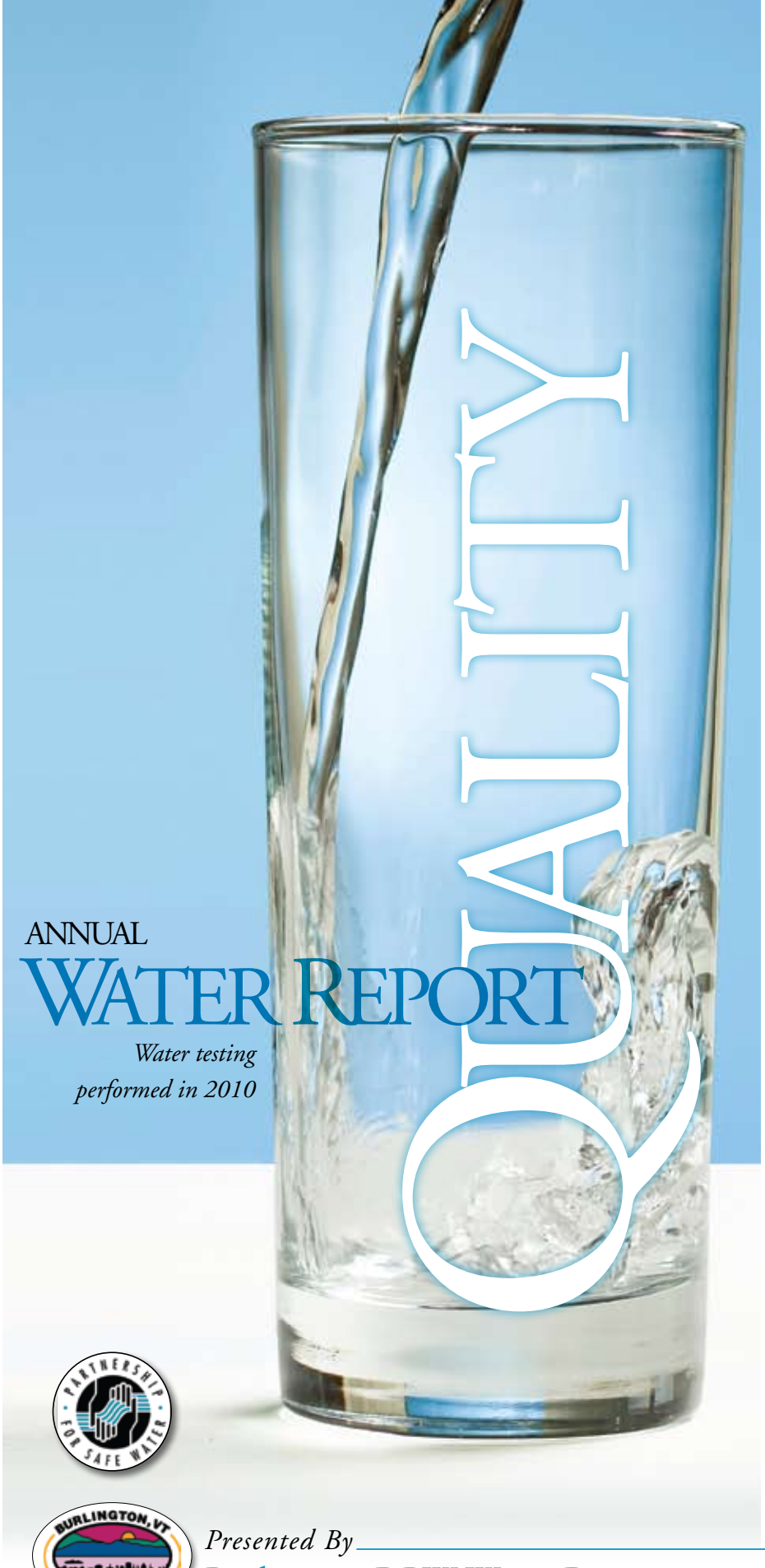

ANNUAL WATER QUALITY REPORT

Water testing performed in 2010

Presented By

Burlington DPW Water Division

PWS ID#: VT0005053

Where Does My Water Come From?

The City of Burlington is fortunate to have Lake Champlain as a source for our raw water. Lake Champlain extends south from the Canadian border along the western side of the state for nearly 120 miles. The City of Burlington is located near the widest portion of the lake. Our point of intake is located well beyond the Burlington Harbor, which prevents contaminants that may be present in the harbor from entering our system. The intake line is also located deep enough to prevent most surface contaminants from entering and to ensure a continuous supply of water, even during the most severe drought conditions. The water entering our treatment plant is of high quality, which eliminates the need to treat for large numbers of contaminants to meet safe drinking standards.

