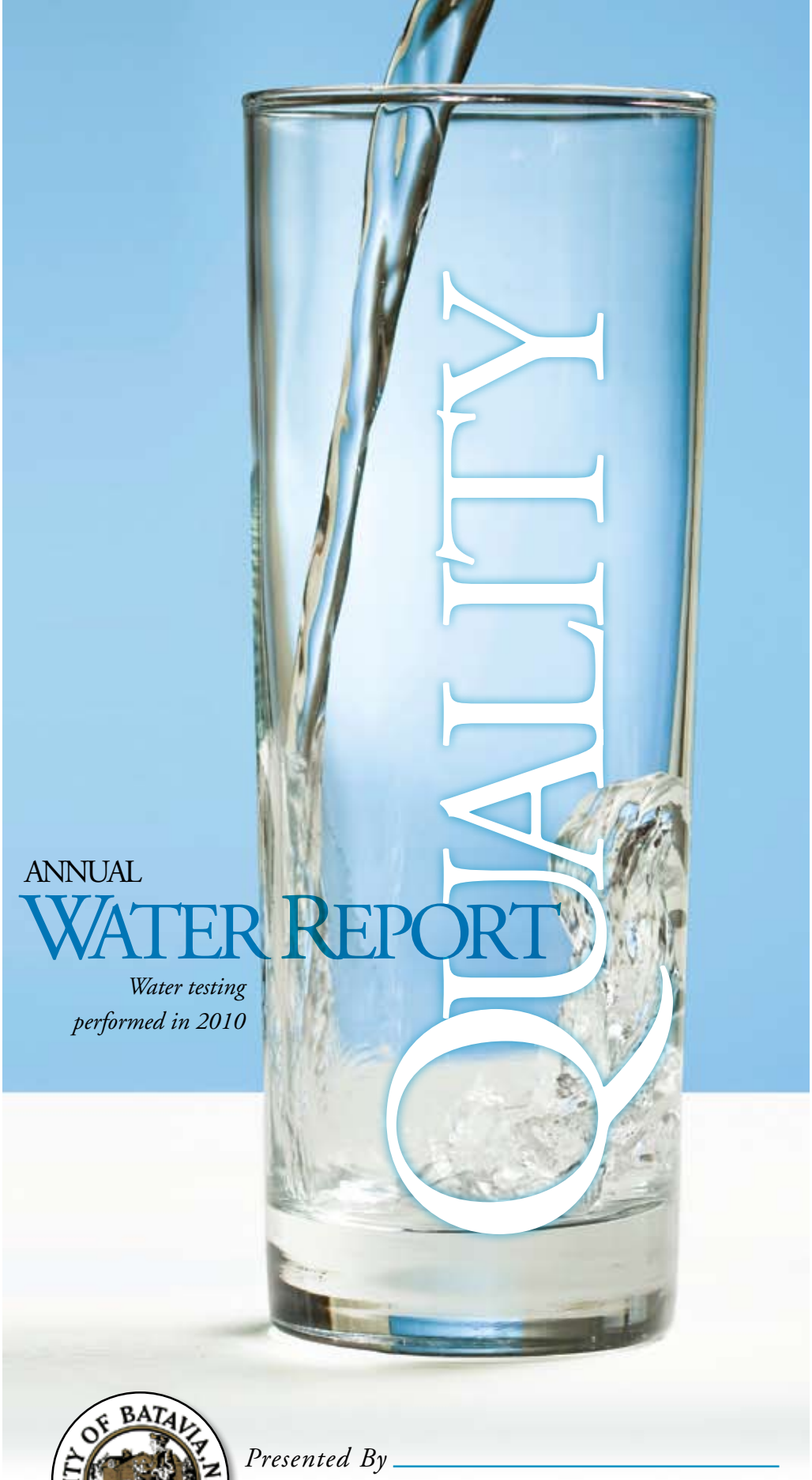

ANNUAL WATER REPORT

Water testing performed in 2010

QUALITY

Presented By _____

Batavia City Water Bureau

PWS ID#: NY1800544

Quality First

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

For more information about this report, or for any questions relating to your drinking water, please call Matt Worth, Superintendent of Water and Sewer, at (585) 345-6315.

Important Health Information

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immunocompromised 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 providers 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 or visit http://water.epa.gov/drink/hotline.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we 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 or at www.epa.gov/safewater/lead.

Water Conservation Tips

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water, but can also save you money by reducing your water bill. Here are a few suggestions.

