

# WELL WATER

## What Should I Test For?



Have you tested your well lately? Monitoring your well-water quality is your responsibility. Wells should be serviced every 3–10 years. Service calls typically include flow tests, water-level checks pre- and post-pumping, a pump motor check (amp load, grounding and line voltage), pressure tank and pressure switch contact and general water quality (odor, cloudiness and color). Water quality may be tested for the contaminants of concern listed below.

**Coliform Bacteria/E.Coli** contamination occurs when a well isn't properly constructed or has been damaged, allowing contamination from the local environment. You may smell rotten eggs (hydrogen sulfide) if bacteria is an issue. The United States Environmental Protection Agency (EPA) recommends testing for this contaminant yearly.

*Cost estimate: \$50*

**Nitrates** are a byproduct of farm fertilizers and septic tank sewage. Nitrates are a serious health concern for young children and pregnant women. The EPA recommends testing for this contaminant yearly.

*Cost estimate: \$27*

**Lead** comes from the pipes and fixtures. The EPA recommends testing for this contaminant every 3 years. If your well has a history of lead problems, test more frequently.

*Cost estimate: \$25*

**Turbidity** (cloudiness) can indicate the well is prone to surface water contamination or high levels of minerals.

*Cost estimate: \$16*

**pH:** acidic or basic pH can shorten the lifetime of your plumbing system but can be corrected with water conditioning.

*Cost estimate: \$5*

**Chlorides** occur near brackish or salt water bodies. They can also occur when roads are over-salted during winter. Chlorides can corrode your plumbing system.

*Cost estimate: \$40*

**Manganese** occurs naturally. It can cause brown staining, odor and taste. Continued high levels can impair memory, attention and motor skills.

*Cost estimate: \$25*

**Copper**, usually from pipes, can be elevated when corrosive water causes leaching from the plumbing. The EPA has determined that consumption of high levels of copper can lead to gastrointestinal distress and liver damage, but has no recommended testing schedule.

*Cost estimate: \$25*

**Iron** naturally occurs and can affect the taste of your water. It can cause an odor, reddish-orange stains, kidney damage, and other health problems.

*Cost estimate: \$25*

**Arsenic** naturally occurs and is also a byproduct of some forms of agricultural pollution. Arsenic can cause cancer as well as skin and circulatory damage. Arsenic is of particular concern in the Aquia aquifer.

*Cost estimate: \$25*

To see an interactive map for arsenic in our Aquia and Piney Point aquifers, scan the QR code or go to:

<http://www.mgs.md.gov/groundwater/arsenic%20interactive.html>.



**Hardness** is from high mineral content (primarily calcium and magnesium). This can cause soap scum and scaling on glassware and appliances. Hardness can even cause deposits, which will lead to plumbing problems.

*Cost estimate: \$36*

**Sulfate** occurs naturally and can taste bitter. High levels can corrode pipes.

*Cost estimate: \$30*

**Phase 2 and 5 contaminant metals** (cadmium, chromium, mercury, selenium, barium, antimony, beryllium, nickel and thallium) are listed as primary health concerns under the EPA's Chemical Contaminant Rule. These metals can be found naturally in the ground or introduced by industrial processes. The EPA requires public water systems with groundwater sources to test for these contaminants at least once every three years.

*Cost estimate: \$160*

**Gross Alpha** measures radioactivity caused by alpha-emitting radionuclides such as radium and uranium. Radionuclides typically occur naturally and can cause cancer.

*Cost estimate: \$175*

**Fluoride** occurs naturally or is intentionally added for dental health. However, too much fluoride can cause bone disease and may also cause other health issues.

*Cost estimate: \$42*

**Volatile organic compounds** are a concern from various types of commercial and fuel-based waste. You might smell gas or see an oily sheen. It is strongly recommended to have this sample collected by an experienced sampler.

*Cost estimate: \$225*

**Radon** occurs naturally and is a gas that can be a concern with groundwater when it is aerosolized through steam (cooking, bathing, etc.). Radon gas seeping through your well's foundation can contribute to overall radon air levels. Radon is the second leading cause of lung cancer.

*Cost estimate: \$135*

**PFAS (perfluoroalkyl and polyfluoroalkyl substances)** are in consumer, commercial and industrial products. They do not readily break down and are therefore very persistent in the environment. Scientists are still studying the effects of PFAS but early research shows possible links to liver and immune system damage, as well as birth defects and delayed development.

*Cost estimate: \$995*

**Glyphosate** is the most widely used herbicide in the United States. Long-term exposure can cause kidney problems and reproductive difficulties.

*Cost estimate: \$250*

**Cadmium** contamination occurs from industrial processes, battery and paint waste or from galvanized pipes. Cadmium can build up in the kidneys, causing kidney disease and fragile bones.

*Cost estimate: \$25*

**Pesticides** are used to ensure food is not damaged or destroyed by pests. Each pesticide has different properties and toxicological effects.

*Cost estimate: \$500*

**Salt water intrusion** occurs from rising sea levels increasing the threat of saltwater intrusion into freshwater aquifers near coastal residences. This includes total dissolved solids, chlorides, conductivity and hardness.

