

How to Understand Your Radon Test Results and What to Do Next

When you buy or sell a home in St. Louis, radon testing is rarely optional. Local soil and geology make elevated radon gas a real possibility, and most real estate transactions require clear answers. But once the monitor finishes its cycle, you are handed a number. Maybe 2.8 pCi/L, maybe 7.1 pCi/L. What does that figure actually mean, and how should you act on it?

I have spent years working with home buyers, sellers, and real estate agents in this region, and I can tell you that confusion over radon test results is the rule, not the exception. People assume the number alone decides everything, but context matters just as much. This article walks through the key parts of interpreting radon test results, the factors that can change a reading, and what your next steps should be if the number comes in high.

The Basics of a Radon Reading

Radon is measured in picocuries per liter of air, or pCi/L. The EPA recommends taking action when the radon level reaches 4.0 pCi/L or higher. That is the threshold used in most St. Louis real estate transactions, and it is the number every home inspector and radon professional refers to first. But a reading of 3.9 pCi/L is not drastically safer than 4.1 pCi/L. The health risk from radon gas is cumulative and linear, meaning there is no safe level, only lower risk.

When you receive your [radon test results](#), look at the average reading over the monitoring period. Short-term radon tests, typically lasting two to seven days, give a snapshot. Long-term radon tests, which run for three months to a year, provide a more accurate picture of your home's average exposure. For a real estate transaction, a short-term radon test is standard because time is limited. But if you are a homeowner wondering about your family's long-term health risk, a long-term radon test is the better choice.

What Affects Your Radon Test Results

Many people assume radon levels are stable, but they fluctuate with weather, seasons, and how you use your home. A basement reading taken during a rainstorm can be twice as high as one taken on a dry day. Closed-house conditions, where windows and doors stay shut for at least twelve hours before and during the test, are required for accurate results. If someone opened a window for ten minutes, the radon test results could be artificially low, which helps nobody.

Continuous radon monitors, like the ones used by Air Sense Environmental, track changes hour by hour. They catch spikes and dips that a single charcoal canister would miss. If you see a

reading that seems high, check whether the monitor recorded a prolonged elevation or a short burst. A two-hour spike from an open sump pump or a basement remodel can raise the average, but it may not reflect the normal radon level in your living space.

Other factors include the soil type under your foundation, the presence of cracks or sump pits, and the direction of wind around the house. St. Louis sits on karst limestone in many areas, which can channel radon gas easily into basements. That is why radon testing is so common here, and why sellers often include radon test results in their seller disclosure documents.

When the Results Are Below 4.0 pCi/L

If your radon test results come back under 4.0 pCi/L, most buyers and lenders consider that acceptable. But I always recommend that homeowners still think about radon-resistant construction if they are building a new home or doing major renovations. A sub-slab depressurization system, for example, is cheap to install during construction and nearly impossible to add later without tearing up concrete. Even at 2.5 pCi/L, the EPA estimates that long-term exposure raises lung cancer risk compared to outdoor air. Lower is always better.

For sellers, a clean reading can be a strong selling point. Including the radon test results in the seller disclosure shows transparency and can prevent negotiations from stalling later. Buyers appreciate knowing the home has been tested and the radon level is low.

When the Results Are Above 4.0 pCi/L

A reading above 4.0 pCi/L triggers a decision point, not a crisis. The EPA recommends radon mitigation, but it does not require it by law. In a real estate transaction, the buyer typically asks the seller to install a mitigation system or to credit the cost. That is where radon mitigation contractors come in, and where understanding your radon test results helps you make informed choices.

Radon mitigation usually involves sub-slab depressurization, which uses a radon fan to pull radon gas from beneath the foundation and vent it outside. The system runs continuously and can reduce radon levels by 80 to 99 percent. Installation costs in St. Louis usually range from 800 to 1500 dollars, depending on the house. After mitigation, a follow-up test confirms the new radon level is below the action threshold.

Some homeowners try sealing cracks and painting the basement floor themselves. That can help, but it rarely solves the problem entirely. Radon gas migrates through porous concrete and tiny gaps that are impossible to seal completely. A real mitigation system addresses the pressure difference that draws radon into the house in the first place.

How to Read a Radon Test Report

A standard report from a company like Air Sense Environmental includes several pieces of information:

- The average radon level in pCi/L over the test period.
- The start and end dates and times of the test.
- A note about closed-house conditions compliance.
- The type of monitor used, often a continuous radon monitor.
- A comparison to the EPA action level.

Make sure the report states whether the test was performed under closed-house conditions. If it was not, the results may not be valid for a real estate transaction. Also check the monitor's calibration date. An expired calibration can produce inaccurate readings.

The Role of Radon Testing in Real Estate Transactions

In St. Louis, radon testing is a standard contingency in many purchase agreements. Buyers have the right to test the home within a certain period, usually five to ten days. If the radon test results come back above 4.0 pCi/L, the buyer can ask for radon remediation or walk away from the deal. Sellers who already have a recent test report can speed things up by sharing it upfront.

One common mistake is testing during bad weather or while the house is under construction. Renovations that disturb the soil or create negative pressure can cause a high reading that does not reflect normal occupancy. If you are selling, try to schedule the test when the home is clean, closed, and unoccupied. If you are buying, make sure the test is done by a qualified professional using a continuous radon monitor, not just a radon testing kit left on a shelf for three days.

Radon and Health: Why the Number Matters

Radon gas is the second leading cause of lung cancer in the United States, after smoking. The EPA estimates it causes about 21,000 lung cancer deaths each year. That is the reason radon testing exists, and why real estate agents and home inspectors take it seriously. A high radon level in your home is a solvable problem, but only if you know about it.

I have worked with families who lived in a house for years before testing, only to find their radon level was above 10 pCi/L. They were shocked, but after mitigation, their radon level dropped to below 2 pCi/L. That is a huge reduction in health risk. The key is to test, understand your radon test results, and act on them if needed.

Final Thoughts

Radon test results are not just a pass-fail grade. They are a tool for making decisions about your home and your family's health. Whether you are buying, selling, or just curious, take the time to understand what the number means and what your options are. A reading above 4.0 pCi/L is a call to action, not a reason to panic. With modern radon mitigation and radon-resistant construction techniques, almost any home can be made safe. The hardest part is picking up the phone and scheduling the test.