Champlain Water District
Water Quality 2018

Safe Drinking Water
All the Way to Your Tap

First Place
American Water Works Association
“Best of the Best”
in North America Taste Competition
Contaminants
Regulation of
Global Foundries and Husky.
Choice Taste Award for North American water suppliers in a taste competition among North America's regional taste test winning water suppliers. CWD's water has been named "Best Tasting Drinking Water in New England. " CWD's water also received the prestigious "Best of the Best" People's Choice Taste Award for North American water suppliers in a taste competition among North America's regional taste test winning water suppliers.

Please turn to the report cover to view this award.
The water that CWD provides throughout Chittenden County - as far North as Milton, as far East as the Village of Jericho, and as far South as Shelburne - is of the highest quality and serves many uses for CWD's 75,000 customers and many of the area's major employers such as Global Foundries and Husky.

WHAT ARE THE USEPA REGULATIONS? CWD's philosophy has always been to go beyond Federal and State regulations to protect public health as we continue to meet all present Federal and State water quality standards. In order to our customers to understand these standards, there are some important USEPA definitions to learn:

- Maximum Residual Disinfectant Level Goal (MRDGG) – The level of drinking water disinfectant for which the system is known or expected to remain in the water at all times to ensure that the disinfectant is maintained in the distribution system.
- Maximum Residual Disinfectant Level Goal (MRDGG) – The level of a disinfectant allowed in drinking water. The MRD for Chlorine is 4 mg/L.
- Maximum Residual Disinfectant Level (MDRL) – The level of a disinfectant allowed in drinking water. Addition of a disinfectant maintains sanitary quality. The MDRL for Chlorine is 4 mg/L.
- Maximum Contaminant Level (MCL) – The level of a contaminant that is allowed in drinking water.
- Maximum Contaminant Level Goal (MCLG) – Level of a contaminant in drinking water below which there is no known or expected risk to health.
- Maximum Limit for a Contaminant (MLC) – The level of a contaminant in drinking water below which there is no known or expected risk to health.
- Treatment Technique - a USEPA requirement for water suppliers to install and operate the treatment processes that are intended to reliably remove a required percentage for a specific possible contaminant.
- Treatment techniques are set by USEPA when monitoring technology cannot precisely detect certain contaminants. In these cases, a surrogate measurement is used to determine compliance in a reliably operated treatment facility. An example is the use of turbidity to indicate microbial protection in a treatment plant. Turbidity is a good indicator of the effectiveness of the disinfectant, the filtration, and the general quality of the water.
- USEPA wants you to know that the presence of certain contaminants in drinking water does not necessarily indicate that the drinking water poses a health risk. USEPA and the State of Vermont prescribe regulations which limit the amount of certain contaminants in water provided by the public water system. CWD monitors for all regulated trace contaminants (including naturally occurring radioactive material) on specific schedules as required by USEPA. USEPA never expresses results of water monitoring in terms of “zero.” Scientifically, it is impossible to measure “zero.” Therefore, USEPA requires every trace substance to be analyzed using an approved method with a required detection limit.

- When no trace substance is found, then it is expressed as “none detected = ND”.
- CWD monitors for these trace chemicals even though they are extremely unlikely to be present in CWD’s source water. USEPA has conducted more than 500 tracer tests for CWD and has received all non-detect test results for 2017.
- To receive a listing of these specific undetected contaminants - contact CWD and ask for the latest specific non-detect report.

Sanitary Quality
Source Quality
Disinfectant By-Product Quality
Aesthetic Quality

IN PROVIDING A SAFE, HIGH QUALITY WATER THERE ARE SEVERAL CHARACTERISTICS THAT A WATER SUPPLIER SHOULD MEET:

1. Sanitary quality - bacteriological, viral and protozoan quality that is assured by consistent and efficient filtration, and, by primary free chlorine disinfection and secondary monochloramine disinfection. This is the primary goal of any water supplier as consumers cannot reliably achieve this protection with home treatment devices.

CWD wants uncompromised performances (ICPs) to know that they may be particularly at risk from infections and should seek advice from their health care providers. ICPs include:

- Those undergoing chemotherapy or organ transplants.
- Those with AIDS / HIV or other immune system disorders.
- Some elderly.
- Infants.

2. Source quality - the clearer a water supplier’s source, the more effective a water supplier’s treatment process is at producing high quality water. Common sense tells us that if you have high quality untreated water going into a facility, then you will have the highest quality finished water leaving that facility. This is important for sanitary and trace chemical considerations. Home owners cannot reliably treat poor quality source waters on their own.

