

October 25, 2023

To: Westford Selectboard and Library Board of Trustees
Westford, VT
Re: 2023 Drinking Water Testing - Westford Library

Transmitted via email to: selectboard@westfordvt.us; westfordpubliclibrary@gmail.com

This letter is to document the drinking water testing conducted on June 23, 2023 at the Westford Public Library (Library) located at 1717 VT Route 128, Westford, VT 05494. The sampling was conducted by Mr. Devin Porter, Westford Deputy Health Officer (DHO) on June 23, 2023.

Background

This water sampling was requested by the Library Board of Trustees with the advice and consent of the Westford Selectboard and Deputy Health Officer (see minutes of Selectboard meeting on May 11, 2023).

The sampling was sought in response to Library patron and employee concerns regarding water quality at the site. These concerns reportedly relate to recognized contamination at surrounding properties, historical use of surrounding properties, the antiquated water well and distribution system, nearby non-compliant water and wastewater facilities, and insufficient/unclear previous test results at and nearby the Library.

The following parameters were selected for testing by the DHO in consultation with Library and Town Office staff following conversations about the concerns and local land use history: selected metals and other inorganic chemicals, coliform bacteria, gross alpha, and selected volatile organic compounds.

The water supply to the Library is reportedly provided via underground pipe from the Town Office, the next building to the East. The water is drawn from a drilled well situated to the North of the Library. It is reportedly treated by a sediment filter and ion exchange water softener located in the basement of the Town Office. This treatment system was reportedly serviced recently prior to the date of water sampling.

The DHO understands that the Library provides bottled water via a cooler for patron and employee use, and that the bathroom sink is principally used for handwashing.

Methodology

The samples were collected from the bathroom sink located in the Southeast corner of the Library main floor. This sink is the only publicly-accessible faucet in the library. The samples were collected per the instructions included with the Vermont Department of Health (VDH) sampling kits. The following kits were utilized to sample for the specified parameters (in parentheses):

- Kit A (Coliform Bacteria)
- Kit C (Selected Inorganic Chemicals)
- Kit RA (Gross Alpha)
- Kit OA (Selected Volatile Organic Compounds).

The sample containers were sealed, labeled, and packed according to the VDH instructions. The samples were then couriered and submitted to the VDH laboratory facility in Colchester, Vermont for analysis by appropriate validated methodology.

Results

Complete laboratory reports for the samples collected on June 23, 2023 are provided in **Appendix A**. These results were previously communicated to the Library Board of Trustees via email and discussed verbally via teleconference on September 13, 2023. All results were below the method reporting limit except as identified in Table 1:

Detected Compounds (June 23, 2023)			
Analyte	Result (mg/L)	Limit (mg/L)	Action Needed?
Lead (First Draw)	0.010	0.015 (AL) and 0.001 (VHA)	Yes*
Lead (Flush)	None Detected	0.015 (AL) and 0.001 (VHA)	No
Chloride	125	250 (SMCL)	No
Copper	0.02	1.3 (AL)	No
Uranium	0.002	0.020 (VMCL)	No*
Sodium	172	250 SMCL	No

MCL: Maximum Contaminant Level; SMCL: Secondary MCL; VMCL: Vermont MCL; VHA: Vermont Health Advisory; AL: Action Level

* - See discussion and recommendations, below

All detected analytes were found to be present at or below the relevant regulatory standard.

Lead was found to be present in excess of the Vermont Health Advisory level of 0.001 mg/L. Lead was not detected in the flush sample, indicating it is likely not coming from the aquifer.

Uranium was found to be present at approximately 10% of the regulatory standard (VMCL).

