Cascade Radon, Inc.
Testing, Mitigation,
Systems Design
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Radon Survey Analysis

Job# 17-C023L

for

Evergreen School District
Sifton Elementary

c/o Susan Steinbrenner

property located at

7301 NE 137th Ave

Vancouver WA 98682

March 15, 2017

Cascade Radon Inc. is a Woman-Owned Small Business (WOSB)

Introduction

The following report documents a study of radon levels for the property located at 7301 NE 137th Ave Vancouver WA 98682. The goal of this study is to determine indoor radon levels in all areas in contact with the ground and to sample radon in areas on the floors above.

Analysis assumes that the building tested was maintained under "closed-house" 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 a duration of 49 hours. See the chart below of areas in building that were tested, and the corresponding levels found. Note that eight (8) of 51 locations tested had results above the EPA Action Level of 4.0 pCi/L.

It is recommended that a certified radon mitigation company be contacted to mitigate the elevated radon level bringing them below the EPA Action Level. While the 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, EPA also suggests individuals consider fixing their 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.

Radon Level Measurements

The building tested was assumed occupied during testing.
The measurement technique used (60) Air Check activated charcoal kits.
Measurements of radon levels were made in the following areas:

Test Kit Number	Test Kit Location	Test End Time, Date	Average Radon Level (pCi/L)
7854844, 7854842	Principal	10:00AM, 3/9/17	3.5 ± 0.4
7854846	**Health Room**	**10:00AM, 3/9/17**	**4.0 ± 0.4**
7854843	**Instructional Coach**	**10:00AM, 3/9/17**	**6.5 ± 0.5**
7854832	**Nurse Office**	**10:00AM, 3/9/17**	**4.8 ± 0.5**
7854833	**Parent Center**	**10:00AM, 3/9/17**	**14.0 ± 0.7**
7854831	**Gym**	**10:00AM, 3/9/17**	**11.1 ± 0.6**
7854841	**PE Office**	**10:00AM, 3/9/17**	**8.1 ± 0.5**
7854824	**Custodian Office**	**10:00AM, 3/9/17**	**10.2 ± 0.6**
7854834	101	10:00AM, 3/9/17	0.8 ± 0.3
7854835, 7854845	103	10:00AM, 3/9/17	1.9 ± 0.4
7854847	105	10:00AM, 3/9/17	3.3 ± 0.4
7854839	107	10:00AM, 3/9/17	3.2 ± 0.4
7854840	108	10:00AM, 3/9/17	2.7 ± 0.4
7854838	106	10:00AM, 3/9/17	1.3 ± 0.3
7854829	104	10:00AM, 3/9/17	3.8 ± 0.4
7854814	102	10:00AM, 3/9/17	2.1 ± 0.4

Test Kit Number	Test Kit Location	Test End Time, Date	Average Radon Level (pCi/L)
7854820	**Teacher Work Room**	**10:00AM, 3/9/17**	**5.9 ± 0.5**
7854822	Media Center	10:00AM, 3/9/17	< 0.3
7854815, 7854830	Media Center Office	10:00AM, 3/9/17	< 0.3
7854828	201	10:00AM, 3/9/17	< 0.3
7854823	200 Hub	10:00AM, 3/9/17	< 0.3
7854837	202	10:00AM, 3/9/17	< 0.3
7854827	203	10:00AM, 3/9/17	< 0.3
7854825	204	10:00AM, 3/9/17	< 0.3
7854818	205	10:00AM, 3/9/17	< 0.3
7854811	301	10:00AM, 3/9/17	< 0.3
7854813	302	10:00AM, 3/9/17	0.7 ± 0.3
7854819, 7854826	300 Hub	11:00AM, 3/9/17	0.9 ± 0.3
7854809	303	11:00AM, 3/9/17	0.9 ± 0.3
7854821	304	11:00AM, 3/9/17	0.8 ± 0.3
7854810	305	11:00AM, 3/9/17	0.6 ± 0.3
7854816	306	11:00AM, 3/9/17	0.7 ± 0.3
7854812	307	11:00AM, 3/9/17	< 0.3
7841395	308	11:00AM, 3/9/17	0.6 ± 0.4
7841393	309	11:00AM, 3/9/17	0.8 ± 0.3
7854802	601	11:00AM, 3/9/17	< 0.3
7841392, 7841394	602	11:00AM, 3/9/17	< 0.3
7854803	701	11:00AM, 3/9/17	< 0.3
7854804	702	11:00AM, 3/9/17	< 0.3
7854807	805	11:00AM, 3/9/17	< 0.3
7841396	806	11:00AM, 3/9/17	< 0.3
7841400	803	11:00AM, 3/9/17	< 0.3
7854806	804	11:00AM, 3/9/17	< 0.3
7854805	801	11:00AM, 3/9/17	< 0.3
7841398	802	11:00AM, 3/9/17	< 0.3
7854801, 7841399	503	11:00AM, 3/9/17	< 0.3
7854808	504	11:00AM, 3/9/17	< 0.3
7841388	501	11:00AM, 3/9/17	< 0.3
7854848	502	11:00AM, 3/9/17	0.7 ± 0.3
7841390	401	11:00AM, 3/9/17	< 0.3
7841389	402	11:00AM, 3/9/17	0.6 ± 0.3
7854836	BLANK – 107	10:00AM, 3/9/17	< 0.3
7854817	BLANK – 304	11:00AM, 3/9/17	< 0.3
7841397	BLANK – 801	11:00AM, 3/9/17	< 0.3