In general, USEPA wants you to know that, depending on the condition of any water source and its watershed area, some untreated source water may be impacted by the following contaminants:

1. Biological (Viruses & Bacteria).
2. Inorganic (Metals & Salts).

3. Disinfectant-by-product quality - primary disinfection with free chlorine is essential to assure sanitary water. This disinfection process does create by-products (DBPs) that impact the finished water. All water suppliers must deal with the balancing of sanitary benefits and DBP risks from primary free chlorine disinfection. DBPs may be reduced by the consumer using treatment devices approved by NSF International for TTHM reduction, and only if these devices are installed, used and continually maintained according to manufacturer’s instructions.

4. Aesthetic quality - aesthetic considerations also determine the acceptability of a water supply. Distribution system management may impact water taste and odor. Taste/odor is relatively easy to reduce by the consumer using properly installed and maintained NSF approved treatment devices.

VIOlATIONS THAT OCCURRED DURING THE YEAR:
The table on the bottom back cover lists any drinking water violations we incurred during 2017.

USEPA believes that drinking water, including bottled water, may reasonably be expected to contain at least trace amounts of contaminants. More information about contaminants and associated health risks can be obtained by calling CWD or the Safe Drinking Water Hotline.

CWD’s Sanitary Quality
When evaluating a high quality water you should look for:

a) a monochloramine residual of at least 0.1 mg/L but not more than 4.0 mg/L (MDRL),
b) median heterotrophic plate count (HPC) of less than 500 cfu/ml, and
total coliform absent 95% of the time.
d) less than 0.10 ng/l turbidity from each filter.

This graph shows that CWD's monochloramine disinfectant residual stays consistent throughout the year and is well below the USEPA allowable level for monochloramine residual of 4.0 mg/L.

The data from the table below shows that, even during winter water conditions experienced during June through October, the sanitary quality of CWD's water is excellent with very low HPC levels and total coliforms absent 99.8% of the time.

### Table: CWD Sanitary Quality 2017

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Coliforms (STD=0.0)</th>
<th>Bacteriological (STD=&lt;500)</th>
<th>Median HPC (STD=0)</th>
<th>USEPA Acceptable (95% of Water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>45</td>
<td>6</td>
<td>Absent 100%</td>
<td></td>
</tr>
<tr>
<td>February</td>
<td>44</td>
<td>3</td>
<td>Absent 100%</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>44</td>
<td>2</td>
<td>Absent 100%</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>45</td>
<td>4</td>
<td>Absent 100%</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>50</td>
<td>4</td>
<td>Absent 100%</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>56</td>
<td>4</td>
<td>Absent 100%</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>61</td>
<td>1</td>
<td>Absent 99%</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>63</td>
<td>4</td>
<td>Absent 99%</td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>63</td>
<td>4</td>
<td>Absent 99%</td>
<td></td>
</tr>
<tr>
<td>October</td>
<td>64</td>
<td>9</td>
<td>Absent 100%</td>
<td></td>
</tr>
<tr>
<td>November</td>
<td>59</td>
<td>8</td>
<td>Absent 100%</td>
<td></td>
</tr>
<tr>
<td>December</td>
<td>51</td>
<td>4</td>
<td>Absent 100%</td>
<td></td>
</tr>
</tbody>
</table>

Detected Leaky 7/17/17 Westbury 7/18/17 South Burlington. 8/17/17 501 Bay Water Company. Present in 3 out of 257 samples Absent 99.8% of your
Service areas include:
- Shelburne
- South Burlington
- Williston
- Essex Junction
- Essex
- Jericho Village
- Milton
- Winooski
- Mallets Bay Water Company
- Colchester Town
- Colchester Fire District #1
- Colchester Fire District #3

MARYLAND

MILTON

COLCHESTER

ESSEX

JERICHO

BURLINGTON

SOUTH

BURLINGTON

SHELBURNE

WILLISTON

WINOOSKI

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- Colchester Town
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Public Involvement: CWD is governed by a Board of Commissioners publicly elected from each member community. Public Board meetings are held at 12 noon the second Tuesday of each month.

Did you know?
- Your water, was selected as “The Peoples Choice - Best of the Best in North America” in a taste test competition among 40 regional taste winners in North America.
- Your water, in 2014 was selected as “Best Tasting in New England” in a regional taste competition, and in both 2015 and 2016 won best surface water and best overall at the Vermont Rural Water Association Taste Competition.
- Your water supplier was the first in the nation to receive the Fifteen Year Anniversary Excellence in Treatment Award from the Partnership for Safe Water for demonstrating superior water quality each year in complying with the Safe Drinking Water Act.
- Your water supplier received the 2007 “Utility of the Year Award” and the year 2012 “Utility Service Award” from New England Water Works Association.
- Your water supplier received the Grand Award for Engineering Excellence from the American Council of Engineering Companies for the design and implementation of the secondary disinfection project and for its 2012 Energy Savings Scoping Study.