Conservation measures you can use inside your home:

Fix leaking faucets, pipes, toilets, etc. Just a slow drip can waste from 15 to 20 gallons a day. Fix it and you can save almost 6000 gallons per year; replace old fixtures; install water-saving devices in faucets, toilets and appliances; wash only full loads of laundry; do not use the toilet for trash disposal; take shorter showers; you can conserve outdoors as well; water the lawn and garden in the early morning or evening; use mulch around plants and shrubs; repair leaks in faucets and hoses.

Information on other ways that you can help conserve water can be found at www.epa.gov/safewater/publicoutreach/index.html.

Facts and Figures

The City of Batavia filtration plant processed a total of 799 million gallons of water in 2010, treating an average of 2.2 million gallons each day. We serve a population of 15,475 and supply water to about 5,800 service connections. We sold a total of 635 million gallons of water in 2010. Of this, 500 million gallons was sold within the city, and 135 million gallons was sold through the Genese County meters and the Town of Batavia, and 68.7 million gallons were used within the plant for testing and processes. A total of 160 million gallons of water (or 21%) was not metered and thus unaccounted for. The unaccounted water is from fire hydrants, city maintenance, parks, or water lost in leaks and breaks. The average charge for water billed in 2010 was $4.08 per thousand gallons.

Discolored Water

There are times when our water gets discolored from water breaks, fire hydrant use in your area, and hydrant flushing (which generally occurs during the summer months). During these times, avoid drinking the water until it clears up, and don't do laundry, especially whites. We try to notify the public via newspaper and radio announcements about such activities; therefore, if you notice hydrant flushing in your area, you will probably notice some discoloration during that time period. If it doesn't clear up after a few hours, please give the Water Office at City Hall a call and the Water Department will check the problem out.

Community Participation

Meetings are held in the Council Chambers of City Hall, at One Batavia City Centre, on the second and fourth Mondays of each month at 7 p.m. You are invited to attend these meetings to become more informed or to voice your opinion in the decision-making process affecting your water.

Nondetected Substances

The following is a complete list of all the substances that we tested for in 2010 but did not detect in our water supply:

Inorganics: Antimony, Arsenic, Beryllium, Cadmium, Cyanide, Iron, Manganese, Nickel, Selenium, Sulfide, Thallium, Silver, Zinc, and Nitrite.

SOCs: Alachlor, Aldrin, Atrazin, Aldicarb, Aldicarb Sulfone, Aldicarb Sulfoxide, Arochlor (PCB's), Benzo(a) pyrene (PAH), Butachlor, Carbaryl(Sevin), Carbofuran, Chlordane, Dalapon, Dicamba, Dieldrin, Dinoseb, Endrin, Heptachlor, Heptachlor epoxide, Hexachloro benzene, Hexachlorocyclopentadiene, Lindane, Methomyl, Methoxychlor, Metolachlor, Metribuzin, Oxamyl, Propoxur, Pentachlorophenol, Pichloram, Propachlor, Simizine, Toxaphene, 3-Hydroxy carbofuran, Methiocarb, 2,4-D, 2,4,5-TP (Silvex), bis-(2-Ethylhexyl) Adipate, 1,2-Dibromoethane (EDB), 1,2-Dibromo-3-Chloropropane, Dioxin, Diquat, Endothall, and Glyphosate.

VOCs: Benzene, Bromobenzene, Bromochloromethane, Bromomethane, Sec-Butyl benzene, n-Butyl benzene, tert-Butyl benzene, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, 2-Chlorotoluene, 4-Chlorotoluene, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane (Freon 12), 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 1,1-Dichloropropene, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, Ethyl benzene, Hexachlorobutadiene, Isopropylbenzene, 4-Isopropyl toluene, Methylene chloride, n-Propyl benzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Toluene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane,1,1,2-Trichloroethane, Trichloroethene, Trichlorofluoromethane (Freon 11), 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, l,3,5-Trimethylbenzene, Vinyl chloride, m-Xylene, o-Xylene, p-Xylene, MTBE.

Where Does My Water Come From?

Batavia receives its water from two sources. Two wells are located at Cedar Street that draw water from the Tonawanda Valley Watershed, one of the largest underground aquifers in New York State. Our well water is exceptionally clear, with an average turbidity of less than 0.05 NTU. However, well water in this area is hard (containing dissolved minerals), and requires softening to bring it to a condition most residents find acceptable. The Tonawanda Creek is our other source of water. While the creek has provided us with an adequate quantity and quality of water for more than 90 years, it is a surface water source and is therefore susceptible to rapid changes in quality. Runoff can quickly increase levels of turbidity, making the creek water less cost-effective to process. Creek water is used to supplement our wells and serves as a backup water supply. In an emergency, the city can even purchase water from the Monroe County Water Authority through connecting water lines.

Substances That Could Be in Water

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 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.

