

# INDUSTRIAL HYGIENE REPORT

## RADON TESTING REPORT

### Transportation Services Center

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 24–27, 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 Tuesday, February 24 to Friday, February 27, 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  
TRANSPORT**

---

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
4777062	BREAKROOM	2015-02-24 @ 8:00 am	2015-02-27 @ 9:00 am	1.1	2015-03-02
4777060	DISPATCH	2015-02-24 @ 8:00 am	2015-02-27 @ 9:00 am	0.9	2015-03-02
4777061	FLEET MANAGER	2015-02-24 @ 8:00 am	2015-02-27 @ 9:00 am	< 0.3	2015-03-02
4777063	PARTS ROOM	2015-02-24 @ 8:00 am	2015-02-27 @ 9:00 am	1.8	2015-03-02

---

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