

INDUSTRIAL HYGIENE REPORT

RADON TESTING REPORT

Sprague High School

Report to: Vonnie B. Good, EHS Salem–Keizer Public Schools

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On-site: March 13–16, 2023

Report: March 20, 2023

PURPOSE

Radon retesting was done at Sprague High School, to determine if there have been any changes in the background radon levels in the classrooms, offices and other rooms that are in contact with the ground since the 2013 tests.

Sprague High School has undergone a major construction project that included additional classrooms, offices and workspaces. These new areas needed to be tested for radon levels.

There are also three radon mitigation systems were installed in the school, and to ensure that the systems are functioning properly and levels are well below EPA's Action Level, it is important to continue to test the radon levels.

This testing is a requirement in ORS 332 Healthy and Safe Schools Plan rules.

CONCLUSION and RECOMMENDATIONS

All tested rooms had levels of radon below the EPA Action level of 4.0 pCi/L. However two rooms had radon levels above the World Health Organization of 2.7 pCi/L, classroom 1, North side had a radon level of 3.0 pCi/L and classroom 6, Southeast side the radon level was 3.6 pCi/L.

It is recommended to increase the amount of outdoor air supplied to these two rooms via the ventilation system. Retesting of the rooms should also be completed.

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 March 13-

16, 2023 during normal and routine school ventilation system operation. Weather conditions during the weeks prior of testing had been wet with cold temperatures.

Quality assurance testing was also conducted by utilizing laboratory spiked test devices, (QCS), blank (QCB) test devices, 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, offices 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 Public Schools 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.

Radon test result report for:
SPRAGUE HS
MAIN

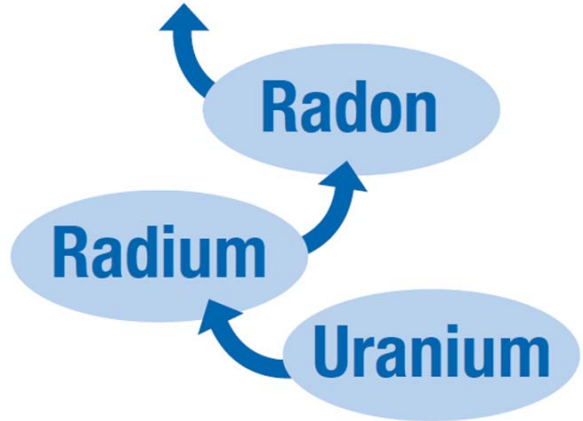
Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11118999	GYM SE	2023-03-13 @ 10:00 am	2023-03-16 @ 9:00 am	0.6 ± 0.3	2023-03-17
11118937	LIBRARY STORAGE RM	2023-03-13 @ 9:00 am	2023-03-16 @ 9:00 am	0.7 ± 0.3	2023-03-17
11118575	MAIN OFFICE 190	2023-03-13 @ 8:00 am	2023-03-16 @ 8:00 am	0.5 ± 0.3	2023-03-17
11314923	QCB 1	2023-03-13 @ 10:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17
11314924	QCB 2	2023-03-13 @ 10:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17
11314925	QCB 3	2023-03-13 @ 10:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17
11314926	QCB 4	2023-03-13 @ 10:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17
11314927	QCB 5	2023-03-13 @ 11:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17
11314928	QCB 6	2023-03-13 @ 11:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17
11314929	QCB 7	2023-03-13 @ 11:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17
11314930	QCB 8	2023-03-13 @ 11:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17
11118560	QCS1	2023-03-12 @ 9:00 am	2023-03-15 @ 9:00 am	24.1 ± 1.9	2023-03-17
11118561	QCS2	2023-03-12 @ 9:00 am	2023-03-15 @ 9:00 am	23.3 ± 1.9	2023-03-17
11118562	QCS3	2023-03-12 @ 9:00 am	2023-03-15 @ 9:00 am	22.7 ± 1.8	2023-03-17
11118563	QCS4	2023-03-12 @ 9:00 am	2023-03-15 @ 9:00 am	25.4 ± 2.0	2023-03-17
11118564	QCS5	2023-03-12 @ 9:00 am	2023-03-15 @ 9:00 am	19.8 ± 1.6	2023-03-17
11314908	WEIGHT RM	2023-03-13 @ 10:00 am	2023-03-16 @ 9:00 am	< 0.3	2023-03-17

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

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} v } o referenced in the second paragraph on Page 2 of
this report. THEY DO NOT REPRESENT RADON LEVELS IN THE BUILDING!**

Radon in schools

Fact Sheet on Radon Exposure for Students and Staff



What is radon?

Radon is a radioactive gas you can't see, smell or taste. It is a decay product of uranium and is found all over the world. Uranium and its decay products are naturally found in the soil and rocks beneath buildings. Our school image (right) shows how uranium naturally decays into radium that further breaks down into radon gas. Radon moves up through the soil and enters buildings in contact.

Why is radon a problem in Oregon schools?

Radon is the 2nd leading cause of lung cancer, after smoking. The Environmental Protection Agency (EPA) estimates around 21,000 radon-related lung cancer deaths occur each year. Breathing high levels of radon in combination with smoking is even more dangerous and increases your risk by ten times.

Home is likely the most significant source for breathing radon. According to the EPA, 1 out of 15 homes has high radon levels. School is likely the second largest source of radon exposure for students and staff. The only way to know your radon levels is to test. The EPA recommends that **all** homes and schools be tested for radon.

EPA
ACTION
LEVEL

4.0

Picocuries
Liter of air

Testing at Home

Radon testing at home can be simple and inexpensive. You can find do-it-yourself test kits at most local hardware stores and online from the [American Lung Association](http://www.AmericanLungAssociation.org). Oregon Health Authority (OHA) Radon Program also offers FREE test kits to those living in areas where little data is available. To find out if you are eligible, contact radon.program@state.or.us.

Testing in Oregon Schools

By law (ORS 332.341-345), all Oregon schools are required to test for radon before January 1, 2021.

School radon testing involves the placement of small testing devices in all frequently occupied rooms on the lowest level of the building. Initial testing is short-term and lasts between 2 and 7 days. Test devices are not dangerous in any way.

Rooms that test at or above 4.0 picocuries per liter of air (pCi/L) (EPA recommended action level) are subject to longer confirmation testing and radon reduction systems.

*Test results for your school can be found at:

For more information about radon, visit www.healthoregon.org/radon.

If you have other questions or concerns about radon testing at your school, contact _____ at _____.



Oregon
Health
Authority