

The Commonwealth of Virginia
Results from the Virginia Be Well Informed Guide
Created Nov 7, 2021

Information provided in this report is for informational purposes only and should not be substituted for direct consultation with a qualified water well systems provider. Other conditions or factors related to your well or home not considered by this online guide may determine the most appropriate water treatment option.

You can download your results in PDF format by clicking the PDF icon on the below.


About the Results














The Virginia Private Well Program requires a bacteriological sample at the time of well construction, after which operation and maintenance, including water quality evaluation, is at the discretion of the well owner. To assist the well owner, VDH recommends comparison of water testing results to the standards applicable to public water supplies under the [Safe Drinking Water Act](#).

Based on what you entered from your laboratory report, the Results Summary below indicates whether your water meets federal and state health-based standards (Maximum Contaminant Levels - MCLs) as well as other guidelines (Secondary Maximum Contaminant Levels - SMCLs, health advisory levels, etc.). These standards and guidelines are often referred to as "limits" on your laboratory report. If your water exceeds or is approaching established federal/state drinking water limits or advisory levels for the contaminant(s) entered, additional health information and treatment options will be shown. Please be aware that some potential contaminants (e.g., fluoride) have both an MCL and a secondary MCL (goal).

Results Summary

Key

- | | |
|---|--|
|  Meets the Drinking Water Limit |  Close to the Drinking Water Limit |
|  Above the Drinking Water Limit |  Consult VDH Radon Program |



Result	Element	Your Entry	Limit	About Your Well Water
	Chloride	1.097 mg/L	250 mg/L	The value entered meets the drinking water guideline
	Copper	0.026 mg/L	1.3 mg/L	The value entered meets the drinking water standard
	Copper first-draw/stagnant	0.385 mg/L	1.3 mg/L	The value entered meets the drinking water standard
	Lead	0.003 mg/L	0.015 mg/L	The value entered meets the drinking water standard, but it is above the MCL goal of 0 mg/L. Collect another water sample to confirm the results of your first sample.
	Lead first-draw/stagnant	0.053 mg/L	0.015 mg/L	The value entered exceeds the drinking water standard
	Arsenic	0 mg/L	0.01 mg/L	The value entered meets the drinking water standard
	Hardness	5.5 mg/L	-	There is no drinking water guideline or standard
	E. coli	0 MPN/100 mL	0 MPN/100 mL or Absent	The value entered meets the drinking water standard
	Fluoride	4.19 mg/L	2 mg/L	The value entered exceeds the drinking water standard
	Iron	0.148 mg/L	0.3 mg/L	The value entered meets the drinking water guideline
	Manganese	0.007 mg/L	0.05 mg/L	The value entered meets the drinking water guideline
	Nitrate-N	0 mg/L	10 mg/L	The value entered meets the drinking water standard
	Total Coliform	0 MPN/100 mL	0 MPN/100 mL or Absent	The value entered meets the drinking water standard

Result	Element	Your Entry	Limit	About Your Well Water
✗	Sodium	245.8 mg/L	20 mg/L	The value entered exceeds the U.S. EPA's guidance level
✓	Uranium	0 µg/L	30 µg/L	The value entered meets the drinking water guideline
●	Gross Alpha		15 pCi/L	A value was not entered.
●	Radon		4000 pCi/L	Test both the air in your home (if you live below the third floor) and in your water (unless it is from a dug well) for radon. A general guide on radon potential for each county in VA can be found on EPA's Radon Zones for Virginia (http://www.vdh.virginia.gov/radiological-health/indoor-radon-program/epa-radon-risk-map-for-virginia/).

Water Treatment Systems That Remove Chloride, Lead, Lead first-draw/stagnant, Fluoride and Sodium

The water treatment is based on the water quality information you entered. [Details concerning water treatment are below.](#)

Treatment Order

Step 1	Whole House Acid Neutralizer System	
Step 2	Point-of-Use (POU) Reverse Osmosis (RO) System	

Regardless of water treatment technology, it is essential that system maintenance be performed on schedule to maintain system effectiveness.

