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Radon Survey Analysis Job #18-C001L

for

Corbett High School

Gym

c/o Mark Wilson

property located at

35800 E Historic Columbia River Hwy

Corbett OR 97019

January 29, 2018



Introduction

The following report documents a study of radon levels for the property located at 35800 E Historic 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 and EPA for school testing protocols.

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 one (1) of the seven locations tested had results ABOVE the US EPA Action Level of 4.0 pCi/L.

It is recommended that a certified radon mitigation company be contacted about mitigating the elevated radon level bringing them below the EPA Action Level. While the US EPA 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 (9) Air Chek activated charcoal kits.

Test Start Date: 1/19/2018

Test End Date: 1/22/2018

Measurements of radon levels were made in the following areas:

Results Table

Room	Kit ID#	Test Start Time	Test End Time	Result (pCi/L)
Lab 25	7965065	4:00 PM	4:00 PM	1.0
Gym (NE corner)	7973866	4:00 PM	4:00 PM	1.0
Gym (NW corner)	7973865	4:00 PM	4:00 PM	1.0
Fitness Room	7973856	4:00 PM	4:00 PM	0.7
Back Gym	7973848	4:00 PM	4:00 PM	< 0.3

Test Start Date: 1/19/2018

Test End Date: 1/23/2018

Measurements of radon levels were made in the following areas:

Results Table

Room	Kit ID#	Test Start Time	Test End Time	Result (pCi/L)
Facilities Office	*Duplicate test Avg.	4:00 PM	11:00 AM	5.4
Concessions	7973862	4:00 PM	11:00 AM	0.7

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 1.9% and is thus in compliance.

***Duplicate Table**

Room	Kit ID#	Result (pCi/L)	Average (pCi/L)	Avg > 3.9 pCi/L?	RPD%
Facilities Office	7973869	5.4			
	7973858	5.3	5.4	Yes	1.9

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?
Fitness Room	1	7973867	< 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:	25.4 pCi/L
Concentration reported by lab:	24.3
Relative percent difference (RPD):	4.3%

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

Key:

pCi/L: Picocuries per liter – units of radon concentration.

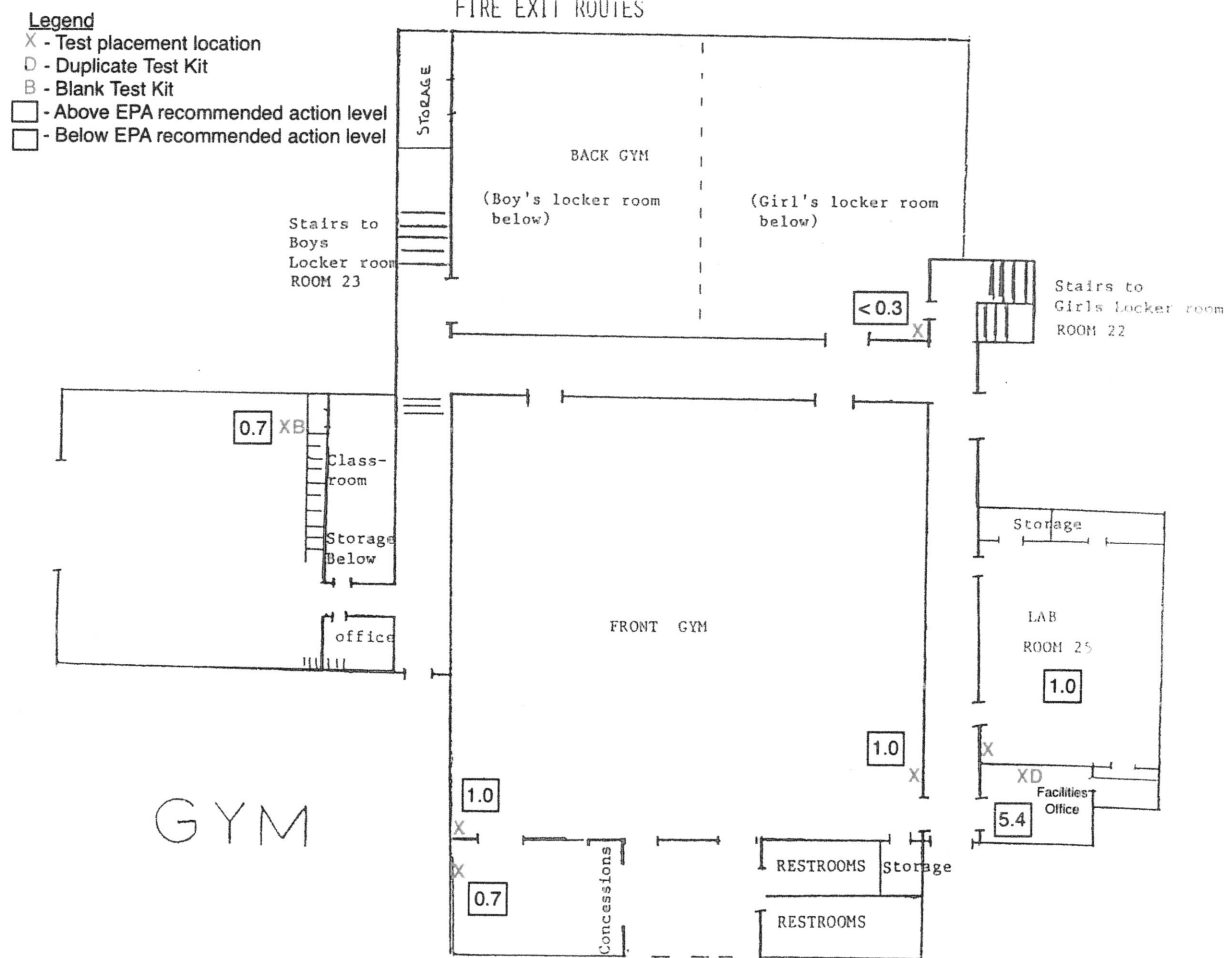
Average (Avg): Cumulative average of the entire period since the test started.

Please contact me if you have any questions.

Thank you,

Tamara Linde

NRPP 108246 RT



Legend

- X - Test placement location
- D - Duplicate Test Kit
- B - Blank Test Kit
- - Above EPA recommended action level
- - Below EPA recommended action level