Recommendations

The only sample result to warrant intervention was lead. No level of lead is considered safe for human consumption. The DHO recommends that:

- The Library should continue to restrict use of the bathroom sink to handwashing only.
- The Library should continue to provide bottled drinking water for patron and employee use, at least until a sample shows no detectable levels of lead in water from the bathroom sink.
- The Library should investigate the possibility of remediating the water supply.
 - Lead detected in a First Draw sample typically enters the water by leaching out of plumbing fixtures. Implementing routine flushing of the water before use can help eliminate consumption of First Draw lead.
 - Plumbing installed prior to 2010 is more likely to have higher levels of lead. Consider replacing metal piping and fixtures installed prior to 2010.
 - Lead can be effectively filtered out of drinking water. Consider installing a point-of-use water filter rated to remove lead.
- The Library should implement routine water sampling on the schedule recommended by the VDH:
 - Total Coliform: Every One (1) Year
 - Inorganic Chemicals: Every Five (5) Years
 - Gross Alpha: Every Five (5) Years
 - Optionally: Lead and Uranium: following completion of remedial actions

The Westford Health Officer(s) will support this sampling effort upon request.

Uranium was found to be present at approximately 10% of the regulatory standard (VMCL). While this result does not require action, the Library may choose to remediate this condition along with the lead. A reverse-osmosis point-of-use treatment system would be the recommended technology for removal of uranium.

Respectfully Submitted,



Devin Porter
Westford Deputy Health Officer
313-570-3248
dbporter802@gmail.com

Appendix A

Laboratory Reports

Drinking Water Results Report

State Health Dept #	23-IC-00762
Report Status	Final
Date Report Released	07/06/2023

Report To Town of Westford
ATTN of Nanette Rogers
Address 1713 VT Rte 128
 Westford, VT 05494

Account Name Town of Westford
Date Received 06/23/2023
Time Received 14:05
Approved Date 07/06/2023

Sample Desc.	KIT C First Draw Lead	Sample Type	N/A
Collection Date	06/23/2023	Collection Type	N/A
Collection Time	12:15	Free Chlorine Residual	N/A
Sampled By	Devin Porter	Total Chlorine Residual	N/A
Sampling Location	Bathroom Sink	Chlorinated?	No
Street Address	1717 VT 128	Field Temp.	N/A
Town	Westford	Field Fluoride	N/A
	State VT	Temp at Receipt	N/A

Test Metals by ICPMS

Date/Time of Analysis 06/29/2023 12:13
Test Method EPA 200.8

Analyte	Final Result	Units	Limit
Lead	0.010	mg/L	0.015 AL and 0.001 VHA

Please note, this is a FIRST DRAW LEAD result.

There is no safe level of lead in drinking water. Take action to reduce levels as low as possible.

For guidance and treatment recommendations, please visit www.healthvermont.gov/water-contaminants. If you have any further questions, please call 802-863-7220 or 800-439-8550 (toll-free in Vermont).

Units of Measurement and Definitions:

N/A = Not Applicable; mg/L = Milligrams per liter or ppm (parts per million); ug/L = Micrograms per liter or ppb (parts per billion); < = less than; TON = Threshold Odor Number; MCL = Maximum Contaminant Level; SMCL = Secondary Maximum Contaminant Level; MRDL = Maximum Residual Disinfectant Level; VHA = Vermont Health Advisory; VMCL = Vermont Maximum Contaminant Level; NLE = No Limit Established; AL (Action Level) = Level at or above which a water treatment action is determined for public water supplies and should be considered for private supplies. These results are for a grab sample; collected at one location and at one point in time unless otherwise noted.

Unless otherwise noted all analyses performed under NELAP certification have complied with all the requirements for the TNI standard.

Test results relate only to the samples tested and are representative of the samples as they were received at the laboratory.

This is a public record. Information contained in this report may be used for statistical purposes and may be released upon request, pursuant to Vermont Access to Public Documents law (1 V.S.A. 315-320). For guidance and treatment recommendations, please visit www.healthvermont.gov/water-contaminants.

This report shall not be reproduced, except in full, without the written approval of the laboratory.