What does “whole house” mean? The term whole house indicates that the treatment technology is installed at the point where water enters your home to treat all of the water used in your home.

Print this report and make final water treatment decisions with a qualified [water treatment professional](#).

More Information about selecting appropriate water treatment devices is available from [NSF](#) and [Cooperative Extension](#).

More Information is available from [VDH](#) and [US EPA](#)

Results Details

Key

✓	Meets the Drinking Water Limit	⚠	Close to the Drinking Water Limit
✗	Above the Drinking Water Limit	●	Consult VDH Radon Program

Result	Element	Your Entry	Limit	About Your Well Water
✓	Chloride	1.097 mg/L	250 mg/L	The value entered meets the drinking water guideline

Interpretation of Results:

Does my well water meet the [drinking water guideline for chloride \[https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals\]](https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals)? Yes, your water meets federal and state drinking water guidelines as it contains less than 250 mg/L of chloride.

Health Concerns:

Can consuming water containing chloride affect my health? Consuming water containing chloride alone is not harmful to your health; however, the presence of chloride in your water may indicate that other pollutants may be present in your water supply.

Treatment Options:

What should I do?




1. If you haven't already done so, you should also test your water for bacteria.
2. If your chloride level is more than 100 mg/L, take the steps listed here to address potential sources of chloride pollution.

Note, if you live near the seacoast, the level of chloride in your well water may be naturally higher due to sea water or wind-blown sea spray; however, levels substantially higher than 150 mg/L may indicate pollution by human activities.

Take these steps to address potential sources of chloride pollution:

1. Inspect the area around your wellhead for possible sources of pollution, such as road salt piles and storage sheds, driveways and roads where road salt is used, fertilized areas, septic systems, and waste from pets and farm animals. Remove any sources when possible.
2. Make sure rain and melting snow are directed away from your wellhead.
3. Contact your local health department if you believe that the elevated levels of chloride are associated with nearby land uses.

More information about treatment for chloride can be found in [VCE's publication \[https://www.wellwater.bse.vt.edu/files/SodiumChloride442-661_pdf.PDF\]](https://www.wellwater.bse.vt.edu/files/SodiumChloride442-661_pdf.PDF).

	Copper	0.026 mg/L	1.3 mg/L	The value entered meets the drinking water standard
	Copper first-draw/stagnant	0.385 mg/L	1.3 mg/L	The value entered meets the drinking water standard
	Lead	0.003 mg/L	0.015 mg/L	The value entered meets the drinking water standard, but it is above the MCL goal of 0 mg/L. Collect another water sample to confirm the results of your first sample.

Health Concerns:

Can consuming water containing lead affect my health? Lead rarely occurs naturally in water; it usually is leached into household water from plumbing or pipe materials. Lead can cause irreversible damage to the brain, kidneys, nervous system, and blood cells. It is a cumulative poison, meaning that it will accumulate in the body until it reaches toxic levels. Young children are most susceptible: mental and physical development can be irreversibly stunted by lead poisoning. Lead may be found in household drinking water in homes built prior to 1986 with lead solder, or in newer homes with "lead-free" brass components, which could contain up to 8% lead until January 2014. There is no safe level of exposure to lead. The MCL goal is 0 mg/L, and the Health Action Level (HAL) is 0.015 mg/L. According to recent guidance from EPA, if lead is present above 0.005 mg/L in your drinking water, the results warrant follow-up, especially if children are consuming the water. Addressing the corrosiveness (acidity) of your water by installing an acid neutralizing filter may help prevent lead leaching. Alternatively, consider installing an activated carbon filtration or reverse osmosis unit designed to remove lead at the faucet where drinking and cooking water is obtained. If lead in the flushed sample decreases significantly, another option is to flush pipes for at least 1 minute to remove water with higher lead concentrations before drinking or cooking, and always drink and cook with cold water. Contact your doctor if concerned.

