



# Dave's Corner

## Diagnostic Techniques for Tight Soils

For the same reason that it is difficult for a radon system to move air in tight soils it is often difficult for radon to transport through those soils. This can mean that the radon source is specifically localized to one part or corner of the slab. This fact can be useful for system design or deciding where to locate an additional suction point when diagnosing a system problem.

If you own or have access to a grab sampler, you can map the floor by drilling holes through the slab and testing the soil gas. Generally in tight soil you can find a gradient in the soil gas concentrations that will lead you to the source. Locating your suction point in the area of the highest soil gas concentration will usually solve the problem. This technique will not generally work with gravel or good permeable material under the slab because the soil gas readings tend to be the same everywhere and can even be lower near the radon entry point because of air infiltration.

If you do not own or have access to a grab sampler for floor mapping, you can use standard radon test kits to map a gradient if there are separate room areas. Close off the different room areas and set test kits in each room. You can expose the kits for just 24 hours when only using the results for diagnostics. Do note this fact for the lab. Concentrate your efforts on the area with the highest radon levels; establishing a good pressure field under the slab. It may not be necessary to establish a pressure field under the entire slab if the source is located in only one area. Higher pressure fans such as the GP501 are always the better choice in tight soil situations.