Community Participation

Call us at (802) 863-4501 for information about the next opportunity for public participation in discussions about our drinking water. Find out more about Burlington Public Works Water Division on the Internet at www.dpw.ci.burlington.vt.us.

Source Protection Plan

The Burlington Public Works Water Division obtains its raw water from Lake Champlain, a surface water source. Potential sources of contamination include urban and agricultural runoff and wastewater discharges. The Vermont Water Supply Division provided the resources and expertise to enable us to update our Source Protection Plan. A public hearing was held in December 2005, and the new plan was adopted and published on February 8, 2006. The report details possible sources of contamination as well as the risks associated with each site. The plan will be a valuable tool in protecting our source of potable water, and we thank the Water Supply Division for their assistance. The completed plan is available for viewing by contacting the Water Division during regular business hours.

This year the Water Division of Public Works lost two valued employees due to untimely deaths.

Rodney Terry, one of our filter plant operators passed unexpectedly on October 23, 2010. Rodney began working for the city in the Street Department in 1969 and spent many years plowing and maintaining our streets, sidewalks and sewers. Following a number of years with the Street Department, Rodney transferred over to the Water Division and spent more than ten years installing water lines and repairing main breaks. The final eighteen years of service to the city were spent as a water treatment plant operator.

Rodney was a person that we all enjoyed working with because he seldom complained about the long hours or less pleasant aspects of the job. Rodney was also the first person to volunteer to cover one of the other operator's shifts if that operator needed to spend time with his family or had other obligations. We will all miss his sense of humor, his contagious smile and his willingness to help others both on and off the job. Off the job Rodney enjoyed his home, car shows, the outdoors and his two dogs. He will be sorely missed by his family and especially by his grandchildren as they were the light of his life and the topic of many of our pleasant conversations. We regret that he didn't have the opportunity to retire and enjoy those pleasant pursuits full time. Our heartfelt condolences go out to his family and friends. We will all miss him.

Rich Gilstrap passed away suddenly on February 2, 2011. Rich worked for our water distribution crew for the last ten years installing and repairing both water services and water mains. Rich was a person who earned and returned the friendship of most anyone he met. He also earned the respect of all who worked with him, or watched him work, for his conscientious work ethic and diligence in promoting a safe work environment. Rich had a dry sense of humor and was able to make the work place almost "fun" if you could call working in a wet ditch in all weather and all hours of the night "fun". He is sorely missed by all.

VT0000047

Quality First

Once again we are proud to report a summary of our water quality for the reporting year of 2010. As in years past, we are reporting no violations and we surpassed the goals set forth by the EPA and the Vermont Water Supply Division. We are required to sample for over 80 possible contaminants and report any that show up, even in trace amounts, in the Regulated Substances table of this report. You will note the list is short, and none of the contaminants listed exceeded the maximum contaminant levels (MCL). We have been very active during the past year upgrading the filter plant, making needed repairs, addressing system problems, and planning for the future. All these areas are important for us to continue providing the highest quality water possible and to meet future regulations and demands.

The last report noted that we were in the process of replacing the 28-year-old control panel in the filter plant with a modern control system. The old control panel was outdated and worn out, and we were unable to procure repair parts. The conversion to a new modern control panel is now complete, and it has been online for over a year. The new panel has vastly improved our ability to more accurately deliver chemicals during the treatment process and monitor and control plant functions. It has also given us the ability to instantly review the history of all plant operations. We are pleased with the final result and have a greater confidence in our ability to continue to produce the highest quality water possible.

Last year, 2010, required us to look at areas in the distribution system that caused low pressure and discolored water. The new north end and the upper section of the city were areas of concern. The upper portion of the city experienced excessive water use as well as low water pressure in some areas. Staff from the filter plant, distribution, meter section, and engineering met to discuss the problem and the possible cause. A plan of action was decided on, and the problem was solved in a short time. A valve between the high and low services was in the wrong position. The new north end experienced problems with discolored water whenever we had a main break or a pump was turned on feeding Colchester Fire District #2. Once again, our group sat down and discussed the problem and possible solutions. The result was to check all critical flow valves, improve the seasonal hydrant flushing program, and incorporate the booster pumps into our control panel. We will be monitoring the results of our efforts.