CWD Timeline

- 2012: Construction completed on new finished water storage tank at the Plant.
- 2013: Water from Peter L. Jacob Water Treatment Facility named "Peoples Choice Best of the Best in North America".
- 2014: Construction completed on upgrade to high service pump discharge piping.
- 2015: Water from Peter L. Jacob Water Treatment Facility named "Best Tasting Drinking Water in New England".
- 2016: Completion of new filtration facilities and expansion of existing facilities.
- 2017: Construction completed on new filtration facilities and expansion of existing facilities.
CWD is the best location for a redundant intake pipe to the northeast canyon.
**ADDITIONAL INFORMATION**

CWD contacts: 802-864-7454 • www.champlainwater.org
Jim Fay – General Manager
Michael G. Barsotti - Director - Water Quality & Production
mike.barsotti@champlainwater.org

USEPA Safe Drinking Water Hotline 
(provides information on potential health effects and how to lessen infection risk from 
Cryptosporidium and other biological contaminants) 
1-800-426-4791

Vermont 2-1-1, for health and human services information and referral. 2-1-1

Vermont DEC Drinking Water & Groundwater Protection Division 1-800-828-1535

Vermont Dept of Health, Division of Environmental Health 1-802-652-0357

**AVAILABLE CWD PUBLICATIONS**


Modeling Storage and the Inlet Reconfiguration, AWWA International Retention Time Management Symposium 2002.


CWD Lead Public Information Flyer.


Planning and Maintaining Compliance with the Lead and Copper Rule when Making a Disinfectant Change, 2012 NEWWA Water Quality Symposium, May 2012.

Success Stories from Phase III Self-assessments, 2013 AWWA Annual Conference, June 2013.


Achieving and Maintaining the Phase IV Excellence in Water Treatment Award, 2017 AWWA ACE, June 2017

**PUBLIC NOTICE - IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER FROM 2017**

Quarterly Disinfection by-product (DBP) Monitoring Requirement Not Met for Champlain Water District (CWD)

CWD recently violated a drinking water monitoring requirement for disinfection by-products (DBPs) during the January through March 2017 quarterly monitoring timeframe. Samples were inadvertently collected on February 1, 2017 rather than during January 1 through 31, 2017. Even though this was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

CWD is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During January of 2017, CWD did not monitor or test for Stage 2 Disinfection by-products and therefore cannot be sure of our drinking water quality during that time. Given CWD’s change in secondary disinfection in 2006, the District has been meeting the goal levels for disinfection by-products given our optimized water treatment process. Samples taken on February 1, 2017 met federal drinking water standards and therefore, we believe public health is being adequately protected.

CWD collects very detailed data for surrogate parameters that show the Disinfection By-Product formation potential of the water entering the water system (temperature and UV adsorption(UV AS)). After realizing that the DBP samples had been inadvertently collected just after the end of the official monitoring period on February 1st, CWD reviewed our extensive database for temperature and UV AS. CWD’s data review showed that the: 1) UV AS (average) for January 2017 and for February 1, 2017 were the same at 864-7454 and UV adsorption(UV AS)).

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What should I do? Review the above information. There is nothing you need to do at this time.

The table below lists the contaminants we did not test for during January 2017, how often and when we are supposed to sample, when and how many samples we actually collected.

<table>
<thead>
<tr>
<th>CONTAMINANT</th>
<th>REQUIRED SAMPLING PERIOD</th>
<th>ACTUAL SAMPLING PERFORMED ON</th>
<th>NUMBER SAMPLES REQUIRED</th>
<th>NUMBER SAMPLES ACTUALLY COLLECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 2 Disinfection-By-Products</td>
<td>January 2017</td>
<td>February 1, 2017</td>
<td>14</td>
<td>14 on February 1, 2017</td>
</tr>
</tbody>
</table>

For more information, please contact Michael G. Barsotti Director- Water Quality & Production at 802-864-7454 (102) or Champlain Water District, 403 Queen City Park Road, South Burlington, Vermont 05403

Please share this information with all the other people who drink this water, especially those who may have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Please open to find Champlain Water District’s latest water quality report.

Employers should provide enclosed information to their employees and landlords to their tenants.

Extra copies are available at no charge by contacting CWD or CWD served systems.