Test Report Authorized By: Jessica Eisenhauer Laboratory Program Chief - Chemistry

If you have received this document in error or if you have questions about this report, please call 802-338-4724

Please tell us about your experience with the VDH Laboratory by completing the customer survey at <https://www.healthvermont.gov/lab>

Drinking Water Results Report

State Health Dept # 23-WB-00377
Report Status Final
Date Report Released 06/26/2023

Report To Town of Westford
ATTN of Nanette Rogers
Address 1713 VT Rte 128
Westford, VT 05494

Account Name Town of Westford
Date Received 06/23/2023
Time Received 14:30

Sample Desc.	KIT A	Sample Type	N/A
Collection Date	06/23/2023	Collection Type	N/A
Collection Time	12:35	Free Chlorine Residual	N/A
Sampled By	Devin Porter	Total Chlorine Residual	N/A
Sampling Location	Bathroom sink	Chlorinated?	No
Street Address	1717 VT- 128	Field Temp.	N/A
Town	Westford	Field Fluoride	N/A
	State VT	Temp at Receipt	N/A

Test **Enzyme Substrate Test** Date/Time of Analysis 06/24/2023 11:20
Test Method SM20 9223B

Analyte	Result
Total Coliform	Not detected
E.coli	Not detected

■ This water sample DOES NOT contain total coliform or E.coli bacteria. THE WATER COULD CONTAIN OTHER CONTAMINANTS. For guidance on water testing, please visit www.healthvermont.gov/water. Be sure to have your water tested at least once a year, since the number of bacteria in your water can change due to groundwater contamination, poor water system maintenance, flooding, or other problems.

Units of Measurement and Definitions:

N/A = Not Available; mL = milliliter; ">" = greater than; "<" = less than; MPN = Most Probable Number; CFU = Colony Forming Unit; TNTC = Too Numerous To Count
These results are for a grab sample; collected at one location and at one point in time unless otherwise noted.

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This report shall not be reproduced, except in full, without the written approval of the laboratory.

Test Report Authorized By: Cheryl Achilles
Laboratory Program Chief - Microbiology

If you have received this document in error or if you have questions about this report, please call 802-338-4724

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Drinking Water Results Report

State Health Dept #	23-IC-00760
Report Status	Final
Date Report Released	07/03/2023

Report To Town of Westford
ATTN of Nanette Rogers
Address 1713 VT Rte 128
 Westford, VT 05494

Account Name Town of Westford
Date Received 06/23/2023
Time Received 14:05
Approved Date 07/03/2023

Sample Desc.	KIT C	Sample Type	N/A
Collection Date	06/23/2023	Collection Type	N/A
Collection Time	12:18	Free Chlorine Residual	N/A
Sampled By	Devin Porter	Total Chlorine Residual	N/A
Sampling Location	Bathroom Sink	Chlorinated?	No
Street Address	1717 VT 128	Field Temp.	N/A
Town	Westford	Field Fluoride	N/A
	State VT	Temp at Receipt	18.6 C

Test Anions

Date/Time of Analysis 06/23/2023 14:32
Test Method EPA 300.0

Analyte	Final Result	Units	Limit
Chloride	125	mg/L	250 SMCL
Fluoride	<0.10	mg/L	4.0 MCL
Nitrate as N	<0.50	mg/L	10.0 MCL
Nitrite as N	<0.10	mg/L	1.0 MCL

Test Hardness by Calculation

Date/Time of Analysis 06/30/2023 11:53
Test Method SM 2340B

Analyte	Final Result	Units	Limit
Total Hardness as CaCO ₃	<5	mg/L	*

* < 5 mg/L to 75 mg/L = Soft Water

If you have received this document in error or if you have questions about this report, please call 802-338-4724

Please tell us about your experience with the VDH Laboratory by completing the customer survey at <https://www.healthvermont.gov/lab>

Drinking Water Results Report

State Health Dept #
Report Status
Date Report Released

23-IC-00760
Final
07/03/2023

Test **Metals by ICPMS**

Date/Time of Analysis 06/29/2023 11:40
Test Method EPA 200.8

Analyte	Final Result	Units	Limit
Arsenic	<0.001	mg/L	0.010 MCL
Chromium	<0.01	mg/L	0.1 MCL
Copper	0.02	mg/L	1.3 AL
Lead	<0.001	mg/L	0.015 AL and 0.001 VHA
Manganese	<0.005	mg/L	0.05 SMCL and 0.300 VHA
Mercury	<0.0005	mg/L	0.002 MCL
Uranium	0.002	mg/L	0.020 VMCL

Test **Metals by ICP-OES**

Date/Time of Analysis 06/30/2023 11:53
Test Method EPA 200.7

Analyte	Final Result	Units	Limit
Iron	<0.10	mg/L	0.3 SMCL
Sodium	172	mg/L	250 SMCL

