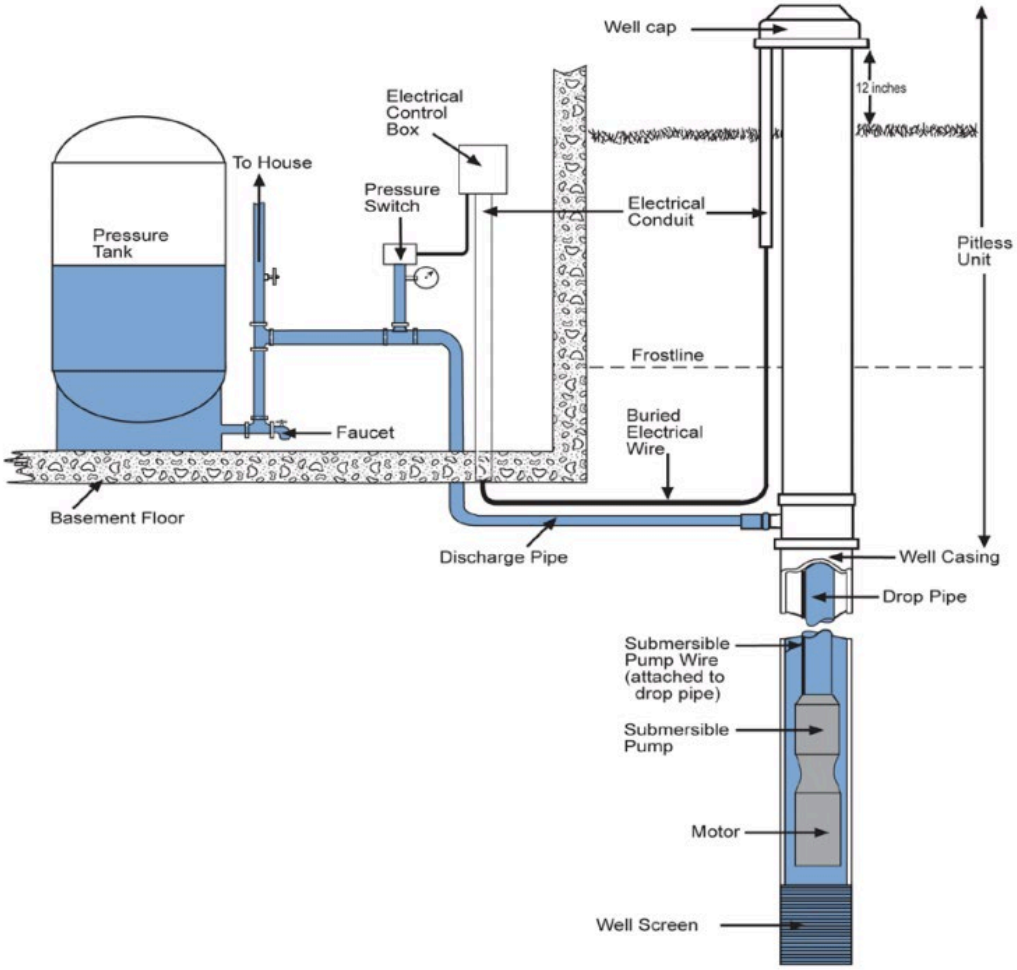
Water Well Homeowner Guide

Lonestar
INSPECTIONS

Your trusted inspection company for all your water well and septic testing and inspection needs.

403-350-8583 **www.lonestarinspections.ca**

Sample of a system



Water Testing:

When should you test your water?

Initially

- When you drill a new well
- If there is no record of testing
- You are buying a home with a well
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Annually

- At a minimum
- Spring is the best time to test

And…

- Before installing a filtration system
- If you experience sudden changes in taste, color or odor
- Someone in the home is pregnant or nursing
- Failure of a septic system
- After a flooding event
- Someone in your house has a sudden unexplained illness

What should you test for?

At a minimum, you should do a bacteria and chemical analysis of your water. The following contaminants pose a health risk:

- Bacteria
- Nitrates (faulty septic systems & fertilizers)
- Lead (from household plumbing)
- Arsenic (Occurs naturally & was once a common ingredient in pesticides)

This is **not** a complete list of recommend tests. Contact our office or your local health center for help with testing recommendations. Always consult your doctor for any health concerns.

