



November 13, 2018

Dave Peterson
Hillsboro School District
4901 SE Witch Hazel Road
Hillsboro, Oregon 97123

Via email: petersod@hsd.k12.or.us

Regarding: District Wide Radon Testing
 Witch Hazel Elementary School
 4950 SE Davis Road
 Hillsboro, Oregon
 PBS Project 23440.024, Phase 0003

Dear Mr. Peterson:

From October 30 to November 2, 2018, PBS Engineering and Environmental Inc. (PBS) performed short term radon testing at Witch Hazel Elementary School located at 4950 SE Davis Road in Hillsboro, Oregon.

The Environmental Protection Agency (EPA) and Oregon Health Authority (OHA) recommend that buildings be tested for radon and that any radon concentrations be maintained below 4.0 picocuries per liter (pCi/L) of air. PBS used AirChek, Inc. brand single-use, short-term radon test kits to measure radon levels in frequently-occupied rooms that are in contact with the ground or above unoccupied basements or crawlspaces.

Laboratory results indicate all short-term radon tests at Witch Hazel Elementary School tested below 4.0 pCi/L.

See the attached Laboratory Analysis Report for more details.

In addition to the EPA recommendation that radon concentrations not exceed 4.0 pCi/L, OHA recommends the following steps be conducted based on the results of a room's initial short-term test:

- **If the result is less than 2.0 pCi/L**, school districts are required to test again every 10 years, per Oregon Revised Statute 332.166-167.
- **If the result is between 2.0 pCi/L and 4.0 pCi/L**, consider fixing (i.e., lowering) the radon in that room.
- **If the result is from 4.0 pCi/L to 8.0 pCi/L**, perform a follow-up measurement of that room using a long-term test. This test should be conducted over as much of a nine-month school year as possible, when the room is likely to be occupied. If that result is equal to or greater than 4.0 pCi/L, the radon in the room should be fixed (i.e., lowered).
- **If the initial short-term test result is equal to or greater than 8.0 pCi/L**, conduct a second short-term test and average its result with the initial short-term test result. If the average of the two is equal to or greater than 4.0 pCi/L, radon in the room should be fixed (i.e., lowered).

Note: A great difference in the results of the short-term tests may indicate a flaw in the testing process. Investigate and consider retesting. For situations in which one of the test results is equal to or greater than 4.0 pCi/L, if the higher result is two or more times the lower result, repeat the test.

LIMITATIONS OF SCOPE

This study was limited to the tests and locations as previously indicated. The site as a whole may have other environmental concerns that will not be characterized by this study. The findings and conclusions of this work are not scientific certainties, but probabilities based on professional judgment concerning the significance of the data gathered during the course of this investigation. PBS is not able to represent conditions on the site or adjoining sites beyond those detected or observed by PBS.

Please feel free to contact me at 503.935.5484 or dale.voeller@pbsusa.com with any questions or comments.

Sincerely,

Dale Voeller, CHMM, CSP
Senior Project Manager

Attachment: AirChek, Inc Laboratory Analysis Report

SG::dsv

Radon test result report for:**WITCH HAZEL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9124085	CAFETERIA 1	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124081	CAFETERIA 2	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.6 ± 0.3	2018-11-05
9124077	COMPUTER ROOM	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.7 ± 0.3	2018-11-05
9123989	CONFERENCE ROOM	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124076	CUST. OFF. BLANK	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124082	CUSTODIAN OFFICE	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9123998	FAMILY CENTER	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124093	GYM 1	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.7 ± 0.3	2018-11-05
9124092	GYM 2	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	1.3 ± 0.3	2018-11-05
9124098	GYM OFFICE	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.6 ± 0.3	2018-11-05
9123996	HEALTH	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124080	KITCH. OFF. DUP	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124088	KITCHEN OFFICE	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124073	LIBRARY 1	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.8 ± 0.3	2018-11-05
9124083	LIBRARY 2	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.7 ± 0.2	2018-11-05
9124091	LIBRARY OFFICE	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	1.0 ± 0.3	2018-11-05
9124086	LIBRARY ROOM	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.7 ± 0.3	2018-11-05
9124087	LIBRARY WORK RM	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124000	MAIN OFFICE	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124055	MR LULE ROOM	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	1.1 ± 0.3	2018-11-05
9123995	MRS. CALDWELL	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.6 ± 0.3	2018-11-05
9124049	MRS. GATEWOOD	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	1.1 ± 0.3	2018-11-05
9124079	MUSIC RM	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124095	PORT 1	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124096	PORT 2	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124089	PORT 2 DUP	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124052	PRINCIPAL	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.8 ± 0.2	2018-11-05
9124053	RM. 103 AGULAR	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124056	RM. 103 OFFICE	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124060	RM. 103 ROJA DUP	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124058	RM. 103 ROJAS	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124057	ROOM 101	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	1.7 ± 0.3	2018-11-05
9124059	ROOM 101 OFFICE	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	1.4 ± 0.3	2018-11-05
9124054	ROOM 102	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124066	ROOM 102 OFFICE	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.5 ± 0.3	2018-11-05
9124070	ROOM 104	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124061	ROOM 104 DUP	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05

Radon test result report for:**WITCH HAZEL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9124071	ROOM 105	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.5 ± 0.2	2018-11-05
9124072	ROOM 105 BLANK	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124069	ROOM 106	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.6 ± 0.2	2018-11-05
9124068	ROOM 107	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9124067	ROOM 108	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.7 ± 0.3	2018-11-05
9124065	ROOM 109	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.5 ± 0.3	2018-11-05
9124064	ROOM 110	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.6 ± 0.3	2018-11-05
9124063	ROOM 111	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	1.0 ± 0.3	2018-11-05
9124062	ROOM 112	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.6 ± 0.3	2018-11-05
9124078	ROOM 113	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.5 ± 0.3	2018-11-05
9124084	ROOM 114	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	0.8 ± 0.2	2018-11-05
9124075	SPEECH	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	1.0 ± 0.3	2018-11-05
9124074	SPEECH DUP	2018-10-30 @ 2:00 pm	2018-11-02 @ 1:00 pm	1.0 ± 0.3	2018-11-05
9123999	STAFF LOUNGE	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	< 0.3	2018-11-05
9123994	WORK ROOM	2018-10-30 @ 1:00 pm	2018-11-02 @ 1:00 pm	0.5 ± 0.3	2018-11-05