Treatment Options:

What should I do?

1. If you haven't already done so, you should also test your water for copper.
2. Use only water from the cold-water tap for drinking, cooking, and especially for making baby food and formula. Hot water from the tap is likely to contain higher levels of lead and copper. In most cases, you can reduce the level of lead and copper in the water that you use for drinking and cooking by clearing the water from the pipes before using it.
3. Lead (and copper) levels may be high in your water because of the materials used in your home's plumbing and how acidic your water is. Metals, such as lead and copper, can leach from pipes and plumbing fixtures when water is acidic. If you haven't already done so, you should also test the pH of your water, which will tell you if your water is acidic.

If your water is acidic (pH is less than 7.0), install a whole house acid neutralizer system, such as a calcite filter, to increase the pH and make the water less acidic, which should reduce the level of lead (and copper) in your water.

Another option is to remove the source of lead by replacing your lead or galvanized iron pipes and fittings, lead-soldered pipes, and brass or chrome fixtures with other approved materials, such as plastic.

In most cases, flushing out your plumbing will reduce the lead (and copper) level in your water. The routine of letting the water run to get the lead (and copper) out should be done each morning and if the water has not been used for more than six hours – for example, overnight or during the day when you have been out of the house. To "flush the tap," turn on the cold water faucet and let the water run for at least one minute. If you need hot water for drinking or cooking, take water from the cold water tap and heat it.

Other household water uses, such as showering or toilet flushing, will also help clear water from your plumbing. Keep in mind that you will still need to run individual faucets for a short time before using them for cooking and drinking water. You may want to keep a container of water in your refrigerator, so that the water does not have to be run every time you need it.

More information about treatment for lead can be found in [VCE's publication \[https://www.wellwater.bse.vt.edu/files/HeavyMetals442-657_pdf.PDF\]](https://www.wellwater.bse.vt.edu/files/HeavyMetals442-657_pdf.PDF).

	Lead first-draw/stagnant	0.053 mg/L	0.015 mg/L	The value entered exceeds the drinking water standard
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Interpretation of Results:

Does my well water meet the [drinking water standard for lead \[https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations\]](https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations)? No, your water does not meet federal and state drinking water standards as it contains more than 0.015 mg/L of lead.

Health Concerns:

Can consuming water containing lead affect my health? Lead rarely occurs naturally in water; it usually is leached into household water from plumbing or pipe materials. Lead can cause irreversible damage to the brain, kidneys, nervous system, and blood cells. It is a cumulative poison, meaning that it will accumulate in the body until it reaches toxic levels. Young children are most susceptible: mental and physical development can be irreversibly stunted by lead poisoning. Lead may be found in household drinking water in homes built prior to 1986 with lead solder, or in newer homes with "lead-free" brass components, which could contain up to 8% lead until January 2014. There is no safe level of exposure to lead. The MCL goal is 0 mg/L, and the Health Action Level (HAL) is 0.015 mg/L. According to recent guidance from EPA, if lead is present above 0.005 mg/L in your drinking water, the results warrant follow-up, especially if children are consuming the water. Addressing the corrosiveness (acidity) of your water by installing an acid neutralizing filter may help prevent lead leaching. Alternatively, consider installing an activated carbon filtration or reverse osmosis unit designed to remove lead at the faucet where drinking and cooking water is obtained. If lead in the flushed sample decreases significantly, another option is to flush pipes for at least 1 minute to remove water with higher lead concentrations before drinking or cooking, and always drink and cook with cold water. Contact your doctor if concerned.

Treatment Options:

What should I do?

1. If you haven't already done so, you should also test your water for copper.
2. Use only water from the cold-water tap for drinking, cooking, and especially for making baby food and formula. Hot water from the tap is likely to contain higher levels of lead and copper. In most cases, you can reduce the level of lead and copper in the water that you use for drinking and cooking by clearing the water from the pipes before using it.
3. Lead (and copper) levels may be high in your water because of the materials used in your home's plumbing and how acidic your water is. Metals, such as lead and copper, can leach from pipes and plumbing fixtures when water is acidic. If you haven't already done so, you should also test the pH of your water, which will tell you if your water is acidic.