Where can I have my water tested?

- Bring a sample into our office to be sent to a lab. There is a charge for this, however we have results in 3 business days. Contact our office for specific instructions for taking a water sample and to pick up sample bottles.
- Contact your local health center. They have specific bottles that need to be used and specific drop off times. Bacteria samples are usually back within a week, and they usually call you within

a couple days if there is an issue. A full analysis from the health center can take 6-8 weeks to get your results back. However, there is no charge to get your water tested through AB health. It is recommended to test your water for bacteria 1-2 times a year.

Click here for more information on testing through Alberta Health:

https://myhealth.alberta.ca/Alberta/Pages/Testing-Your-Drinking-Water-in-Alberta.aspx

What to do if your water is not safe to drink:

If you suspect your water is not safe, **do not** use it until you get it tested. Instead use bottled water.

Inspect & protect

Regularly inspect your wellhead for damage to the casing or well cap. Contact a licensed well contractor to repair any damage immediately to reduce the potential for contamination.

Keep heavy equipment and vehicles off your lawn and away from your well to avoid damage to buried water lines.

Consider adding a marker to help with locating the well head during the winter months.

To avoid well contamination, septic tanks should be pumped every 2-3 years based on use and tank size and age.

Technical concerns

No power to your pump?

Do not reset the breaker, fuse, or pump controls. Most circuit breakers/fuses trip for a reason. The cause should be diagnosed by a licensed professional to ensure your safety and to avoid damage to your well equipment.

No water or low pressure?

Possible causes include:

- Low water levels in well
- Leak in system piping
- Clogged filter or water line
- Faulty electrical controls
- Failed pressure tank
- Faulty or worn well pump

Contact our office with any concerns to have a licensed technician come and diagnose the concern and make the necessary repairs.

Staining or Smells

If you are noticing any smells or staining with your water. Contact us right away to get a water sample. Orange slime build up or rotten egg smell is very common in well water and can be treated with filtration systems but a good first step is a proper water well shock.

Maintenance & Records

Set a maintenance schedule to test your water and to inspect your well, water treatment and septic system. Keep records of maintenance, test results and repairs to help your contract with future repairs. Contact our office about becoming a Platinum Service Member to have an annual service inspection and have any repairs taken care of.

Shocking your Water Well

Alberta Health Department recommends you shock your water well once a year. Shock chlorination is relatively inexpensive and straightforward procedure used to control bacteria in water wells. Shocking your well can help reduce straining on your plumbing fixtures and laundry, flush water treatment equipment, get rid of the “rotten egg” smell. It is also the most effective way of getting rid of bacteria whether it is E.coli or Coliforms.

You are the only one monitoring your well, let us help you keep it clean and maintained to promote health and clean water. Contact our office or book online for your well shock.

Baseline water testing found that most wells in Alberta have been neglected. Of 4,200 wells tested, 90% were found to have iron bacteria and over 80% of them had sulfate-reducing bacteria.

Pouring bleach down your well is not effective. A proper well shock involves several hundred gallons of water, a proper chlorine mix, a complete system flush and a 24 hour wait.

Frequently asked questions

What is a good pumping rate of my well?

A well that produces as little as 0.5 GPM (Gallons per minute) can still meet the average household needs for most families if water from the well is pumped into a storage tank or cistern to be used for peak demand periods. A well that produce 5 gallons per minute or less for an hour, may require a cistern. Factors depend on how many people will be living in the house and how much water gets used. Wells that produce 5 + GPM usually do not require additional storage.

Can well production change over time?

Yes, absolutely it can and will. Water quality changes also, which is why it is recommended to test your water regularly. If you find you are having issues with the flow rate of your water well, contact our office to have a licensed technician come out and diagnose the issue and come up with a solution.

What about dug out wells?

Some areas have dug out wells instead of drilled wells. If you have a dug out, it is often recommended to not use the water for drinking and cooking unless the water is being treated. A UV light is highly recommended for all water wells but especially dugouts.

Does my well casing need to be above grade?

Yes, it does. The requirement is 8 in above ground surface, but best practice is 12-18 inches. As well, the top of casing must be 24 inches above the highest flood record in the area if the well is not equipped with a flood-proof cap.

Are well pits legal?

