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Radon Survey Analysis
Job #17-C154L

for

Corbett School District
Springdale School
c/o Mark Wilson

property located at

32303 E Historic Columbia River Hwy

Corbett OR 97019

December 28, 2017

STATE OF OREGON
CERTIFIED
EMERGING SMALL BUSINESS

Introduction

The following report documents a study of radon levels for the property located at 32303 E Columbia River Hwy Corbett OR 97019. The goal of this study is to determine indoor radon levels in the lowest occupied level of the building per AARST/ANSI protocols and EPA protocols for schools.
Analysis assumes that the building tested was maintained under "closed-building" conditions (windows closed and exterior doors shut immediately after entering and exiting) 12 hours prior to the start of testing, as well as normal indoor temperatures, for the duration of the testing period.

Conclusions and Recommendations

Test was a "Short-Term" test, with minimum duration of 72 hours. See the chart below of areas in building that were tested, and the corresponding levels found. Note that all fifteen (15) locations tested had results below the USEPA Action Level of 4.0 pCi/L.

No mitigation action is recommended at this time. While the USEPA recommends buildings be fixed if the radon level is 4.0 pCi/L or more, because there is no known safe level of exposure to radon, the US EPA also suggests individuals consider fixing buildings for radon levels between 2.0 pCi/L and 4.0 pCi/L.

The concentration of radon gas in indoor air can vary widely. It may fluctuate from day to day, week to week, and season to season. Indoor radon levels may be affected by barometric pressure, strong winds, rain-soaked ground, snow cover, heating and A/C systems, house construction, open windows, and the like. For further confirmation of average, long-term radon levels, it is suggested a long-term, Alpha-Track type radon test be performed.

NOTE: It is recommended that any building indicating low radon values be retested at least every 5 years.

Radon Level Measurements

The building tested was assumed occupied during testing.
The measurement technique used (18) Air Chek activated charcoal kits.

Test Start Date: 12/23/2017 Test End Date: 12/26/2017

Measurements of radon levels were made in the following areas:

Results Table

Room	Location	Kit ID#	Test Start Time	Test End Time	Result (pCi/L)
Room 1	West Wall	* Duplicate Avg	12:00 PM	1:00 PM	2.2
Room 6	SW Wall	7973835	12:00 PM	1:00 PM	0.8
Room 2	South Wall	7973834	12:00 PM	1:00 PM	< 0.3
Room 3	North Wall	7973837	12:00 PM	1:00 PM	1.9
Room 3	South Wall	7973836	12:00 PM	1:00 PM	2.1
Room 4	East Wall	7973843	12:00 PM	1:00 PM	1.6
Room 5	East Wall	7973841	12:00 PM	1:00 PM	0.6
Room 5	West Wall	7973840	12:00 PM	1:00 PM	0.6

Room	Location	Kit ID#	Test Start Time	Test End Time	Result (pCi/L)
Room 7	East Wall	7973842	1:00 PM	1:00 PM	0.5
Room 9	East Wall	7973847	12:00 PM	1:00 PM	1.2
Room 10	South Wall	7973845	12:00 PM	1:00 PM	< 0.3
Room 11	East Wall	*Duplicate Avg	12:00 PM	1:00 PM	< 0.3
Small Classroom	North Wall	7973855	1:00 PM	1:00 PM	< 0.3
Copy Room	North Wall	7973849	1:00 PM	1:00 PM	< 0.3
Office	North Wall	7973850	1:00 PM	1:00 PM	< 0.3

Duplicate measurements were conducted as a means to assess the precision of the test measurements. The criteria of acceptance is that the average relative percent difference (ARPD) of the results of the two measurement results for results whose averages are greater than 4.0, should be within 25%. The results of the collated duplicates are provided in the Duplicate Table below. The applicable ARPD for this survey was not applicable and is thus in compliance.

***Duplicate Table**

Room	Kit ID#	Test Start Time	Test End Time	Result (pCi/L)	Average (pCi/L)	Avg > 3.9 pCi/L?	RPD%
Room 1	7973839	12:00 PM	1:00 PM	2.2			
	7973833	12:00 PM	1:00 PM	2.2	2.2	NO	N/A
Room 11	7973846	12:00 PM	1:00 PM	< 0.3			
	7973844	12:00 PM	1:00 PM	< 0.3	< 0.3	NO	N/A

As a means to determine any biases in the results, detectors were deployed but not opened. At the time of test retrieval of the regular test, the devices were removed from their packaging and sent to the laboratory for blind analysis. The results of these unexposed devices are shown in the Blank Table below. As can be seen, the laboratory reported these at the lower level of detection, indicating that no biases were introduced in handling and shipping of the devices.

Blank Table

Room	Blank #	Kit ID#	Result (pCi/L)	In Compliance?
Office	1	7973851	< 0.3	Yes

A device was also selected from the lot of detectors that were utilized for exposure to a known radon environment at a spiking chamber (Bowser-Morner, NEHANRPP ID# 101 TC). After exposure, the device was submitted as a blind measurement to the laboratory. A comparison of the reported reading from the lab and the known concentration in the chamber is as follows:

Chamber concentration to which device was exposed:	27.4 pCi/L
Concentration reported by lab:	30.8
Relative percent difference (RPD):	12%

The RPD between the reported and spiking concentration is well within normal limits.

Key:
pCi/L: Picocuries per liter – units of radon concentration.
Average (Avg): Cumulative average of the entire period since the test started.

Please contact me if you have any questions.
Thank you,

Tamara Linde
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