

INDUSTRIAL HYGIENE REPORT

Scott Elementary School

Report to: Vonnie Good, Risk Management

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On-site: December 4 – 7, 2012

Report: December 19, 2012

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.

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 Tuesday, December 4 to Friday, December 7, 2012 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, 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:
SCOTT
SCHOOL

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
4588536	133 OFFICE	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.6	2012-12-11
4588530	A1	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588529	A2	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588528	A3	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.6	2012-12-11
4588527	A4	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588526	A5	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588525	A6	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.7	2012-12-11
4588531	A7	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.7	2012-12-11
4588548	B2	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.8	2012-12-11
4588547	B3	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.9	2012-12-11
4588546	B4	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.5	2012-12-11
4588545	B5	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	1.0	2012-12-11
4588544	B6	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.6	2012-12-11
4588543	C1	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588542	C2	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.8	2012-12-11
4588541	C3	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.6	2012-12-11
4588540	C4	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.7	2012-12-11
4588539	C5	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.6	2012-12-11
4588538	C6	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.6	2012-12-11
4588550	CONFERENCE RM 1	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.5	2012-12-11
4588523	COUNSELOR	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588533	CUSTODIAN	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.7	2012-12-11
4588532	KITCHEN	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588535	MUSIC	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588521	OFFICE	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.7	2012-12-11
4588534	PE TEACHER	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588522	PRINCIPAL	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11
4588551	READING	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.8	2012-12-11
4588549	SPEECH	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	0.7	2012-12-11
4588537	STAFF ROOM	2012-12-04 @ 9:00 am	2012-12-07 @ 1:00 pm	< 0.3	2012-12-11