

INDUSTRIAL HYGIENE REPORT

Kalapuya School

Report to: Vonnie Good, Risk Management

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On-site: March 11-14, 2013

Report: March 24, 2013

PURPOSE

Radon monitoring was done to measure the background levels in all classrooms, offices and staff work rooms that are in contact with the ground or below ground level.

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, windows or exterior doors. Staff were requested to keep windows closed during the testing.

These short-term devices work by trapping room air inside the grains of charcoal with 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, March 11 to Thursday, March 14, 2013, during normal and routine operation of 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 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, 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.

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 SCHOOLS

The major control mechanism for lowering radon levels within school 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

Radon test result report for:SK
KALAPUYA

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
4601859	MUSIC OFFICE	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601851	OFFICE MANAGER	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601875	PLC	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601852	PRINCIPAL	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601878	RM 103	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	0.7	2013-03-19
4601877	RM 104	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601876	RM 105	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601873	RM 111	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601872	RM 112	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601871	RM 121	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601870	RM 121 OFFICE	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601869	RM 124	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	0.7	2013-03-19
4601868	RM 126	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601867	RM 127	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601866	RM 129	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601865	RM 130	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601864	RM 133	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601863	RM 134	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601879	RM 136	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601862	RM 138	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601861	RM 143	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601860	RM 158	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601858	RM 169	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601853	RM 175	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601855	RM 177	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601856	RM 178	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601857	RM 179	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601874	SPEECH	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19
4601854	VICE PRINC	2013-03-11 @ 2:00 pm	2013-03-14 @ 4:00 pm	< 0.3	2013-03-19