*Cost estimate: \$100*

To see a list of well-testing companies certified in Maryland, scan the QR code or go to:

[https://mde.maryland.gov/programs/water/water\\_supply/Documents/MD\\_Cert\\_Drink\\_Water\\_Lab\\_List.pdf](https://mde.maryland.gov/programs/water/water_supply/Documents/MD_Cert_Drink_Water_Lab_List.pdf)

If the lab identifies areas of concern, contact the Calvert County Health Department at: **410-535-3922**.



# WELL MAINTENANCE Quick Tips!

## *Avoid sitting water!*

Ensure ground slopes away from the wellhead so water can't sit near your well seal and travel down the casing, thereby contaminating your water supply.

## *Keep chemicals away!*

Keep chemicals like paint, fertilizers, pesticides, and motor oil away from the wellhead.

## *Keep a tight well cap!*

You should not be able to wiggle your wellhead and should keep it free of insect nests or dead bugs. A new well cap costs approximately \$50 from local well drillers.

## *Ensure proper seal!*

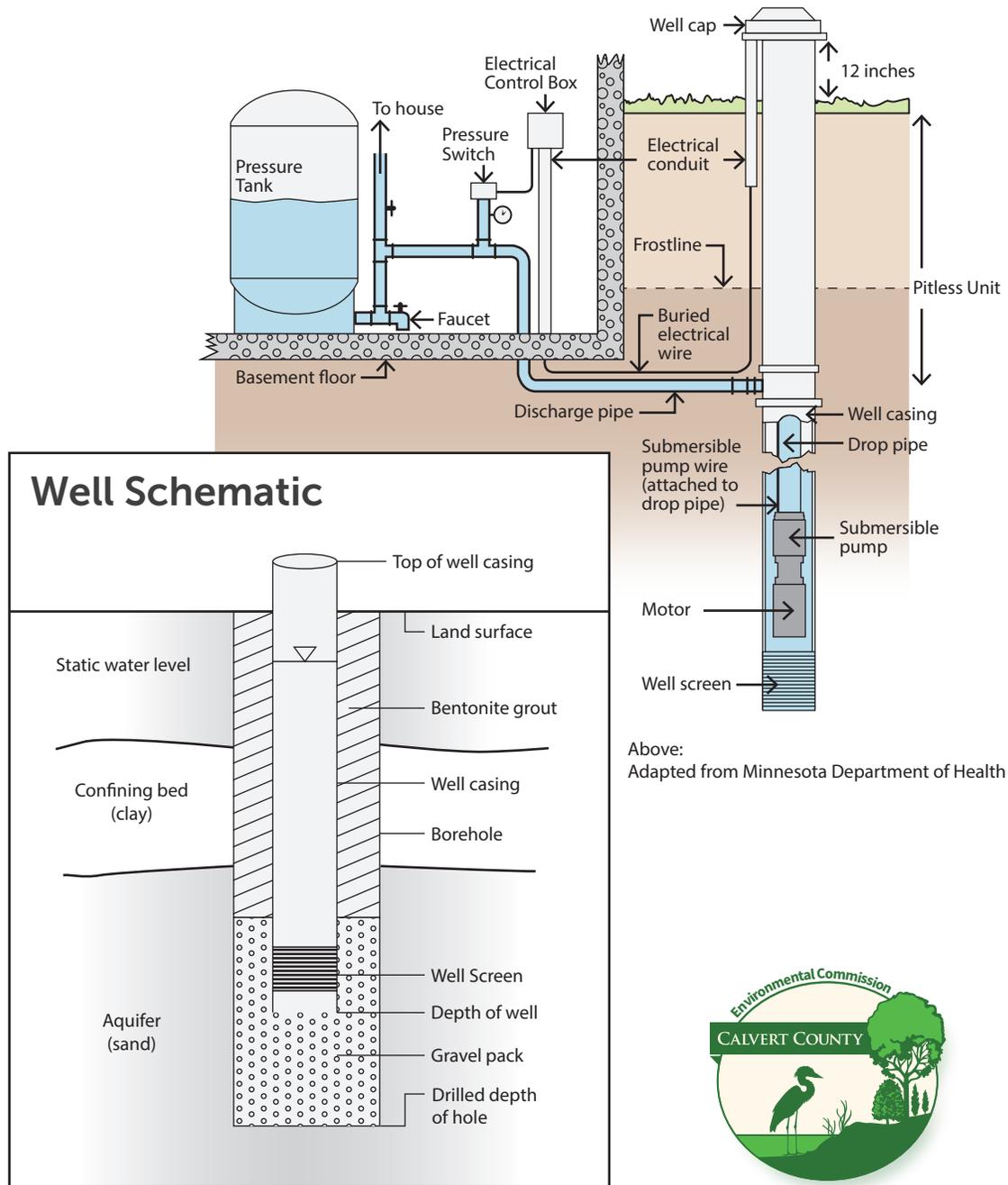
Abandoned wells must be properly sealed by either a well driller licensed by the MD State Board of Well Drillers or under supervision of a representative of the approving authority to prevent contamination of aquifers.

## *Avoid excess opening!*

Don't unnecessarily bleach or sanitize your well! This can damage your components and opening it up risks contamination.



# ANATOMY OF A WELL



Above:  
Adapted from Minnesota Department of Health

Adapted from Maryland Geological Survey



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 If the lab identifies areas of concern, contact the Calvert County Health Department. at: 410-535-3922.

