

INDUSTRIAL HYGIENE REPORT

RADON TESTING REPORT

Clearlake School

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

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On-site: December 8–11, 2014

Report: December 31, 2014

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 December 8 to Thursday December 11, 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:
SCHOOL
CLEARLAKE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7015412	A1	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.8	2014-12-15
7015413	A2	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.5	2014-12-15
7015414	A3	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.4	2014-12-15
7015415	A4	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.0	2014-12-15
7015416	A5	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.7	2014-12-15
7015417	A6	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.8	2014-12-15
7015434	A7	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.0	2014-12-15
7015427	B1	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.8	2014-12-15
7015428	B2	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.4	2014-12-15
7015429	B3	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.5	2014-12-15
7015430	B4	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.9	2014-12-15
7015431	B5	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.1	2014-12-15
7015432	B6	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.9	2014-12-15
7015421	C1	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.1	2014-12-15
7015422	C2	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.1	2014-12-15
7015423	C3	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.3	2014-12-15
7015424	C4	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.0	2014-12-15
7015425	C5	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.7	2014-12-15
7015426	C6	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.9	2014-12-15
7015419	COMPUTER LAB	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.8	2014-12-15
7015409	CONF RM	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.7	2014-12-15
7015411	COUNSELOR	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.2	2014-12-15
7015433	CUSTODIAN	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.4	2014-12-15
7015437	KITCHEN	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.1	2014-12-15
7015420	MEDIA OFFICE	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.1	2014-12-15
7015436	MUSIC	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.8	2014-12-15
7015438	PE OFFICE	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	2.9	2014-12-15
7015407	PRINCIPAL	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.3	2014-12-15
7015410	READING	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	0.9	2014-12-15
7015418	SPEECH	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.1	2014-12-15
7015408	STAFF RM	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.8	2014-12-15
7015435	VOLUNTEER RM	2014-12-08 @ 9:00 am	2014-12-11 @ 12:00 pm	1.5	2014-12-15