Units of Measurement and Definitions:

N/A = Not Applicable; mg/L = Milligrams per liter or ppm (parts per million); ug/L = Micrograms per liter or ppb (parts per billion); < = less than; TON = Threshold Odor Number; MCL = Maximum Contaminant Level; SMCL = Secondary Maximum Contaminant Level; MRDL = Maximum Residual Disinfectant Level; VHA = Vermont Health Advisory; VMCL = Vermont Maximum Contaminant Level; NLE = No Limit Established; AL (Action Level) = Level at or above which a water treatment action is determined for public water supplies and should be considered for private supplies. These results are for a grab sample; collected at one location and at one point in time unless otherwise noted.

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Test Report Authorized By: Jessica Eisenhauer
Laboratory Program Chief - Chemistry

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Drinking Water Results Report

State Health Dept #	23-RA-00120
Report Status	Final
Date Report Released	07/05/2023

Report To Town of Westford
ATTN of Nanette Rogers
Address 1713 VT Rte 128
 Westford, VT 05494

Account Name Town of Westford
Date Received 06/23/2023
Time Received 14:10

Sample Desc. KIT RA
Collection Date 06/23/2023
Collection Time 12:28
Sampled By Devin Porter
Sampling Location Bathroom Sink
Street Address 1717 VT 128
Town Westford

Sample Type N/A
Free Chlorine Residual N/A
Total Chlorine Residual N/A
Chlorinated? No
Field Temp. N/A
Field Fluoride N/A
Temp at Receipt N/A

Test	Gross Alpha	Date of Analysis 06/30/2023	Test Method EPA 00-02
	Analyte	Result	Units
	Gross Alpha	<1.50	pCi/L
			Limit
			*

Please note that the result above is not an adjusted value and is not decay corrected.

*The EPA has set the maximum contaminant level for adjusted gross alpha (A.G.A.) at 15 pCi/L. Comparison of your result to this limit requires a separate uranium result and an adjustment calculation. See footer for more information about this calculation.

Units of Measurement and Definitions: pCi/L = picoCuries per liter; < = less than; ≥ = greater than or equal to; N/A = Not Available
 A Curie (Ci) or a Becquerel (Bq) is a unit of radioactivity and is a measurement of how much of the radioactive substance disintegrates or decays. The counting uncertainty value is the possible variation above or below the measured level. The counting uncertainty on this report is estimated at the 95% confidence level. A.G.A. = Adjusted Gross Alpha (a value calculated by subtracting uranium activity from the gross alpha result) is the basis for the U.S. Environmental Protection Agency MCL. Please see VDH fact sheet for Alpha Radiation in Drinking Water (healthvermont.gov/water/radioactive-elements) for more interpretation information. These results are for a grab sample; collected at one location and at one point in time unless otherwise noted.

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Test Report Authorized By: Jessica Eisenhauer Laboratory Program Chief - Chemistry

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**DEPARTMENT OF HEALTH LABORATORY**

359 SOUTH PARK DRIVE
COLCHESTER, VT 05446
(802) 338-4724 or (800) 660-9997 (VT only)
www.healthvermont.gov

Drinking Water Results Report

State Health Dept # **22-OA-00036**
Report Status **Final**
Date Report Released **07/11/2023**

Report To Town of Westford
ATTN of Melissa Manka
Address 1713 VT Rte 128
Westford, VT 05494

Account Name Town of Westford
Date Received 06/26/2023
Time Received 08:13
Approved Date 07/11/2023

Sampled By	Devin Porter	Sample Desc.	KIT OA	Free Chlorine Residual	N/A
Sampling Location	Bathroom Sink	Collection Date	06/23/2023	Total Chlorine Residual	N/A
Street Address	1717 VT 128	Collection Time	12:48	Chlorinated?	No
Town	Westford	Sample Type	N/A	Field Temp.	N/A
				Temp at Receipt	18.9 C

