

October 27, 2023

To: Westford Selectboard  
Westford, VT  
Re: 2023 Drinking Water Testing - Westford Town Office

Transmitted via email to: [selectboard@westfordvt.us](mailto:selectboard@westfordvt.us)

This letter is to document the drinking water testing conducted on June 23, 2023 at the Westford Town Office located at 1713 VT Route 128, Westford, VT 05494. The sampling was conducted by Mr. Devin Porter, Westford Deputy Health Officer (DHO) on February 8, 2023.

### **Background**

This water sampling was requested by the Town of Westford Selectboard in response to town 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 Town Office.

The following parameters were selected for testing by the DHO in consultation with the Selectboard 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 Town Office is reportedly provided via underground pipe from a drilled well situated to the North of the adjacent Westford Public Library. A water filtration and softening system is installed in the basement of the Town Office. This treatment system had reportedly not been serviced recently prior to the date of water sampling, nor had any routine upkeep or maintenance performed.

The DHO understands that the Town Office provides bottled water via a cooler for patron and employee use, and that the bathroom sink is principally used for handwashing. The kitchen sink is used for dish- and hand-washing. Town Office staff report that they generally discourage drinking or cooking with water from the sinks.

### **Methodology**

The samples were collected from the kitchen sink located in the center of the Town Office main floor. This sink is reportedly the most likely to be used for drinking and/or cooking. 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 February 8, 2023 are provided in **Appendix A**. These results were previously communicated to the Town Administrator via email and discussed verbally during the public Selectboard meeting on May 11, 2023 (see minutes of meeting). All results were below the method reporting limit except as identified in Table 1:

<b>Detected Compounds (February 8, 2023)</b>			
<b>Analyte</b>	<b>Result (mg/L)</b>	<b>Limit (mg/L)</b>	<b>Action Needed?</b>
Lead (First Draw)	0.008	0.015 (AL) and 0.001 (VHA)	Yes*
Lead (Flush)	None Detected	0.015 (AL) and 0.001 (VHA)	No
Chloride	114	250 (SMCL)	No
Total Hardness	294	N/A	Yes*
Manganese	0.020	0.05 (SMCL) and 0.300 (VHA)	No
Uranium	0.002	0.020 (VMCL)	No*
Gross Alpha	1.51 (pCi/L)	15 (pCi/L as AGA) (MCL)	No*

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

Sodium and iron content were not analyzed due to laboratory instrument failure. As of the time of writing, the DHO has not received sodium or iron results.

\* - 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.

Total hardness was found to be in the range 151-300 mg/L which represents “hard water”. This is evidence that the water softener system in the basement is not operating as designed.

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

The US Environmental Protection Agency (USEPA) has set the maximum contaminant level (MCL) for adjusted gross alpha (AGA) at 15 pCi/L. Comparison of the (unadjusted) gross alpha result to the AGA standard is done by calculating the sample's AGA result via the EPA/VDH AGA Calculator worksheet (see **Appendix B**). The AGA result was found to be below the MCL.

### **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 Town Office should continue to restrict use of the sinks to hand- and dish-washing only.
- The Town Office 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 Town Office 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 Town Office 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.

Gross alpha radiation and uranium were found to be present below the regulatory standards (MCL and VMCL). While these results do not require action, the Town Office may choose to remediate these conditions along with the lead. Gross alpha may be reduced by the use of a standard cation exchange water softener. A reverse-osmosis point-of-use treatment system would be the recommended technology for removal of uranium, and will also remove gross alpha constituents.

The presence of hard water in a system designed to be treated by a water softener suggests that the softener system is not functioning as intended. The DHO understands that the Town Office has retained a water treatment specialist to evaluate and maintain the softener system. Any water treatment system should be maintained according to the manufacturer's instructions.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Devin Porter", written in a cursive style.

