

INDUSTRIAL HYGIENE REPORT

RADON TESTING REPORT

Paulus

Report to: Vonnie B. Good, EHS Salem Keizer School District

By: Kathy Ellis, Senior Industrial Hygiene Consultant

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

On-site: February 23–26, 2015

Report: March 5, 2015

PURPOSE

Radon testing was done to measure the background levels in all offices and staff work rooms that are in contact with the ground.

TEST METHOD

Radon Air-Chek short-term test devices were used in each location by placing the device 5-6 feet above the floor, where it is not in direct contact with airflow from the ventilation system or exterior doors.

These short-term devices work by trapping room air inside the grains of charcoal within the devices, meaning that live radon gas is being captured. The analysis is performed by measuring the radiation emitted from the charcoal, which is proportional to the amount of radon that was present in the room air.

The testing occurred from Monday, February 23 to Thursday, February 26, 2015, during normal and routine operations in the building.

EPA RADON GUIDELINES

The EPA has set an Action Level of 4.0 pCi/L (picoCuries per liter) for schools, businesses and homes. If buildings have radon levels at or above 4.0 pCi/L, EPA recommends actions should be taken 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:

RESULTS and RECOMMENDATION

No test locations were above the EPA's Action Level of 4.0 picoCuries per liter (pCi/l).

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, of uranium 238. 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.

The US EPA has set an Action Level of 4.0 pCi/L. At or above this level of radon, the EPA recommends that corrective measures should be taken to reduce the exposure to radon gas.

CONTROL OF RADON LEVELS IN SCHOOL BUILDINGS

The major control mechanism for lowering radon levels within buildings is use of dilution ventilation. If the amount of outside air delivered into a building increases, the radon levels should decrease.

Sample Data Attached

March 3, 2015

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

SCH ADM

PAULUS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7015768	100	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015769	101	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015770	102	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015771	103	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	0.5	2015-03-02
7015774	104	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	1.6	2015-03-02
7015772	105	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015773	106	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015775	108	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	0.6	2015-03-02
7015776	109	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015777	111A	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015778	111B	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015779	113A	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015780	113B	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015781	114	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015782	115	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015783	116	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015784	116A	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	< 0.3	2015-03-02
7015785	BASEMENT STORAGE	2015-02-23 @ 9:00 am	2015-02-26 @ 9:00 am	1.6	2015-03-02

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