

# INDUSTRIAL HYGIENE REPORT

## RADON TESTING REPORT

### Support Services Center

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

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On-site: February 23–26, 2015

Report: March 5, 2015

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#### 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**

Radon test result report for:  
**SCH ADM**  
**SUPPORT SERV**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
4777029	AUTISM OFFICE	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.8	2015-03-02
4777036	BASEMENT STORAGE	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	1.1	2015-03-02
7015796	BEHAV PROG COORD	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	< 0.3	2015-03-02
7015794	BOARD RM 1	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.8	2015-03-02
7015793	BOARD RM 2	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.6	2015-03-02
4777032	BUDGET	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.7	2015-03-02
4777034	DIRECTOR	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	< 0.3	2015-03-02
7015799	DISPUTE RES COOR	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	< 0.3	2015-03-02
7015800	HEALTH SERV COOR	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	< 0.3	2015-03-02
7015795	MCKAY/SPRAG COOR	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.6	2015-03-02
7015798	MCNARY COORD	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.6	2015-03-02
4777028	NURSE OFFICE	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	1.4	2015-03-02
4777033	OFFICE MANAGER	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.6	2015-03-02
7015792	RM 3	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	1.0	2015-03-02
4777030	SCH PSCHY 5	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.8	2015-03-02
4777023	SCH PSYCH 1	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	< 0.3	2015-03-02
4777024	SCH PSYCH 2	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	< 0.3	2015-03-02
4777026	SCH PSYCH 3	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.6	2015-03-02
4777027	SCH PSYCH 4	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.7	2015-03-02
4777035	SCH PSYCH 6	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	< 0.3	2015-03-02
4777025	SOCIAL WORKER	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	1.2	2015-03-02
4777031	SOCIAL WORKER/PA	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.6	2015-03-02
7015797	WEST HS COORD	2015-02-23 @ 10:00 am	2015-02-26 @ 10:00 am	0.5	2015-03-02