

INDUSTRIAL HYGIENE REPORT

RADON TESTING REPORT

Parrish Middle School

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

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On-site: October 25–28, 2022

Report: November 1, 2022

PURPOSE

Radon retesting was done at Parrish Middle 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. Parrish Middle School has also undergone a major construction project that included remodeled 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 October 25-28, 2022, during normal and routine school ventilation system operation. Weather conditions during the weeks prior to testing had been dry with moderate temperatures.

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. No locations tested at or above 2.7 pCi/L.

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:
PARRISH MS
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11118296	101	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118298	103	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.5 ± 0.3	2022-10-31
11118299	104 BEHAVIOR SP	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118304	104 CONF RM	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.6 ± 0.3	2022-10-31
11118305	105	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.6 ± 0.3	2022-10-31
11118306	106N	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.9 ± 0.3	2022-10-31
11118307	106S	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118308	107	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	1.0 ± 0.3	2022-10-31
11118310	108S	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.5 ± 0.3	2022-10-31
11118309	108W	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.6 ± 0.3	2022-10-31
11118311	109	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118319	110	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118312	111	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118318	112N	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118317	112S	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.6 ± 0.3	2022-10-31
11118313	113	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118316	114	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118314	115	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118315	117	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.6 ± 0.3	2022-10-31
11118333	118	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118341	119	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118340	119 OFFICE	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118342	120 E	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	0.6 ± 0.3	2022-10-31
11118344	120 OFFICE	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118345	120 PRACTICE	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118343	120 W	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118330	121	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118329	121 OFFICE	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118328	122	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118327	123	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118326	124	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118302	A-L	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.9 ± 0.3	2022-10-31
11118300	AP	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.9 ± 0.3	2022-10-31
11118349	AUDITORIUM E	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118347	AUDITORIUM W	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118324	AUX GYM N	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118325	AUX GYM S	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31

Radon test result report for:

**PARRISH MS
MAIN**

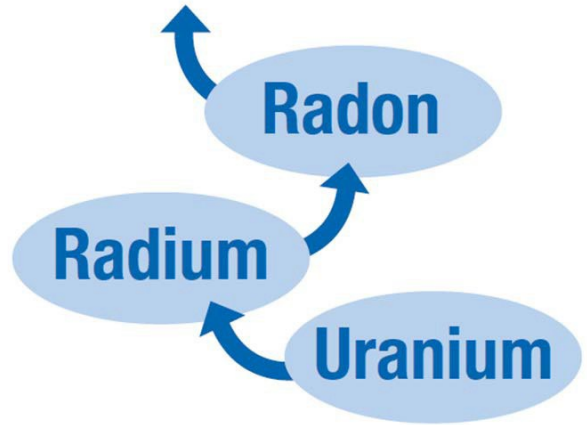
Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11118321	BOY"S PE OFFICE	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118331	CAFETERIA N	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118332	CAFETERIA SW	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118297	CONF ROOM	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.8 ± 0.3	2022-10-31
11118301	CSOC1 8TH GRADE	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118320	GIRL'S PE OFFICE	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	2.2 ± 0.3	2022-10-31
11118337	LIBRARY FLEX RM	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	0.9 ± 0.3	2022-10-31
11118335	LIBRARY N	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	0.8 ± 0.3	2022-10-31
11118339	LIBRARY OFFICE	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118334	LIBRARY S	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.5 ± 0.3	2022-10-31
11118303	M-Z	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.6 ± 0.3	2022-10-31
11118323	MAIN GYM NE	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118322	MAIN GYM S	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.5 ± 0.3	2022-10-31
11118292	OFFICE MANAGER	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118293	PRINCIPAL	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.5 ± 0.3	2022-10-31
11118348	QCB 1	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118350	QCB 2	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118294	REGISTAR	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118291	SCHOOL OFFICE	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118338	SCHOOL SUPPLY RM	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31
11118295	SOS	2022-10-25 @ 8:00 am	2022-10-28 @ 10:00 am	0.7 ± 0.3	2022-10-31
11118336	SPEECH/LANGUAGE	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	0.8 ± 0.3	2022-10-31
11118346	THEATER OFFICE	2022-10-25 @ 9:00 am	2022-10-28 @ 10:00 am	< 0.3	2022-10-31

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

Note: QCB1-2 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:

<http://salkeiz.k12.or.us/parents/safe-schools/radon-testing/>

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

If you have other questions or concerns about radon testing at your school, contact Vonnie Good, Environmental Health Specialist at 503-399-3071 or Good_Vonnie@salkiez.k12.or.us.

