



RADON WITH THE AIR PROGRAM

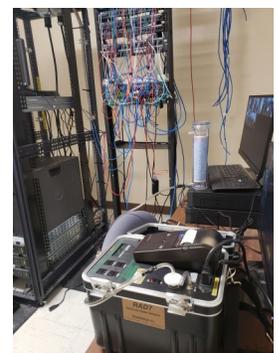
During February 2019, the Air Program teamed up with Tribal IT Department and Head Start to conduct radon sampling at Tribal Headquarters and at Head Start. Radon comes from radioactive decay (breakdown) of uranium in soil, rocks, and water. Radon can enter a building via sumps and drains, utility cutouts, cracks in a slab, and any other holes between the soil and the floor, IF there is also a source of radon below a building, AND a pressure differential. It became a health concern when it was determined that radon particles could attach to dust and be inhaled, and act as a carcinogen, though the primary risk of radon inhalation is actually from water containing radon in contact with the air. **Affects on indoor air are only a concern if the building is occupied and infrequently vented. Radon sampling is sensitive to outside air flow. Of course, this means that allowing outside air into a building can prevent accumulation of radon!**

Radon particles that may have accumulated indoors can be detected using a number of methods, including continuous monitoring (solid state alpha detection), which the Air Program utilizes to sample for radon. Sampling is conducted in accordance with the EPA 2-day test protocol for the Rad7 sampler. Results are compared to the EPA *action level* of an *average* of 4.0 picocuries/Liter of air for the sampling run. Sampling is generally performed in winter when ventilation rates in buildings tend to be lowest. However, there is no required schedule or frequency for sampling. As inclement weather can interfere with sampling, we aimed to conduct sampling around the numerous atmospheric river and other storm systems which characterized our 2018-2019 winter.

Radon mitigation systems, which are generally air pumping and sealing systems, are commercially available in cases where it's deemed necessary and worthwhile to reduce levels. Below the action level, mitigation systems are not always determined to be effective. Single-use radon test kits for private use can also be purchased from hardware stores, online stores, or may be available for free during promotional public health campaigns.

Sampling Results

Results for 2019 radon testing at Tribal Headquarters and Head Start, and also for prior testing in 2009, are all below the EPA action level of 4 pCi/L. Averages were: 1.42 pCi/L for EMO-A Air Lab Room, 0.71 pCi/L for Admin Server Room, and 0.42 pCi/L for Head Start Office Room. No maximum values were over 3 pCi/L.



Pictures from left: Desiccant is added to reduce humidity in incoming sample air; a purge cycle is performed between sampling runs; outdoor purging; sampler set up to run at Tribal Headquarters.