

A s k t h e

INSPECTOR...

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I'm planning on purchasing a rural property that relies on a groundwater well for water supply. Are there any questions that I should be considering as part of my evaluation of the property?

There are two considerations: water quality and water quantity.

Water Quality Considerations

The requirement for testing well water quality during a property transaction varies widely across Canada. It is therefore important to check what your provincial and local requirements are for well testing. Most property sales that involve water wells include testing for bacteria (i.e. coliform and E. coli) as a minimum. If bacteria are found in test results, a qualified specialist should complete a further review of the well conditions; however, there are several well head conditions that can be visually inspected. These include:

- **The well's proximity to a septic field.** Septic fields (if present) are areas of high bacteria concentrations. A minimum separation distance of typically 15 m for cased wells and 30 m for uncased wells (this distance

varies from province to province) should be provided between the well and the tile bed to prevent contamination of the well from the bacteria in the vicinity of the tile bed.

- **The conditions around the well head.** A low-lying well head that is not protected (i.e. with a casing that extends above the ground surface) is vulnerable to contamination from surface water that may enter the well.
- **Livestock waste in the vicinity of the well.** If livestock or agricultural fields that are treated with manure are close to the well, there is potential for contamination of the well.

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Bacteria parameters are key in assessing if well water has been compromised at a rural property. However, bacteria is only one of many parameters that can potentially impact well water quality. Three other potential sources of water contamination might be extensive use of pesticides/herbicides; leaks from former underground fuel storage tanks in the vicinity of the well; or the presence of lead supply piping. If these conditions are a potential concern, water samples can be tested for parameters such as pesticides/herbicides, petroleum hydrocarbons or

lead. The results of such testing will either provide a little more peace of mind or indicate there may be a larger issue at hand.

If issues with compromised water quality are identified, there are a wide variety of water treatment/filtration systems such as water softeners, carbon filters, reverse osmosis/ultraviolet light systems, and chlorination that are available. If you require further information on water quality issues or treatment options, we recommend consulting a qualified water quality/treatment specialist.

Water Quantity Considerations

The two main water quantity considerations with wells are water availability and the conditions of the supply system.

Water Availability Considerations

The quantity of water available in a well is typically measured using a well flow/recovery test, performed by well contractors. The first component of the test involves flowing a plumbing fixture at a constant flow rate (usually a minimum of 3 gallons per minute) for a set period of time (usually a minimum of 1 hour). If the flow is maintained at the specified rate over the duration of the test, without decreasing, then this provides an indication of the available water in the well. The second (recovery) component of the test is rarely completed in some areas, although it does provide useful information regarding water availability in the well. This component measures the level of water in the well during the flow test. If water levels remain constant during testing, this indicates water in the area around the well is plentiful. If water levels lower significantly or the well "goes dry," this indicates there is a problem with water availability in the vicinity of the well.

Water levels fluctuate both seasonally and annually; this may also influence water availability.

Supply System Considerations

The condition of the pump, pressure tank, and supply piping can influence the flow and pressure of water in a home. For example, an older, corroded pump or heavily rusted pressure tank may soon need replacement. Some older houses have galvanized steel plumbing. Galvanized plumbing rusts from the inside out, which decreases the pipe diameter over time, resulting in low water pressure. This will eventually require replacement of the pipe.

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please contact:**