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. In order to ensure that tap water is safe to drink, the State and the U.S. EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the U.S. FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

A source water assessment was prepared through the New York Department of Health in 2002. It evaluated possible and actual threats to Batavia's drinking water sources. The State source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface into the wells. The susceptibility rating is an estimate of the potential for contamination of the source water; it does not mean that the water delivered to consumers is or will become contaminated. See the section "Are There Contaminants in Our Drinking Water?" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future. Our water is derived from two drilled wells and the Tonawanda Creek. The source water assessment has rated these wells as having a medium-high to very high susceptibility to microbials, nitrates, petroleum products, industrial solvents, and other industrial contaminants. These ratings are due primarily to the close proximity to the wells of permitted discharge facilities (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the State and/or Federal government) and the associated industrial activity in the assessment area. In addition, the wells draw from an unconfined aquifer of unknown hydraulic conductivity. The source water assessment for the Tonawanda Creek has found an elevated susceptibility to contamination for this source of drinking water.

The amount of agricultural lands in the assessment area results in elevated potential for microbials, phosphorus, DBP precursors, and pesticides contamination. In addition, the moderate density of CAFOs (Concentration Animal Feeding operations) in the assessment area may add to the potential for contamination. While there are some facilities present, permitted discharges do not likely represent an important threat to source water quality, based on their density in the assessment area. However, it appears that the total amount of wastewater discharged to surface water in this assessment area is high enough to further raise the potential for contamination (particularly for protozoa). There is also noteworthy contamination susceptibility associated with other discrete contaminate resources, and these facility types include mines. Finally, it should be noted that relatively high flow velocities make river drinking water supplies highly sensitive to existing and new sources of microbial contamination. While the source water assessment rates our wells and the Tonawanda Creek as being susceptible to microbials, please note that Batavia's water is filtered and disinfected to ensure that the finished water delivered to your home meets New York State's drinking water standards for microbial contamination. A copy of the assessment, including a map of the assessment area, can be obtained by contacting the Genesee County Health Department, (585) 344-2580, or Matt Worth at Batavia's City Hall, (585) 345-6315.

NY000104

Facility Modification and System Improvements

Batavia is currently working with Conestoga-Rovers and Associates in Buffalo, NY, to upgrade the Water Plant's computer controls and improve the telemetry of the sewer lift stations and the Batavia wastewater treatment plant. We are also planning on cleaning and repairing one of our two well pumps on Cedar Street in 2011. No major modifications are required at the City Water Plant at this time.

How Is My Water Treated and Purified?

Batavia's well water is very clear and requires little treatment other than softening. Soft water cleans better, using less soap to wash effectively. Tonawanda Creek water enters the water plant through mechanical screens. These screens prevent creek debris from getting into the plant. Creek water is then mixed with well water in the flash mixers, where water treatment chemicals are added. Ferric sulfate is added as a coagulant, neutralizing the charges on particles suspended in the water, allowing them to clump together and drop out. Calcium oxide, also called lime, is added to the raw water to soften it. Lime will cause compounds of calcium, magnesium, and other minerals to "precipitate" or drop out of the water. The water is then sent out to the softening tanks, where large paddles slowly churn the chemically treated water, forming a sludge layer of muddy water. The sludge is made up of chemicals that we added and chemicals from the water, as well as suspended dirt, clay, silt, and microorganisms. Most of the impurities will now drop out of the water. The next step is the settling basin, where the water's velocity is reduced so that suspended matter can drop to the bottom. We add carbon dioxide at this point to adjust the pH. We add chlorine as a disinfectant, which will prevent growth of organisms in your drinking water. From the settling basin, the water is directed to 12 rapid sand filters. The filters allow the water through while holding back virtually any remaining particles. Our water is then very clear, usually having a finished turbidity of around 0.02 NTU. Finally, we add a small amount of polyphosphate corrosion inhibitor to prevent minerals dissolved in the water from precipitating out onto your pipes. Pumps push our finished water out into the distribution system, into two elevated tanks, and to your homes and businesses, at a pressure of around 70 pounds per square inch.

Information on Fluoride Addition: The Batavia water plant is one of many drinking water systems in New York State that provides water with a controlled, low level of fluoride for consumer dental health protection. According to the U.S. Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at 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 State Department of Health requires that we monitor fluoride levels on a daily basis. 2010 monthly monitoring showed fluoride levels in Batavia's water were in the optimal range 100% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 ppm MCL for fluoride. For more information on fluoride in public water systems, visit the Centers for Disease Control and Prevention's Web site at http://www.cdc.gov/ and click Health Promotion, Oral Health, and then My Water's Fluoride.

