

INDUSTRIAL HYGIENE REPORT

RADON TESTING REPORT

Sprague High School

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

By: Kathy Ellis, Senior Industrial Hygiene Consultant

Reviewed By: DeEtta Burrows, MSPH, CIH

On-site: December 4-7, 2017

Report: December 19, 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 Sprague High School, three radon mitigation systems were installed in August of 2012. To ensure that the systems are functioning properly and levels are well below EPA's Action Level, annual radon testing is performed.

CONCLUSION

All locations tested had levels of radon below the EPA's action level of 4.0 picoCuries per liter (pCi/l). However, classroom 1 had a radon level of 3.1 pCi/L, which is just above the Salem Keizer School District recommended level for retesting.

It is recommended to increase the amount of outdoor air to classroom 1 then retest the room for radon levels.

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 system in operation. Weather conditions a week prior to the 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. Increasing ventilation in the building did not sufficiently lower the radon levels. Therefore, three sub-slab depressurization radon mitigation systems were installed in the building in 2012.

Sample Data Attached

December 13, 2017

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
SCHOOL
SPRAGUE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7979810	1	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	3.1 ± 0.3	2017-12-08
7979816	10	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	2.4 ± 0.2	2017-12-08
7979817	11	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	2.3 ± 0.2	2017-12-08
7979821	114	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.3 ± 0.2	2017-12-08
7979801	114	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.5 ± 0.2	2017-12-08
7979802	116	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.3 ± 0.2	2017-12-08
7979805	117	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.3 ± 0.2	2017-12-08
7979803	118	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.4 ± 0.2	2017-12-08
7979804	119	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.1 ± 0.2	2017-12-08
7979818	12	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	2.2 ± 0.2	2017-12-08
7979806	121	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.1 ± 0.2	2017-12-08
7979807	122	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.2 ± 0.2	2017-12-08
7979808	123	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.7 ± 0.2	2017-12-08
7979809	124	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.4 ± 0.2	2017-12-08
7979819	14	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	1.9 ± 0.2	2017-12-08
7979820	15A	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	2.6 ± 0.2	2017-12-08
7979811	2	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	2.2 ± 0.2	2017-12-08
7979812	4	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	???? UI	2017-12-08
7979813	4	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	2.1 ± 0.2	2017-12-08
7979814	6	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	2.4 ± 0.2	2017-12-08
7979815	8	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	2.6 ± 0.2	2017-12-08
7979822	CHECK IN	2017-12-04 @ 9:00 am	2017-12-07 @ 8:00 am	< 0.3	2017-12-08