If your water is acidic (pH is less than 7.0), install a whole house acid neutralizer system, such as a calcite filter, to increase the pH and make the water less acidic, which should reduce the level of lead (and copper) in your water.

Another option is to remove the source of lead by replacing your lead or galvanized iron pipes and fittings, lead-soldered pipes, and brass or chrome fixtures with other approved materials, such as plastic.

In most cases, flushing out your plumbing will reduce the lead (and copper) level in your water. The routine of letting the water run to get the lead (and copper) out should be done each morning and if the water has not been used for more than six hours – for example, overnight or during the day when you have been out of the house. To "flush the tap," turn on the cold water faucet and let the water run for at least one minute. If you need hot water for drinking or cooking, take water from the cold water tap and heat it.

Other household water uses, such as showering or toilet flushing, will also help clear water from your plumbing. Keep in mind that you will still need to run individual faucets for a short time before using them for cooking and drinking water. You may want to keep a container of water in your refrigerator, so that the water does not have to be run every time you need it.

More information about treatment for lead can be found in [VCE's publication \[https://www.wellwater.bse.vt.edu/files/HeavyMetals442-657_pdf.PDF\]](https://www.wellwater.bse.vt.edu/files/HeavyMetals442-657_pdf.PDF).

✓	Arsenic	0 mg/L	0.01 mg/L	The value entered meets the drinking water standard
✓	Hardness	5.5 mg/L	-	There is no drinking water guideline or standard

Interpretation of Results:

Do I have "soft" or "hard" water? You have "soft" water if your hardness level is less than 60 mg/L. If your level is between 61 and 120 mg/L, you have "moderately hard" water. You have "hard" water if your level is between 121 and 180 mg/L.

Health Concerns:

Can consuming water containing minerals that make water "hard" affect my health? Consuming water containing minerals, typically calcium or magnesium, that make water "hard" is not harmful to your health.

Elevated levels of hardness can leave spots, film, and scaling on glasses and dishes, plumbing fixtures, and appliances. When hard water is heated, such as in a water heater, solid deposits of calcium carbonate (scaling) can also form. Scale buildup can shorten the life of equipment, raise the costs of heating the water, lower the efficiency of water heaters, and clog pipes. Many people also notice that they need to use more soap when cleaning with hard water. None of these effects poses a health risk.

✓	E. coli	0 MPN/100 mL	0 MPN/100 mL or Absent	The value entered meets the drinking water standard
✗	Fluoride	4.19 mg/L	2 mg/L	The value entered exceeds the drinking water standard

Interpretation of Results:

Does my well water meet the drinking water standard for fluoride [https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations]? No, your water does not meet federal and state drinking water standards as it contains more than 4.0 mg/L of fluoride.

Health Concerns:

Can consuming water containing fluoride affect my health? Consuming water containing more than 4.0 mg/L of fluoride can cause bone disease, which can include pain and tenderness of the bones and irregular bone deposits that can cause arthritis and crippling when occurring at joints (skeletal fluorosis).

Consuming water containing more than 2.0 mg/L of fluoride can cause small 'white spots' on children's teeth (mottled enamel), or in extreme cases, brown staining or pitting of teeth that are still developing below the gums (dental fluorosis).

To reduce your exposure to fluoride in your well water, treat the water that you use for drinking and cooking to a level less than 2.0 mg/L. If treatment is not feasible, children under nine years old should be provided with an alternative source of drinking water that contains less than 2.0 mg/L of fluoride.