About Our Violations

Monitoring Violation

During the summer of 2010, we omitted on June 9th to get two additional samples for a bacterial check group in the general vicinity of a positive sample; we did, however, take a repeat sample on the site that had gone positive for total coliform bacteria on June 7th, along with a random sample in the system; both of these samples came back negative for coliform bacteria. At no time in 2010 did any of the bacterial samples in the City of Batavia come back positive for E. coli. We do not believe that missing this monitoring requirement had any impact on public health and safety. We have already taken the steps to ensure that adequate monitoring and reporting will be performed in the future so that this oversight will not be repeated by planting samples in the lab on the date they are generated.

MCL Violation

On June 7th and June 28, 2010, the bacertia samples collected in our water system showed positive for coliform bacteria (but not positive for E. coli). This possibly was due to hydrant flushing at the time. Rechecks of the sample point within 24 hrs of when the original sample showed positive, the samples returned to negative, and no further problems were encountered.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed, and this was a warning of potential problems.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	8/4/2010	2	2	0.014	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloride (ppm)	8/4/2010	250	NA	77	NA	No	Naturally occurring or indicative of road salt contamination
Chlorine Residual (ppm)	2010, hourly	[4]	NA	1.04	0.70–1.34	No	By-product of drinking water chlorination
Di(2-ethylhexyl) Phthalate [DEHP][1] (ppb)	8/4/2010	6	0	0.69	NA	No	Used in plastic products like polyvinyl chloride, plastic toys, vinyl upholstery, adhesives, coatings; Likely released to the environment during production and waste disposal of these products; Used in inks, pesticides, cosmetics and vacuum pump oil
Fluoride (ppm)	8/4/2010	2.2	NA	0.68	0.50–1.12	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	8/4/2010	10	10	1.0	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium[2] (ppm)	8/4/2010	(see footnote 2)	NA	39	NA	No	Naturally occurring; Road salt; Water softeners; Animal waste
Sulfate (ppm)	8/4/2010	250	NA	36	NA	No	Naturally occurring
Total Coliform Bacteria (# positive samples)	June 2010	Two or more positive samples	0	2	NA	Yes	Naturally present in the environment
Total Organic Carbon (TOC) (ppm)	2010, monthly	TT	NA	1.4	ND–1.9	No	Organic contaminates (natural organic substances, insecticides, herbicides, and agricultural chemicals) that enter waterways in rainfall runoff
Turbidity[3] (NTU)	2010, daily	TT	NA	0.29	0.02–0.29	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2010, daily	TT	NA	100%	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper[4] (ppm)	8/10/2010	1.3	1.3	0.028	ND–0.290	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead[5] (ppb)	8/10/2010	15	0	3	ND–17.0	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Alkalinity as CaCO3 (ppm)	8/4/2010	60	NA	Natural minerals; Lime softening process
Calcium (ppm)	8/4/2010	12	NA	Mineral deposits
Haloacetic Acids–IDSE Results[6] (ppb)	2010, quarterly	29.9	15–53	By-product of drinking water disinfection
Magnesium (ppm)	8/4/2010	18	NA	Mineral deposits
Silica (ppm)	8/4/2010	6.6	NA	Natural geology
Total Trihalomethanes [TTHMs]–IDSE Results[6] (ppb)	2010, quarterly	62	40–104	By-product of drinking water disinfection

[1] This chemical is also known as bis (2-Ethylhexyl)phthalate.

[2] Water containing more than 20 ppm of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 ppm of sodium should not be used for drinking by people on moderately restricted sodium diets.

[3] Entry point turbidity ranged from 0.02 to 0.29, which occurred on 5/24/10. State regulations require that entry point turbidity must always be below 1 NTU. The regulation requires that 95% of the turbidity samples collected have a measurement below 0.3 NTU. Although April 2010 was the month when we had the fewest measurements meeting the treatment technique for distribution system turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of the filtration system. TT is dependent upon filtration method: conventional (0.3 NTU), slow sand (1.0 NTU), or diatomaceous earth filtration (1.0 NTU).

[4] The level presented represents the 90th percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal or below it. The 90th percentile is equal to or greater than 90% of the copper values detected in Batavia. Thirty samples were collected in 2010, and the 90th percentile value was found at a home on Brooklyn Avenue with a value of 0.290 ppm, and one home on River Street had a value of 0.031 ppm; the VA Water Tank had a value of 0.120 ppm. The Action Level of 1.3 ppm for copper was not exceeded at any of the sites tested.

[5] The level listed represents the 90th percentile of the 30 samples collected in 2010. The Action Level for lead was exceeded at 1 of the 30 sites tested. Further lead and copper samples will be obtained during the summer of 2013.

[6] We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

Definitions

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

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

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.

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 contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.