Devin Porter  
Westford Deputy Health Officer  
313-570-3248  
[dbporter802@gmail.com](mailto:dbporter802@gmail.com)

**Appendix A**  
**Laboratory Reports**



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 # 23-IC-00761
Report Status Final
Date Report Released 03/01/2023

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

Account Name Town of Westford
Date Received 02/08/2023
Time Received 14:22
Approved Date 03/01/2023

Sample Desc. KIT C First Draw Lead
Collection Date 02/08/2023
Collection Time 11:31
Sampled By Devil Porter
Sampling Location Kitchen Sink
Street Address 1713 VT-128
Town Westford State VT
Sample Type N/A
Collection 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 Metals by ICPMS
Date/Time of Analysis 02/22/2023 12:48
Test Method EPA 200.8

Table with 4 columns: Analyte, Final Result, Units, Limit. Row 1: Lead, 0.008, 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



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 # 23-WB-00376
Report Status Final
Date Report Released 02/09/2023

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

Account Name Town of Westford
Date Received 02/08/2023
Time Received 14:38

Sample Desc. KIT A Sample Type N/A
Collection Date 02/08/2023 Collection Type N/A
Collection Time 11:47 Free Chlorine Residual N/A
Sampled By Devin Porter Total Chlorine Residual N/A
Sampling Location Kitchen Sink Chlorinated? No
Street Address 1713 VT-128 Field Temp. N/A
Town Westford State VT Field Fluoride N/A
Temp at Receipt N/A

Test Enzyme Substrate Test Date/Time of Analysis 02/09/2023 10:48
Test Method SM20 9223B

Table with 2 columns: Analyte, Result. Rows: 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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Test Report Authorized By: Cheryl Achilles
Laboratory Program Chief - Microbiology

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DEPARTMENT OF HEALTH LABORATORY

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

Drinking Water Results Report

State Health Dept # 23-IC-00759
Report Status Final
Date Report Released 02/15/2023

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

Account Name Town of Westford
Date Received 02/08/2023
Time Received 14:22
Approved Date 02/15/2023

Sample Desc. KIT C Sample Type N/A
Collection Date 02/08/2023 Collection Type N/A
Collection Time 11:50 Free Chlorine Residual N/A
Sampled By Devin Porter Total Chlorine Residual N/A
Sampling Location Kitchen SInk Chlorinated? No
Street Address 1713 VT-128 Field Temp. N/A
Town Westford State VT Field Fluoride N/A
Temp at Receipt 19.9 C

Test Anions

Date/Time of Analysis 02/08/2023 18:20
Test Method EPA 300.0

Table with 5 columns: Analyte, Final Result, Units, Limit, and SMCL/MCL. Rows include Chloride, Fluoride, Nitrate as N, and Nitrite as N.

Test Hardness (EDTA)

Date/Time of Analysis 02/08/2023
Test Method SM 2340 C

Table with 4 columns: Analyte, Final Result, Units, and Limit. Row: Total Hardness by 294 mg/L.

\* 151 mg/L to 300 mg/L = Hard Water

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-00759  
**Report Status** Final  
**Date Report Released** 02/15/2023

**Test** *Iron by Flame AA* **Date/Time of Analysis** N/A  
**Test Method** SM 3111 (B)

Analyte	Final Result	Units	Limit
Iron	Not Tested	N/A	N/A

**Test Not Performed Due To:** Instrument failure

VDHL is unable to complete the analysis at this time. Your sample has been contracted to an accredited outside laboratory. A copy of the report will be mailed to you.

**Test** *Metals by ICPMS* **Date/Time of Analysis** 02/14/2023 11:57  
**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	0.020	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** *Sodium by Flame AA* **Date/Time of Analysis** N/A  
**Test Method** SM 3500-Na B

Analyte	Final Result	Units	Limit
Sodium	Not Tested	N/A	N/A

**Test Not Performed Due To:** Instrument failure

VDHL is unable to complete the analysis at this time. Your sample has been contracted to an accredited outside laboratory. A copy of the report will be mailed to you.

