

A Mitigator Describes A “House from Radon Heck”

This year's AARST Symposium introduced what turned out to be an exceedingly popular and well-received segment: ^aHouses from Radon Heck.^o Mitigators and other radon professionals empathized and identified with the experiences presented by a panel of respected radon mitigators that included Jay Brown, Gary Hodgden, Deane Mickle and Jack Hughes. The following is an excerpt from Jay Brown's ^aHouses from Radon Heck.^o

On a dark winter evening early in my career, I was called to submit a radon mitigation proposal for this home. The radon level was reported to be 7.6 pCi/L.

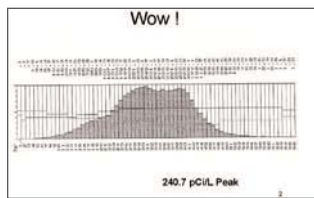


The bay window was cantilevered over dirt. The basement directly communicated with the void under the front porch. Under just the right meteorological conditions the house inhaled a huge whiff of radon-laden air from under the porch, then started inhaling fresh air.



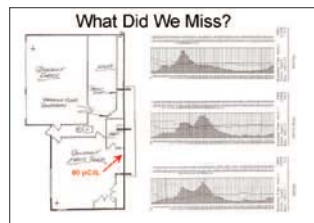
System installation and post-mitigation test results

The diagnosis demonstrated excellent sub slab communication. However, it had a pretty strong stack effect for such a low radon level. We got the job and installed a standard sub slab mitigation system. We retested and the results were comfortably below our guarantee of less than 2.0 pCi/L.



The retest results

The relocation company retested and reported the radon level over 4.0 pCi/L. We were astonished and we did our own retest.



The radon level soared from 0.1 pCi/L up to 240.7 pCi/L then decayed logarithmically to 0.8 pCi/L

What could we have missed?

We verified our sub slab communication. It was excellent all the way to the far corner of the finished area. By this time the house was vacant. We ran 4 simultaneous CRMs; one in the basement garage, one in the utility room, one in the recreation room of the basement and one centrally located dining room up stairs. We found no clue to the source of the problem but verified that something screwy was going on.

We investigated this house from the basement to the attic. We started sniffing all over. We found 80 pCi/L at a basement receptacle.

The basement was mostly finished with the floor carpeted and the ceiling was dry walled except for the bathroom. We lifted the bathroom ceiling and pulled the insulation away from the band joists.

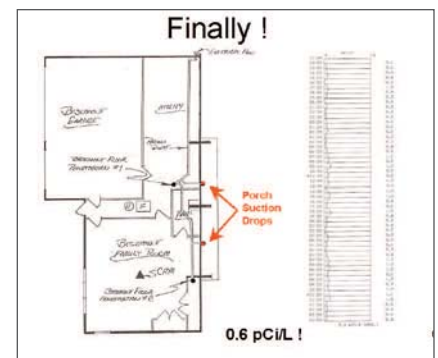
Voila! There was no band joist.

The solution

We closed the band joist area and installed two suction drops through the foundation wall to address the void under the porch.

We retested and radon level was steady at 0.6 pCi/L.

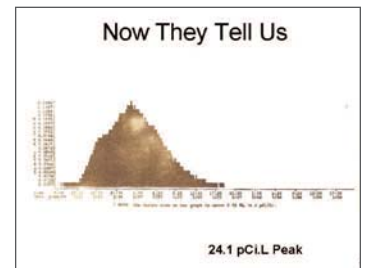
After we sent the final report to the Realtor he said the relocation company did a lot of testing. I asked if he had copies of the tests.



Conclusion

Over the years we've encountered similar situations. Usually we anticipate the potential for a problem but occasionally we get surprised...usually when we become complacent regarding the premitigation building investigation.

Remember the words of that renowned radon mitigation trainer: "The answer to most radon-related questions is 'sometimes... and maybe'."



Jay Brown founded Aegis Radon Services in 1988; until the company was sold in 2003, he performed radon measurements and mitigations in Eastern Missouri and Southern Illinois. Following the sale of Aegis, he became Director of Radon Services for LandAmerica Property Inspection Services, where he designs and delivers radon training courses and manages the radon testing operations in 11 states.