Blanks (unexposed kits) and Duplicate tests (two kits laid side by side) were deployed for QA/QC as per EPA protocol

Key:

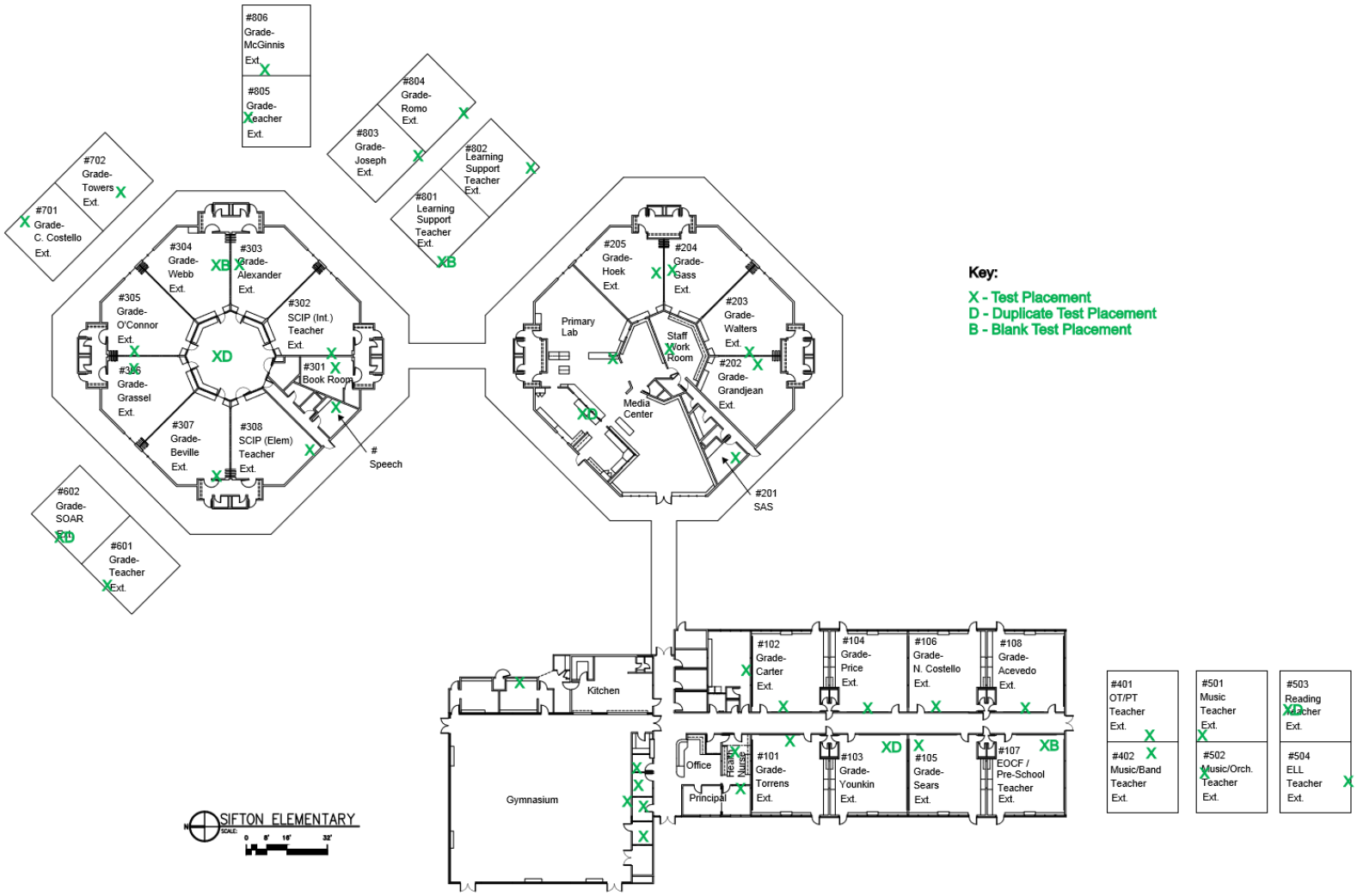
pCi/L: Picocuries per liter – units of radon concentration.

Average: 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



Key:

X - Test Placement
D - Duplicate Test Placement
B - Blank Test Placement