

# INDUSTRIAL HYGIENE REPORT

## RADON TESTING REPORT

### Roberts SLC

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

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On-site: February 3–6, 2014

Report: February 13, 2014

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#### **PURPOSE**

Radon testing was done to measure the background levels in all classrooms, 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, windows or exterior doors. Staff were requested to keep windows closed during the testing period.

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 3 to Thursday, February 6, 2014, 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 4.0 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 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

ROBERTS SLC

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
4735646	102	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.6	2014-02-10
4735644	103	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.5	2014-02-10
4735643	104	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.5	2014-02-10
4735638	105	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.6	2014-02-10
4735637	106	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	< 0.3	2014-02-10
4735635	107	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.9	2014-02-10
4735629	107A	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.6	2014-02-10
4735634	108	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.9	2014-02-10
4735632	109	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.1	2014-02-10
4735633	109A	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.8	2014-02-10
4735631	110	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.2	2014-02-10
4735630	112	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	0.8	2014-02-10
4735627	117	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.3	2014-02-10
4735628	118	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.5	2014-02-10
4735636	120	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.0	2014-02-10
4735639	124	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.1	2014-02-10
4735640	125	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.8	2014-02-10
4735641	126	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	2.0	2014-02-10
4735642	127	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	2.1	2014-02-10
4735645	130	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.4	2014-02-10
4735647	131	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	2.1	2014-02-10
4735648	133/134	2014-02-03 @ 9:00 am	2014-02-06 @ 9:00 am	1.3	2014-02-10