Last year, 2010, saw us once again drain one of our reservoirs due to a persistent small leak. We hired liner experts to evaluate and repair any leaks. Leaks were found and repaired, but the entire liner needs to be replaced due to age. We will be looking at replacement options in the near future.

We continue to look for ways to improve the quality of the water we deliver to our users, but you can be assured we will continue to deliver a safe, high-quality product.

People often contact us requesting information on what are called secondary standards. Secondary standards consist of minerals, metals, pH, hardness, and alkalinity that are not required sampling. The most recent results can be obtained by contacting the Water Division.

Last year, 2010, was a milestone in our association with the Partnership for Safe Water. During our ten-year association with the Partnership, we have been awarded the "Directors Award" for excellence in water quality each and every year. The Partnership, a national organization, is associated with the American Water Works Association, and being a member is voluntary. The water quality goals of the Partnership exceed those set by either the EPA or the Vermont Water Supply Division. Each year, we submit a detailed report of our water quality as well as how we have worked to improve the process to produce our water. We are proud of the award because it represents our continued commitment to producing a top-quality product as well as the commitment to continue improving the process every year.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Tom Dion, Chief Plant Operator, at (802) 863-4501.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Important Health Information

Some people may be more vulnerable to contaminants 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Interested in what Burlington did this year for stormwater improvements? Please visit www.dpw.ci.burlington.vt.us/stormwater.

Aesthetic Based USEPA Water Standards, Sampled March 10, 2011

Contaminant	USEPA Secondary Standard MCL mg/l	Finished water amount detected	Noticeable effects above MCL
Aluminum	0.05 to 0.2	0.038	Colored water
Chloride	250	17	Salty taste
Iron	0.3	<0.020	Rusty color, metalic taste
Manganese	0.05	<0.020	Black to brown color. Bitter taste
Silver	0.1	<0.020	Skin and eye discoloration
Total disolved solids	500	93	Hardness, deposits, staining
Zinc	5.0	0.35	Metalic taste
Alkalinity as CaCO3	N/A	60	
Hardness as CaCO3	N/A	67	
Langelier's Corrosivity	Noncorrosive	-1.295	
Sulfate	N/A	11	
Calcium Total	N/A	19	
Sodium Total	N/A	11	
PH Finished water	Annual average	7.49	January 1, 2010 – December 31, 2010

This is non-required testing but is information often requested by our customers.

LT2 Rule

The U.S. EPA has created the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) for the sole purpose of reducing illness linked with the contaminant *Cryptosporidium* and other disease-causing microorganisms in drinking water. The rule will bolster existing regulations and provide a higher level of protection of your drinking water supply.

Sampling of our raw, or untreated, water source has shown the following:

Cryptosporidium: No (Oo)cysts/L were detected.

Giardia lamblia: No (Oo)cysts/L were detected.

E. coli: Two sample dates showed 1 *E. coli* per 100 mL. All others were less than 1.0.

One sample was taken each month. The sample period started April 14, 2008, and ended March 8, 2010.

It is important to note that these results are from our raw water source only and not our treated drinking water supply. For more information, contact U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead and Drinking Water

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. The Burlington Water Division 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 or at www.epa.gov/safewater/lead.

VT000047

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 table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less 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)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Fluoride[1] (ppm)	2010	4	4	1.01	0.23–1.03	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA][2] (ppb)	2010	60	NA	47	29–67	No	By-product of drinking water disinfection
Nitrate (ppm)	2010	10	10	0.26	0.26–0.26	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes][2] (ppb)	2010	80	NA	48	38–69	No	By-product of drinking water disinfection
Turbidity[3] (NTU)	2010	TT	NA	0.11	0.03–0.11	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2010	TT	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community[4]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2009	1.3	1.3	0.079	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2009	15	0	2	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

[1] Burlington has added fluoride to the water since 1952 to reduce tooth decay. On January 7, 2011, the U.S. Department of Health and Human Services announced they are proposing to change the recommended level for community water fluoridation from 0.7 ppm – 1.2 ppm to a single value of 0.7 ppm. The Burlington Water Department has reduced our fluoride dose from a previous target of 1.0 ppm to 0.7 ppm.

[2] The amount detected value is the result of a four quarter running average. 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 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.

[3] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The amount detected represents the highest turbidity reading taken in 2010. The average turbidity reading for 2010 was 0.055 NTU.

[4] Lead and copper samples are required once every three years. Last sampled in 2009.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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 MCLGs as feasible using the best available treatment technology.

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.

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.