Test		Test Method		Date of Analysis	
Volatile Organic Compounds (VOCs)		EPA 524		06/27/2023	
Analyte	Result	MCL (ug/L)	VHA (ug/L)	VAL (ug/L)	CAS Number
Dichlorodifluoromethane	<0.50 ug/L				75-71-8
Chloromethane	<0.50 ug/L				74-87-3
Vinyl Chloride	<0.50 ug/L	2.0		0.5	75-01-4
Bromomethane	<0.50 ug/L		4.8		74-83-9
Chloroethane	<0.50 ug/L				75-00-3
Trichlorofluoromethane	<0.50 ug/L				75-69-4
1,1-Dichloroethene	<0.50 ug/L	7.0			75-35-4
Methylene Chloride	<0.50 ug/L	5.0			75-09-2
trans-1,2-Dichloroethene	<0.50 ug/L	100.0			156-60-5
Methyl-t-butyl Ether (MTBE)	<0.50 ug/L		11.3		1634-04-4
1,1-Dichloroethane	<0.50 ug/L		70.0		75-34-3
2,2-Dichloropropane	<0.50 ug/L				590-20-7
cis-1,2-Dichloroethene	<0.50 ug/L	70.0			156-59-2
Bromochloromethane	<0.50 ug/L		7.7		74-97-5
Chloroform	<0.50 ug/L				67-66-3
1,1,1-Trichloroethane	<0.50 ug/L	200			71-55-6
1,1-Dichloropropene	<0.50 ug/L				563-58-6
Carbon Tetrachloride	<0.50 ug/L	5.0		0.5	56-23-5
Benzene	<0.50 ug/L	5.0		0.5	71-43-2
1,2-Dichloroethane	<0.50 ug/L	5.0		0.5	107-06-2
Trichloroethene	<0.50 ug/L	5.0		5.0	79-01-6
1,2-Dichloropropane	<0.50 ug/L	5.0		0.5	78-87-5
Dibromomethane	<0.50 ug/L				74-95-3

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<i>Results Report</i>		State Health Dept # Report Status Date Report Released			22-OA-00036 Final 07/11/2023
Analyte	Result	MCL (ug/L)	VHA (ug/L)	VAL (ug/L)	CAS Number
Bromodichloromethane	<0.50 ug/L				75-27-4
cis-1,3-Dichloropropene	<0.50 ug/L				10061-01-5
Toluene	<0.50 ug/L	1000			108-88-3
trans-1,3-Dichloropropene	<0.50 ug/L				10061-02-6
1,1,2-Trichloroethane	<0.50 ug/L	5.0			79-00-5
Tetrachloroethene	<0.50 ug/L	5.0		1.0	127-18-4
1,3-Dichloropropane	<0.50 ug/L				142-28-9
Dibromochloromethane	<0.50 ug/L				124-48-1
Chlorobenzene	<0.50 ug/L	100.0			108-90-7
1,1,1,2-Tetrachloroethane	<0.50 ug/L		70.0		630-20-6
Ethylbenzene	<0.50 ug/L	700.0			100-41-4
m+p-Xylene ^a	<1.00 ug/L	10000			106-42-3
o-Xylene ^a	<0.50 ug/L	10000			95-47-6
Styrene	<0.50 ug/L	100.0			100-42-5
Bromoform	<0.50 ug/L				75-25-2
Isopropylbenzene	<0.50 ug/L				98-82-8
1,1,2,2-Tetrachloroethane	<0.50 ug/L				79-34-5
Bromobenzene	<0.50 ug/L				108-86-1
1,2,3-Trichloropropane	<0.50 ug/L		0.02		96-18-4
n-Propylbenzene	<0.50 ug/L				103-65-1
2-Chlorotoluene	<0.50 ug/L				95-49-8
1,3,5-Trimethylbenzene ^b	<0.50 ug/L		23.2		108-67-8
4-Chlorotoluene	<0.50 ug/L				106-43-4
tert-Butylbenzene	<0.50 ug/L				98-06-6
1,2,4-Trimethylbenzene ^b	<0.50 ug/L		23.2		95-63-6
sec-Butylbenzene	<0.50 ug/L				135-98-8
1,3-Dichlorobenzene	<0.50 ug/L		600.0		541-73-1
p-Isopropyltoluene	<0.50 ug/L				99-87-6
1,4-Dichlorobenzene	<0.50 ug/L	75.0			106-46-7
1,2,3-Trimethylbenzene ^{*b}	<0.50 ug/L		23.2		526-73-8
n-Butylbenzene	<0.50 ug/L				104-51-8
1,2-Dichlorobenzene	<0.50 ug/L	600.0			95-50-1
1,2,4-Trichlorobenzene	<0.50 ug/L	70.0			120-82-1
Hexachlorobutadiene	<0.50 ug/L				87-68-3
Naphthalene	<0.50 ug/L		0.5		91-20-3
1,2,3-Trichlorobenzene	<0.50 ug/L		0.9		87-61-6