Consuming water containing an optimal level of fluoride helps protect against tooth decay. The U.S. Department of Health and Human Services' recommended optimal range for fluoride in drinking water is 0.6 - 0.8 mg/L. You should talk with your dentist and doctor about the level of fluoride in your water and how you can reduce your and your family's total fluoride exposure. Click [here](http://www.cdc.gov/fluoridation/faqs/wellwater.htm) [http://www.cdc.gov/fluoridation/faqs/wellwater.htm] for more information from the U.S. Centers for Disease Control and Prevention about private well water and fluoride.

Treatment Options:

How can I reduce the level of fluoride in my water? Install one of the following point-of-use (POU) water treatment systems at your kitchen sink to reduce the level of fluoride in the water that you consume:

1. An NSF/ANSI Standard 61 certified activated alumina filter system.

OR

2. An NSF/ANSI Standard 58 certified reverse osmosis (RO) system.

More information about treatment for fluoride can be found in [VCE's publication](https://www.wellwater.bse.vt.edu/files/Fluoride442-660_pdf.PDF) [https://www.wellwater.bse.vt.edu/files/Fluoride442-660_pdf.PDF].

✓	Iron	0.148 mg/L	0.3 mg/L	The value entered meets the drinking water guideline
✓	Manganese	0.007 mg/L	0.05 mg/L	The value entered meets the drinking water guideline
✓	Nitrate-N	0 mg/L	10 mg/L	The value entered meets the drinking water standard
●	Nitrite-N		1 mg/L	
✓	Total Coliform	0 MPN/100 mL	0 MPN/100 mL or Absent	The value entered meets the drinking water standard
✗	Sodium	245.8 mg/L	20 mg/L	The value entered exceeds the U.S. EPA's guidance level

Interpretation of Results:

Does my well water meet the [drinking water guidance level for sodium](https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_sodium_dwreport.pdf) [https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_sodium_dwreport.pdf]? No, your water does not meet the federal drinking water guidance level as it contains more than 20 mg/L of sodium.









Health Concerns:

Can consuming water containing sodium affect my health? Consuming water containing sodium is not harmful to your health. However, if you or someone in your household is on a low-salt diet, you should talk with your doctor about the level of sodium in your water. The U.S. Environmental Protection Agency's guidance level of 20 mg/L for sodium in drinking water was developed for people restricted to a total sodium intake of 500 mg/day. It is recommended you consider the number of liters of water you consume each day from this source and factor that into the rest of the sodium derived from your diet. Most Americans consume between 1,500 and 2,000 mg of sodium per day.

Treatment Options:

How can I reduce the level of sodium in my water? Install an NSF/ANSI Standard 58 certified point-of-use (POU) reverse osmosis (RO) system at your kitchen sink to reduce the level of sodium in the water that you consume. If you soften your water with a water softener to remove hardness, see above under "treatment options" for other options for reducing sodium in drinking water. More information about treatment for sodium can be found in [VCE's publication](https://www.wellwater.bse.vt.edu/files/SodiumChloride442-661_pdf.PDF) [https://www.wellwater.bse.vt.edu/files/SodiumChloride442-661_pdf.PDF].

✓	Uranium	0 µg/L	30 µg/L	The value entered meets the drinking water guideline
●	Gross Alpha		15 pCi/L	A value was not entered.

Result	Element	Your Entry	Limit	About Your Well Water
	Radon		4000 pCi/L	Test both the air in your home (if you live below the third floor) and in your water (unless it is from a dug well) for radon. A general guide on radon potential for each county in VA can be found on EPA's Radon Zones for Virginia (http://www.vdh.virginia.gov/radiological-health/indoor-radon-program/epa-radon-risk-map-for-virginia/).
	Benzene		0.005 mg/L	
	Ethylbenzene		0.7 mg/L	
	Toluene		1 mg/L	
	Xylene		10 mg/L	
	Perfluorooctanoic acid (PFOA)		0.07 µg/L	
	Perfluorooctanesulfonic acid (PFOS)		0.07 µg/L	
	Total Petroleum Hydrocarbons		1 mg/L	