

INDUSTRIAL HYGIENE REPORT

RADON TESTING REPORT

Candalaria School

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

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On-site: December 4–7, 2017

Report: December 20, 2017

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 Candalaria, two radon mitigation systems were installed in August of 2010. To ensure that the systems are functioning properly and levels are well below EPA's Action Level, annual radon testing is performed.

CONCLUSION AND RECOMMENDATION

All classrooms had very low to non-detectable levels of radon. Three test locations were at or above the EPA's action level of 4.0 (pCi/l). These locations are: "Dungeon" or storage room @15.1 pCi/L, the Custodian's Office @4.0pCi/L, and the Coach's Office on the main floor of the school, in which we did duplicate samples, with results of 3.5 and 4.0pCi/L.

If possible, it is recommended that the amount of outdoor air be increased to the Coach's Office and Custodian's Office, then retest these rooms for radon levels. If increasing the outdoor air is not possible, the window in the Coach's Office should be opened when occupied (when feasible) and the time the Custodian spends in the office should be limited.

Once again, the "Dungeon" has high levels of radon and should not be occupied.

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 December 4-7, 2017, during normal and routine school ventilation system operation, as well as with the radon mitigation systems in operation. Weather conditions a week prior to the testing had been rainy and then cold.

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 steps to lower the radon levels should be taken.

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. Two subslab depressurization systems were installed in this school in August of 2010.

Sample Data

December 8, 2017

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

**SK
CANDALARIA**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7854789	1	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	0.6 ± 0.2	2017-12-08
7854790	2	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	0.6 ± 0.2	2017-12-08
7854791	3	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	< 0.3	2017-12-08
7854792	4	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	< 0.3	2017-12-08
7854793	5	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	1.1 ± 0.2	2017-12-08
7854794	5	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	1.0 ± 0.2	2017-12-08
7854795	6	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	1.1 ± 0.3	2017-12-08
7854796	6A	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	1.7 ± 0.3	2017-12-08
7854800	CHECK IN	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	< 0.3	2017-12-08
7854786	COACH	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	3.5 ± 0.4	2017-12-08
7854799	COACH	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	4.0 ± 0.5	2017-12-08
7854785	COUNSELOR	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	2.4 ± 0.3	2017-12-08
7854787	CUSTODIAN	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	4.0 ± 0.5	2017-12-08
7854788	DUNGEON	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	15.1 ± 1.2	2017-12-08
7854798	PE	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	< 0.3	2017-12-08
7854784	PRINCIPAL	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	2.0 ± 0.3	2017-12-08
7854797	STAFF RM	2017-12-04 @ 10:00 am	2017-12-07 @ 9:00 am	1.5 ± 0.3	2017-12-08

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