Test Result Qualified: The temperature of the sample when received at the laboratory was greater than approved method preservation requirements; however, there was evidence of cooling. The test method used requires cooling from the time of sample collection.

a MCL is limit for total of all Xylenes.

b Total of all three Trimethylbenzenes not to exceed 23.2 µg/L.

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Results Report

State Health Dept #
Report Status
Date Report Released

22-OA-00036
Final
07/11/2023

Units of Measurement and Definitions: N/A = Not Available; "<" = less than; ">" = greater than; MCL = Maximum Contaminant Level; VAL = Vermont Action Level; VHA = Vermont Health Advisory; CAS Number = Chemical Abstracts Service Registry Number; mg/L = milligrams per liter or PPM (parts per million); µg/L = micrograms per liter or PPB (parts per billion). "Detected" is defined as greater than or equal to the lowest calibrator. These results are for a grab sample; collected at one location and at one point in time unless otherwise noted.

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Test results relate only to the samples tested and are representative of the samples as they were received at the laboratory.

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www.healthvermont.gov/water-contaminants.

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Test Report Authorized By: Jessica Eisenhauer
Laboratory Program Chief - Chemistry

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VOCs

Call the Toxicology and Risk Assessment program of the Vermont Department of Health (863-7220 or 1-800-439-8550) if Volatile Organic Compounds (VOCs) are found in your drinking water. This program can give you information about possible health risks of specific compounds and how to treat your water.

HEALTH EFFECTS

The term Volatile Organic Compound refers to a variety of chemical compounds that contain carbon and evaporate at relatively low temperatures.

Drinking water that contains VOCs can increase your risk for a variety of health problems. Some VOCs have been proven to cause cancer after prolonged exposure, while others are considered possible cancer risks. VOCs can also cause other health problems.

SOURCES

VOCs do not occur naturally in drinking water. Hundreds of VOCs have been produced for use in a variety of products, including gasoline, dry cleaning solvents, and degreasing agents. When these products are improperly stored or disposed of, or when a spill occurs, VOCs can contaminate ground water and drinking water supplies.

Although many VOCs found in drinking water are due to contamination, others may be formed when drinking water is treated with chlorine. The chlorine reacts with organic materials found in water and forms certain VOCs known as chlorination by-products. The

Water Supply Division of the Vermont Department of Environmental Conservation regulates VOCs in public water systems.

TREATMENT

Reducing the amount of chlorine added to your water, or using an activated carbon filter, can sometimes reduce VOCs formed during chlorination.

If the VOCs are not caused by chlorination, it's important to find the source. Additional testing may be needed to determine the level of contamination. Following are two ways to remove VOCs from drinking water:

Activated Carbon/Charcoal — In this method, water passes through an activated carbon filter. The VOCs bond to active sites in the carbon passages and are removed from the water. Over time, the active sites fill up and the filter is no longer effective. If the filter continues to be used at this point, the VOCs may be released back into the filtered water. It's also important to follow the maintenance schedule recommended by the manufacturer because disease-causing bacteria can build up in the carbon of poorly maintained filters.

Reverse Osmosis — In this type of treatment, a thin membrane allows pressurized water to pass through while holding back any pollutants to be drained off. This process uses three to 10 gallons of untreated water to make one gallon of drinking water. Reverse osmosis can remove many VOCs but not all chlorination by-products. Chlorine can damage some reverse osmosis membranes, so pretreatment may be needed.



DEPARTMENT OF HEALTH

108 Cherry Street
PO Box 70
Burlington, VT
05402-0070
healthvermont.gov