No, they are not legal. They were banned in Alberta in 1993. Provincial regulations now prohibit the construction of well pits as they increase the risk of contamination to groundwater and can be a deadly safety hazard. Although it takes time and money to properly upgrade an existing well and remove the well pit, doing so will eliminate these concerns. Even though these are no longer permitted in Alberta, many old wells still exist in well pits.

Well pits can be eliminated by relocating the pressure system, extending the existing well casing above ground level, and installing a pitless adapter until on the well casing and backfilling the pit.

Only an experienced, qualified person should upgrade your well and remove the pit. It is always best to hire a licensed water well contractor as they have the expertise and equipment to do a safe and proper job.

If it is not possible to eliminate an existing pit, the well should be equipped with a watertight sanitary well seal installed on the top of the casing. A sump pump should also be installed in the pit to ensure that any water entering the pit is promptly removed.

Are there any set back requirements for a water well?

Yes, there is.

- A water well must be 7 ft – 20 ft from overhead powerlines (depending on casing material)
- 11 ft from a building
- 33 ft from a septic tank
- 20 ft from the outer boundary of a road or public highway
- 100 ft from pesticide or fertilizer storage
- 100 ft from manure or composting material application
- 165 from septic open discharge point
- 330 ft from a sewage lagoon
- 50 ft from a septic field or mound
- 100 ft from a leaching cesspool
- 165 ft from above-ground fuel storage tanks
- 330 ft from a manure storage facility or manure collection area or livestock yard
- 330 ft from a dead animal burial or composting site
- 1477 ft from area where waste is or may be disposed of a landfill

How will I know if my pressure tank needs to be replaced?

A couple tell tale signs are

- Your taps fluctuate
- You hear your pressure switch turning off and on rapidly
- Your tank is very rusty – a rusty pressure tank is a dangerous tank

Most pressure tanks now are pre-charged and contain a sealed diaphragm so there is no water to air contact. In these tanks the diaphragm ruptures and can’t be recharged and they need to be replaced.

What should I do with an old or abandoned well on my property?

These can be a contamination risk and a safety hazard. They often have corroded or collapsed casing, missing well caps or are located in a close proximity to contamination sources. If they are not plugged properly these wells can allow contamination to reach groundwater. Nearby wells in the same aquifer can become contaminated. It is highly recommended to abandon these wells properly. If this is something you are interested in, contact our office for more information.

Hydrants in my well? Good or Bad?

Frost-free hydrants are designed to provide water all year long. When in use, the stop-and-drain valve is open and water flows from the well supply line and out the head of the hydrant, often with a garden hose attached. When the valve is closed, the flow of water stops and a drain hole in the valve opens (located at a depth below frost). All water contained within the hydrant (and garden hose if attached) drains out that hole into a gravel bed, preventing freezing of the hydrant.

If used correctly, a hydrant is a useful appliance. If installed and used incorrectly, it can cause serious contamination of your well and water supply. When a hydrant is installed on top of a well, the draining of the water from within the hydrant can cause serious biofouling and corrosion issues. The cascading water draining back into the well aerates the water, creating ideal conditions for the growth of slime-forming bacteria that causes biofouling. In addition, using a garden hose on a hydrant can create a cross-connection. If the hydrant is used to fill a livestock water trough, or chemical sprayer or other non-potable container, there is a significant risk of backflow. When the hydrant is shut off, any water connected to the hydrant via the garden hose will drain back through the system and directly into the well.

Is my well going to freeze in the winter?

If your system is running through a pitless adapter with your pressure system inside your house, your lines shouldn't freeze. It is not recommended to drive over your water lines, so frost doesn't get driven into the ground deeper. If your pressure system is in a well pit or a pump house, make sure it's heated and well insulated with no drafts. Make sure to check all heat tapes are heating as they should and replace as necessary.

If you live in a mobile home, make sure the underneath of your home is well insulated and draft free. Pile up snow around the skirting to help with insulation/lessen the opportunity for wind to get in.

Keep your house heated at normal levels to avoid cold spots. If you are running a wood stove in the winter make sure all your water lines and pressure system stay warm. If you are going away for extended periods of time, turn your water off to ensure you don't have a line burst well you are gone. Alternatively have someone come by your house every day or two and run water and make sure everything is working. This also helps your septic system in the winter to function properly also.