

# INDUSTRIAL HYGIENE REPORT

## RADON TESTING REPORT

### Cummings School

Report to: Vonnie B. Good, EHS Salem Keizer School District

By: Kathy Ellis, Senior Industrial Hygiene Consultant

Reviewed By: DeEtta Burrows, MSPH, CIH – Wise Steps, Inc.

On-site: November 26–29, 2018

Report: December 9, 2018

---

#### PURPOSE

After initial testing showed radon levels above EPA's Action Level of 4.0 picoCuries/L (pCi/L) in a number of rooms at Cummings a radon mitigation system was installed in December of 2016. To ensure that the systems are functioning properly and levels are well below EPA's Action Level, annual radon testing is performed.

#### CONCLUSION

Most classrooms and the gym and custodian's office continue to have low levels of radon. However, classrooms 14, 15, and 16 have radon levels above the School District's trigger to retest.

Recommend retest in these classrooms after increasing the amount of outside air provided to the rooms via the ventilation system.

#### TESTING

Radon testing was conducted using protocols recommended by the Oregon Health Authority per ORS 332.166-.167. Radon Air-Chek short-term test devices were used in the rooms by suspending the device in each room. The testing occurred from November 26-29, 2018 during normal and routine school ventilation system operation, as well as with the radon mitigation system in operation. Weather conditions during the week prior of testing had been rainy with low temperatures.

Quality assurance testing was also conducted by utilizing blank and duplicate samples per the recommendations found in ORS 332.166-.167.

#### EPA RADON GUIDELINES

The EPA has set an Action Level of 4.0 pCi/L (picoCuries per liter) for schools. If classrooms or buildings have radon levels at or above 4.0 pCi/L, EPA recommends that schools take action to reduce the level. These actions include:

Step 1. If your result is 4.0 pCi/L or higher take a follow-up test (Step 2) to be sure.

Step 2. Follow up with either a long-term test or a second short-term test.

The World Health Organization has set their action level at 2.7 pCi/L. Salem Keizer School District has determined that 2.7 pCi/L is a target level where retesting should be done.

## CONTROL OF RADON LEVELS IN SCHOOLS

The major control mechanism for lowering radon levels within school buildings is the use of dilution ventilation. If the amount of outside air delivered into a building increases, the radon levels should decrease. In the case of Cummings, increasing the outside air was not sufficient, and a subslab depressurization system was installed.

### Sample Data Attached

**SK**  
**CUMMINGS**

---

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9132341	13	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	2.3 ± 0.4	2018-12-03
9132342	14	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	2.7 ± 0.4	2018-12-03
9132343	14	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	2.2 ± 0.4	2018-12-03
9132344	15	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	3.8 ± 0.4	2018-12-03
9132340	16	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	3.1 ± 0.4	2018-12-03
9132349	CHECK IN	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	< 0.3	2018-12-03
9132347	CUSTODIAN	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	< 0.3	2018-12-03
9132345	PE OFFICE	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	0.7 ± 0.3	2018-12-03
9132346	PE OFFICE	2018-11-26 @ 11:00 am	2018-11-29 @ 10:00 am	< 0.3	2018-12-03

---