

**Community Water System Sampling Frequency  
per Vermont Water Supply Rule**

	Once Permitted/New Source Monitoring - <a href="#">See Source Testing List<sup>4</sup></a>	Following Detection(s)	Reduced Monitoring	Sampling frequency with a valid <a href="#">Monitoring Waiver</a>
<b>Synthetic Organic Chemicals (SOCs)</b>				
Groundwater (GW)	Once every <b>3 years</b> (more frequent if the population is >3300).	Targeted <b>quarterly monitoring</b> begins. Following a minimum of two consecutive calendar quarters of reliable and consistent results below Maximum Contaminant Levels (MCLs) and Vermont Action Levels (VALs), could move to <b>annual</b> sampling. If detections are above levels of concern, must remain on quarterly monitoring.	If non-detect for three consecutive years of annual sampling, would be eligible to sample once every <b>3 years</b> .	If system has already achieved reduced monitoring, <b>not required to sample<sup>2</sup></b> . Lake Champlain sources are not eligible for a waiver.
Surface water (SW)		Targeted <b>quarterly monitoring</b> begins. Following a minimum of four consecutive calendar quarters of reliable and consistent results below Maximum Contaminant Levels (MCLs), and Vermont Action Levels (VALs), could move to <b>annual</b> sampling. If detections are above levels of concern, must remain on quarterly monitoring.		
<b>Volatile Organic Chemicals (VOCs)</b>				
Groundwater (GW)	Quarterly for 1 year; if results are non-detect may move to annual sampling.	Resume <b>quarterly</b> for a minimum of two quarters; if results below MCLs and VALs for two consecutive quarters, may move to <b>annual</b> .	If have three non-detect consecutive years of annual sampling, would be eligible to sample once every <b>3 years</b> .	Once every <b>6 years</b> . Rare for Division to grant a VOCs waiver unless source is very isolated. Lake Champlain sources are not eligible.
Surface water (SW)		Resume <b>quarterly</b> for a minimum of four quarters; if results below MCLs and VALs for four consecutive quarters, may move to <b>annual</b> .	<b>Annual</b> monitoring.	Once every <b>3 years</b> . Rare for Division to grant a VOCs waiver unless source is very isolated. Lake Champlain sources are not eligible.
<b>Inorganic Chemicals (IOCs)<sup>3</sup></b>				
Groundwater (GW)	Once every <b>3 years</b> . May separate chemicals within IOCs suite and require more frequent monitoring based on detections and permit conditions.	Target specific chemical and begin <b>quarterly monitoring</b> if above MCL, Secondary Maximum Contaminant Level (SMCL), or Vermont Health Advisory (VHA) on a case-by-case basis.	Schedule may target specific chemical of concern, but least frequent sampling required of the entire IOCs suite without a waiver, is once every <b>3 years</b> .	Once every <b>9 years</b> after results from three rounds of compliance sampling representative of the same source(s).
Surface water (SW)	Once every <b>year</b> . May separate chemicals within IOCs suite and require more frequent monitoring based on detections and permit conditions.		<b>Annual</b> monitoring.	
<b>Nitrate</b>				
(MCL = 10 mg/L) GW and SW	<b>Annual</b>	If detection above 5 mg/L, must begin <b>quarterly</b> monitoring. May return to <b>annual</b> sampling if results consistently below 5 mg/L.	No reduction beyond <b>annual</b> monitoring.	No option for waiver.
<b>Radionuclides<sup>5</sup></b>				
Uranium (Vermont MCL = 20 µg/L but Federal MCL = 30 µg/L)	Quarterly for 1 year if no existing data available. If non-detect for two consecutive quarters, may move to reduced monitoring.	Depends on concentration: a) if non-detect = every 9 years b) if above detection but below 1/2 of the MCL = every 6 years c) greater than 1/2 the MCL but below MCL = every 3 years d) if above MCL = quarterly	Depends on concentration: a) if non-detect = every 9 years b) if above detection but below 1/2 of the MCL = every 6 years c) greater than 1/2 the MCL but below MCL = every 3 years d) if above MCL = quarterly	If gross alpha (GA) is below 10 pCi/L, system not required to routinely sample for uranium.
Combined radium <sup>226</sup> and radium <sup>228</sup> (MCL = 5 pCi/L)				No option for radium waiver, but if gross alpha (GA) is below 5 pCi/L, may substitute 1/2 the detection limit of GA (1.5 pCi/L) as the radium <sup>226</sup> result and add to radium <sup>228</sup> to determine future sampling frequency.
Gross alpha activity (MCL = 15 pCi/L including radium <sup>226</sup> but excluding radon and uranium)				No option for gross alpha (GA) waiver.

