INDUSTRIAL HYGIENE RADON REPORT

Sprague High School
RADON TESTING SAMPLE REPORT

Report to: Vonnie B. Good, EHS Salem Keizer School District
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On-site: January 5-8, 2015
Report: February 8, 2015

PURPOSE

Follow up radon testing was done in the classrooms 112, 114, 116, 117, 118, 119, 121, 122, 123, 124 on the first floor and rooms 1,2,4,6,8,10,11,12,14,and 15 in the basement to determine if the radon levels are remaining below the EPA's action level because of increased ventilation and the installation of the radon mitigation system.

CONCLUSION

All test locations had low levels of radon. Indicating the radon mitigation controls are continuing to reduce the gas levels in the classrooms.

SAMPLE RESULTS

Test Location	Jan 2015 RADON LEVELS pCi/l	Nov 2012 RADON LEVELS pCi/l	May 2012 RADON LEVELS pCi/l	April 3 2012 RADON LEVELS pCi/l	Oct 2011 RADON LEVELS pCi/l	Dec 2010 RADON LEVELS pCi/l	Aug 2010 RADON LEVELS pCi/l	June 2010 RADON LEVELS pCi/l
Rm112		0.5	1.9	3.0	1.6	3.6	1.4	3.6
Rm 114	1.9	1.0	2.3	3.9	2.2	2.4	1.7	4.4
Rm116	2.0	0.8	2.4	4.3	3.1	2.7	1.4	6.5
Rm117	1.4	1.1	2.8	4.0	2.5	4.6	1.5	4.7
Rm118	1.8	1.1	3.0	4.0	3.2	2.7	1.1	5.1
Rm119	1.8	1.3	2.7	4.3	3.0	4.7	0.9	4.4
Rm121	1.4	1.5	2.2	4.4	2.4	3.6	1.2	4.3
Rm 122	1.3	1.3	3.0	3.9	3.4	5.9	1.4	5.5
Rm123	1.9	1.5	2.2	4.2	3.0	3.4	1.3	4.1
Rm 124	1.6	1.2	2.2	4.8	3.2	4.3	1.4	5.9
EPA Exposure	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

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Rm 1	1.4	3.0		0.9	1.7	<0.3	0.5	0.8	<0.3	12.1
Rm 2	0.9	2.2		<0.3	1.2	0.6				
Rm 3					1.1	0.8				
Rm 4	0.9	3.2		2.4	2.4	<0.3	<0.3			
Rm 5						0.6		<0.3		
Rm 6	0.9	1.5	15.8	3.3	4.4	0.7	<0.3	0.6		
Rm 7						<0.3				
Rm 8	0.7	2.8		2.3	2.4	0.6	0.8			
Rm 9					1.1	0.8				
Rm 10	0.9	1.9		1.3	2.0	0.8	<0.3			
Rm 11	0.8	1.5			1.2	1.0	<0.3	0.6		
Rm 12	0.8	1.9		1.8	0.8	0.8	0.7			
Rm 13						1.0				
Rm 14	0.9	2.6		<0.3	0.8	<0.3	<0.3	0.6		
Rm 15	<0.3	<0.3		1.0	1.2	1.1				

TESTING

Radon Air-Chek short-term test devices were used in 19 classrooms by suspending the device in each room. The testing occurred from January 5-9 during normal and routine school ventilation system operation as well as the new radon abatement system operating.

BACKGROUND ON RADON

Radon is a gas that occurs in nature, seeping up from the earth. It is odorless, colorless, and tasteless. Radon comes from the natural breakdown, or radioactive decay from uranium 238, and produces radon. The half-life of an individual element is relatively short. Within two weeks, about 90% of a given amount of radon gas will be gone. However, the actual health concern is for the radon decay products, called radon progeny, which carry a small static charge that allows their attachment to water vapor, dust, and smoke particles in the air.

The Radon progeny can become lodged in the lung tissue when they are inhaled, and it is these particles further radiation decay that is associated with potential lung cancer effects.

Radon can seep into buildings or schools through cracks in slab floors or porous cinderblock. It can enter around loose-fitting drainage pipes or through sump pumps.

Pressure differential between the building and the soil surrounding the foundation can draw soil gases into the building.

Radon Act 51 passed by Congress set the natural outdoor level of radon gas (0.4 pCi/L) as the target radon level for indoor radon levels. The US EPA has set an action level of 4 pCi/L. At or above this level of radon, the EPA recommends corrective measures should be taken to reduce the exposure to radon gas.

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. Sprague has two radon abatement systems in operation in rooms on the north and south ends of the basement.

January 12, 2015 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
SCHOOL
SPRAGUE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7015713	1	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.4	2015-01-09
7015718	10	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	0.9	2015-01-09
7015719	11	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	0.8	2015-01-09
7015712	114	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.9	2015-01-09
7015711	116	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	2.0	2015-01-09
7015708	117	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.4	2015-01-09
7015710	118	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.8	2015-01-09
7015709	119	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.8	2015-01-09
7015720	12	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	0.8	2015-01-09
7015707	121	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.4	2015-01-09
7015704	122	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.3	2015-01-09
7015706	123	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.9	2015-01-09
7015705	124	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	1.6	2015-01-09
7015721	14	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	0.9	2015-01-09
7015728	15A	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	< 0.3	2015-01-09
7015714	2	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	0.9	2015-01-09
7015715	4	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	0.9	2015-01-09
7015716	6	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	0.9	2015-01-09
7015717	8	2015-01-05 @ 9:00 am	2015-01-08 @ 9:00 am	0.7	2015-01-09

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