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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 # 23-OA-00008
Report Status Final
Date Report Released 02/15/2023

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

Account Name Town of Westford
Date Received 02/08/2023
Time Received 14:24
Approved Date 02/15/2023

Table with 4 columns: Field Name, Value, Field Name, Value. Includes: Sampled By (Devin Porter), Sampling Location (Kitchen Sink), Street Address (N/A), Town (Westford), Sample Desc. (KIT OA), Collection Date (02/08/2023), Collection Time (12:00), Sample Type (N/A), Free Chlorine Residual (N/A), Total Chlorine Residual (N/A), Chlorinated? (No), Field Temp. (N/A), Temp at Receipt (19.5 C)

Main data table with 7 columns: Test, Analyte, Result, Test Method, MCL (ug/L), VHA (ug/L), Date of Analysis, VAL (ug/L), CAS Number. Lists various VOCs and their concentrations.

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**Results Report** State Health Dept # 23-OA-00008  
 Report Status Final  
 Date Report Released 02/15/2023

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 <sup>a</sup>	<1.00 ug/L	10000			106-42-3
o-Xylene <sup>a</sup>	<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 <sup>b</sup>	<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 <sup>b</sup>	<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* <sup>b</sup>	<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

**Note: 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**

**23-OA-00008**  
**Final**  
**02/15/2023**

**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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[www.healthvermont.gov/water-contaminants](http://www.healthvermont.gov/water-contaminants).

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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 # 23-RA-00121
Report Status Final
Date Report Released 02/16/2023

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

Account Name Town of Westford
Date Received 02/08/2023
Time Received 14:53

Sample Desc. KIT RA
Collection Date 02/08/2023
Collection Time 11:49
Sampled By Devin P
Sampling Location Kitchen Sink
Street Address 1713 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

Table with 6 columns: Test, Gross Alpha, Date of Analysis, Result, Uncertainty, Units, Test Method, Limit. Row 1: Gross Alpha, 02/15/2023, EPA 00-02, 1.51, 0.73, pCi/L, \*

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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## **Appendix B**

### **AGA Calculation Worksheet**

Adjusted Gross Alpha Calculator		
<p><b>Instructions:</b></p> <ul style="list-style-type: none"> <li>- Enter your gross alpha result in Box 1.</li> <li>- Enter your uranium result in Box 2.</li> <li>- Box 3 will automatically calculate.</li> <li>- Box 4 will help interpret your result based on the measurements provided in Box 1 and Box 2.</li> </ul>		
Box 1	Your gross alpha result (pCi/L)*	1.51
Box 2	Your uranium result (mg/L)**	0.002
Box 3	Calculated adjusted gross alpha (AGA) pCi/L*	0.17
Box 4	The uranium level is at or below the Vermont MCL and the AGA level is at or below gross alpha and radium MCL. No further testing is recommended. Retest again in five years.	
<p>* Note 1: pCi/L = picoCuries per liter  ** Note 2: mg/L = milligrams per liter</p>		

Contaminant	Maximum contamination level (MCL)	Unit
AGA	15	pCi/L
Combined radium 226/228	5	pCi/L
Uranium	0.020*	mg/L

\*Uranium MCL is the Vermont MCL. Federal (EPA) MCL is 0.030 mg/L

Treatment
If you need treatment, call a water treatment specialist or well driller specialized in water treatment for a quote on a water treatment system. Remember, it is okay to reach out to several specialists and get multiple quotes.
Health Effects
Gross alpha radiation may cause health effects over time. Because gross alpha radiation loses energy rapidly and within a short distance, it does not pass through skin. It is not a hazard outside of the body. However, the radiation can be harmful if you eat, drink or breathe in something containing gross alpha radiation. Over a long period of time and at elevated levels, radium increases the risk of bone cancer and uranium increases the risk of kidney damage. There are no immediate health risks or symptoms from drinking water that contains gross alpha radiation. <b>Because gross alpha radiation causes cancer, any exposure to it will increase your risk of getting cancer.</b> If you would like to lower or eliminate your exposure, consider treating your water for gross alpha radiation, even if it is under the MCL.

For More Information
Health or treatment questions, visit <a href="http://www.healthvermont.gov/water/radioactive-elements">http://www.healthvermont.gov/water/radioactive-elements</a> or call: 802-863-7220 or 800 439-8550 (toll-free in Vermont)
Order a water test kit, call: 802-338-4736 or 800-660-9997 (toll-free in Vermont)