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<b>Other</b>				
<b>Coliform/E. Coli</b>	<b>Monthly</b> unless there are positives.	Positive sample requires <b>3 repeats within 24 hours</b> and a sample from each groundwater (GW) well that is active.	No reduced monitoring	No option for waiver. Further information can be found <a href="#">here</a> .
<b>Lead and Copper</b>	Once every <b>6 months</b> , the number of samples is based on the population served	Once every 6 months following an *Action Level Exceedance (ALE).	Following two consecutive 6-month periods without an exceedance, may move to <b>annual</b> . With 3 years of data without an exceedance, may move to <b>triennial sampling</b> .	No option for waiver. Further information can be found <a href="#">here</a> .
<b>Disinfection Byproducts (DBPs)</b>	Depends on the type of source water, population served, and previous results. <i>Sampling is only applicable to those systems routinely applying chemical disinfectant.</i>			No option for waiver. Further information can be found <a href="#">here</a> .
<b>Asbestos</b>	Once every <b>9 years</b> , if the system contains distribution piping made from asbestos cement pipe ("AC" or transite pipe).	<b>Quarterly</b> following an MCL exceedance. If GW = two consecutive quarters below MCL, may be reduced to once every 3 years. If SW = four consecutive quarters below MCL, may be reduced to once every 3 years.	A vulnerable system must sample at least once every <b>9 years</b> . Non-vulnerable systems (systems that do not contain any asbestos cement piping) are not required to sample.	State-wide waiver exists unless system shows vulnerability to asbestos due to distribution piping comprised of asbestos cement ("AC" or transite pipe).

**This chart applies to Community (C) Water Systems only. Non-Transient Non-Community (NTNC) systems are not required to routinely sample for Radionuclides unless elevated levels are identified as part of source permitting. Transient Non-Community (TNC) systems are only required to routinely sample for Total Coliform and Nitrate unless elevated levels are identified as part of source permitting or sampling pursuant to Table A11-6 of the Vermont Water Supply Rule (WSR).**

Community Water Systems must sample for SOCs, VOCs, IOCs, Nitrate, and Radionuclides at each entry point to the distribution system, and samples should be collected during periods of normal operating conditions. This may result in a need to take multiple samples per "round" of sampling to achieve each monitoring requirement.

Additional information on chemical monitoring can be found on our website at: <http://dec.vermont.gov/water/drinking-water/water-quality-monitoring/chems>

The following values are defined in the Vermont Water Supply Rule, Revision date December 1, 2010 available on our website at: <http://dec.vermont.gov/sites/dec/files/dwgwp/DW/vtwsr2010%20%281%29.pdf>

**MCL (Maximum Contaminant Level)** is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the **MCLG (Maximum Contaminant Level Goal)**<sup>5</sup> as is feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards. Please refer to the contaminant standard table for a list of MCLs: <http://dec.vermont.gov/sites/dec/files/dwgwp/DW/MCLs.pdf>

**SMCL (Secondary Maximum Contaminant Level)** is a level that represents reasonable goals for drinking water quality. Water systems may be required to monitor and comply with SMCLs when necessary to protect public welfare. Proposed water systems with contaminants exceeding these values may be required to treat or abandon the source, at the discretion of the Secretary.

**Vermont Health Advisory (VHA) Level** is the level of concentration of a substance in drinking water below which the water does not pose a public health risk, or public health hazard as defined in 18 V.S.A. Chapter 1, and for which there is no MCL identified. For contaminants which may be detected in a Public water system for which MCLs or MCLGs have not been adopted, and the Vermont Commissioner of Health has established a VHA level for it, the Secretary may adopt the advisory level as an MCL or MCLG.

**VAL (Vermont Action Level)** is a level developed by Vermont Department of Health and entered into a formal Memorandum of Understanding (MOU) with the Drinking Water & Groundwater Protection Division (DWGWP) for a small number of chemicals that have federally established MCLs, but are of specific health concern in Vermont. VALs can be more restrictive than corresponding contaminant MCLs.

\*Action Level is the concentration of a contaminant which, if exceeded by 10 percent of the samples, triggers treatment or other requirements which a water system must follow.

Please contact the Division with any questions. A list of Division contacts can be found on our website at: <http://dec.vermont.gov/water/contacts>

**Footnotes:**

1. SOCs may be separated into "kits", as available from the certified laboratory in order to target smaller groupings of chemicals of concern by analytical method.
2. With approved Source Protection Plan (SPP) update at least every 3 years. A SPP is only required for NTNC and C Water Systems.
3. IOCs may be separated into individual analyte schedules for each chemical in the group, depending on the detections found.
4. Water Quality Source Testing List. As part of the source permitting process and in order to obtain a source permit, Community and NTNC water systems must take at least one sample from each analyte identified in the Vermont Water Supply Rule Contaminant Table 6-1 and Table 6-2. Follow-up sampling may be required if there are either detections or concentrations above levels of concern. Additional testing may be required at the discretion of the Secretary. <http://dec.vermont.gov/sites/dec/files/dwgwp/dwpermitting/pdf/newsourcetestinglist.pdf>
5. Sampling for beta particle and photon radioactivity, gross beta activity, tritium, and strontium-90 only required for systems that are deemed vulnerable by the State.
6. A maximum contaminant level goal shall serve as the basis for design for any proposed treatment units using best available technology on existing water systems and sources. Maximum contaminant level goals shall serve as the basis for design for new Public water systems. Where feasible, new sources shall meet maximum contaminant level goals without treatment (WSR Section 6.14).