

INDUSTRIAL HYGIENE REPORT

RADON TESTING REPORT

Mary Eyre Elementary School

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

By: Kathy Ellis, Senior Industrial Hygiene Consultant

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

On-site: March 8 – 11, 2022

Report: March 22, 2022

PURPOSE

Radon retesting was done at Mary Eyre Elementary 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 2012 tests. Mary Eyre Elementary School has also undergone a major construction project that included additional classrooms, offices and workspaces. These new areas also needed to be tested for radon levels.

This testing is a requirement in OAR 332.331 Healthy and Safe Schools Plan rules.

CONCLUSION and RECOMMENDATIONS

All tested rooms had low to non-detectable levels of radon.

TESTING

Radon testing was conducted using protocols recommended by the Oregon Health Authority per OAR 332.345. Radon Air-Chek short-term test devices were used in the rooms by suspending the device in each room. The testing occurred from March 8-11- 2022, during normal and routine school ventilation system operation. Weather conditions during the weeks prior of testing had been wet with moderate temperatures.

This testing was conducted under COVID-19 recommended precautions of having increased outside air supplied to the building.

Quality assurance testing was also conducted by blank (QCB) test devices, and duplicate samples per the recommendations found in OAR 332.345.

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.

March 15, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**MARY ERYE
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11119131	A1	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119130	A2	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119129	A3	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119127	A4	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119128	A4	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119126	A5	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119148	A8	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119136	ACTIVITY ROOM	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119143	ANNEX OFFICE	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119144	ANNEX OFFICE	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119174	B1	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119173	B2	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119170	B4	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119169	B4	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119168	B5	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119167	B6	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119155	C2	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119154	C3	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119153	C4	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119152	C4	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119151	C5	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119150	C6	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119134	CAFETERIA	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119133	CAFETERIA	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119137	CUSTODIAN OFFICE	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119166	D1	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119165	D2	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119164	D3	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119163	D4	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	0.5 ± 0.3	2022-03-14
11119162	D5	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119161	D5	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119160	D6	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	0.6 ± 0.3	2022-03-14
11119159	D7	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119158	D8	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119157	D9	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119149	DE ESCALATION RM	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119132	EAGLE NEST	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14

March 15, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**MARY ERYE
MAIN**

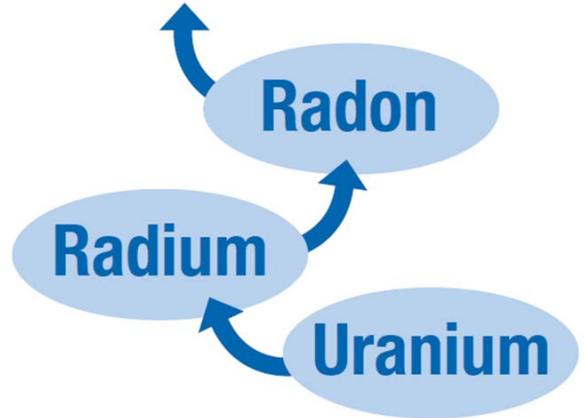
Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11119138	GYM	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119135	KTICHEN OFFICE	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119141	LOUNGE	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119124	MAIN OFFICE	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119147	MEDIA	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119146	MEDIA CENTER	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119142	MENTOR OFFICE	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119145	MUSIC	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119175	OFFICE 1	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119176	OFFICE 2	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119177	OFFICE 3	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119178	OFFICE 4	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119179	OFFICE 5	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119180	OFFICE 6	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119123	OFFICE MANAGER	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119181	OUTREACH OFFICE	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119140	PE OFFICE	2022-03-08 @ 9:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119182	PRINCIPAL OFFICE	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119183	QCB1	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119184	QCB2	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14
11119185	QCB3	2022-03-08 @ 10:00 am	2022-03-11 @ 8:00 am	< 0.3	2022-03-14

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

Note: QCB1-3 are blank samples and part of the quality control process for radon testing.

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 _____.

