

# 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 2-5, 2019

Report: December 17, 2019

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#### 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 classrooms that were tested locations had levels of radon below the EPA's action level of 4 picoCuries per liter (pCi/l). However classroom 124 SE had slightly elevated radon levels that were above the School District's trigger to retest.

Recommend retest in this classroom after increasing the amount of outside air provided to the classroom via the ventilation system.

#### 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 2-5, 2019, during normal and routine school ventilation system operation, as well as with the radon mitigation system in operation. Weather conditions a week prior to and during the testing had been dry with low temperatures.

Quality assurance testing was also conducted by utilizing blank and duplicate samples per the recommendations found in ORS 332.166-.167. QCS1 is a spiked test kit and does not represent a radon level in the school.

#### 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)

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. If that doesn't lower the radon below EPA guidelines, radon mitigation systems are installed.

### Sample Data Attached

December 12, 2019

#### \*\* LABORATORY ANALYSIS REPORT \*\*

Radon test result report for:

**JK**  
**SPRAGUE HS**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7274566	1	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	2.2 ± 0.4	2019-12-09
7274572	10 SW	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.8 ± 0.4	2019-12-09
7274571	10NF	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.6 ± 0.4	2019-12-09
7274573	11	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.5 ± 0.4	2019-12-09
9305100	114	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.7 ± 0.4	2019-12-09
7274557	116	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	2.3 ± 0.4	2019-12-09
7274560	117	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	2.0 ± 0.4	2019-12-09
7274558	118	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	2.6 ± 0.4	2019-12-09
7274559	119	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.9 ± 0.4	2019-12-09
7274574	12	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.8 ± 0.4	2019-12-09
7274561	121	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.8 ± 0.4	2019-12-09
7274565	122	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.8 ± 0.4	2019-12-09
7274564	123	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	2.4 ± 0.4	2019-12-09
7274562	124 NW	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	2.0 ± 0.4	2019-12-09
7274563	124 SE	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	2.7 ± 0.4	2019-12-09
7274575	14	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.4 ± 0.4	2019-12-09
7274576	15	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.0 ± 0.3	2019-12-09
7274567	2	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.6 ± 0.4	2019-12-09
7274568	4	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.8 ± 0.4	2019-12-09
7274569	6	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.7 ± 0.3	2019-12-09
7274570	8	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	1.6 ± 0.4	2019-12-09
9305094	QCB1	2019-12-02 @ 9:00 am	2019-12-05 @ 8:00 am	< 0.3	2019-12-09
7274556	QCS1	2019-11-30 @ 8:00 am	2019-12-03 @ 8:00 am	27.0 ± 1.8	2019-12-09 *

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

QCS1 is a test kit that was spiked in a laboratory as part of the quality control program of our testing. It does NOT represent a test level in the school.