INDUSTRIAL HYGIENE RADON REPORT

West High School
B105 and B117

RADON TESTING SAMPLE REPORT

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: November 12-15, 2013
Report: November 22, 2013

PURPOSE

Follow up radon testing was done in B117, B105, B105A, B105B and B105C to determine if the radon levels are remaining below the EPA's Action Level because of the sealing joints in the slab floor and the installation of the radon mitigation system in the Summer of 2013.

CONCLUSION

All test locations had low levels of radon, indicating the radon mitigation controls are continuing to reduce the radon gas levels in the classrooms and work rooms.

SAMPLE RESULTS

Room B105, in February 2013, the level was 5.2 pCi/L and in November 2013, the level was 1.5 pCi/L.

Room B105A, in February 2013, the level was 4.0 pCi/L and in November 2013, the level was 1.4 pCi/L.

Room B105B, in February 2013, the level was 4.5 pCi/L and in November 2013, the level was 0.7 pCi/L.

Room B105C, in February 2013, the level was 2.5 pCi/L and in November 2013, the level was 0.8 pCi/L.

Room B117, in August 2013, the level was <0.3 pCi/L and in November 2013, the level was 0.8 pCi/L.

TESTING

Radon Air-Chek short-term test devices were used in the rooms by suspending the device in each room. The testing occurred from November 12-15, 2013, during normal and routine school ventilation system operation, as well as with the new radon mitigation system in operation.

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. 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. Pressure differential between the building and the soil surrounding the foundation can draw soil gases into the building.

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 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 the use of dilution ventilation. If the amount of outside air delivered into a building increases, the radon levels should decrease. A subslab depressurization system was installed in Summer 2013. It was intended to reduce the radon level in Room B117. It appears to be lowering the radon levels in the B105 Suite, as well.

November 19, 2013 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
SK
WEST HS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
4601926	105	2013–11–12 @ 1:00 pm	2013–11–15 @ 1:00 pm	1.5	2013–11–19
4601927	105A	2013–11–12 @ 1:00 pm	2013–11–15 @ 1:00 pm	1.4	2013–11–19
4601928	105B	2013–11–12 @ 1:00 pm	2013–11–15 @ 1:00 pm	0.7	2013–11–19
4601929	105C	2013–11–12 @ 1:00 pm	2013–11–15 @ 1:00 pm	0.8	2013–11–19
4601925	117	2013–11–12 @ 1:00 pm	2013–11–15 @ 1:00 pm	0.8	2013–11–19

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