



December 21, 2018

David Callaway  
David Douglas School District  
11300 NE Halsey Street  
Portland, Oregon 97220

Via email: david\_callaway@ddsd40.org

Regarding: District-Wide Radon Testing  
Fir Ridge Campus  
11215 SE Market Street  
Portland, Oregon  
PBS Project 23179.065, Phase 0001

Dear Mr. Callaway:

From December 10 to 13, 2018, PBS Engineering and Environmental Inc. (PBS) performed short-term radon testing at the Fir Ridge Campus, located at 11215 SE Market Street in Portland, Oregon.

The Environmental Protection Agency (EPA) recommends, and the Oregon Health Authority (OHA) requires, that school buildings be tested for radon, and that any radon concentrations be maintained below 4.0 picocuries per liter (pCi/L) of air. PBS used Air Chek, 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 that all short-term radon tests at the Fir Ridge Campus were 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 that 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](mailto:dale.voeller@pbsusa.com) with any questions or comments.

Sincerely,

Dale Voeller, CHMM, CSP  
Senior Project Manager

Attachment: Air Chek, Laboratory Analysis Report

DSV:mo

Radon test result report for:**FIR RIDGE  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9122997	ASSISTANT PRINC.	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	1.7 ± 0.3	2018-12-14
9122990	CAF 1	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	1.4 ± 0.2	2018-12-14
9122991	CAF 2	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	1.9 ± 0.3	2018-12-14
9122999	COUNSELING RM	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	2.0 ± 0.3	2018-12-14
9122980	GYM 1	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	< 0.3	2018-12-14
9123146	GYM 2	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	< 0.3	2018-12-14
9122977	GYM OFF. BLANK	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	< 0.3	2018-12-14
9123145	GYM OFF. DUP	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	2.6 ± 0.3	2018-12-14
9123147	GYM OFFICE	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	2.3 ± 0.2	2018-12-14
9122994	KITCHEN OFFICE	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	0.9 ± 0.2	2018-12-14
9123155	LIB. 1 DUP	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	1.4 ± 0.2	2018-12-14
9123152	LIBRARY 1	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	1.4 ± 0.3	2018-12-14
9123151	LIBRARY 2	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	1.3 ± 0.3	2018-12-14
9122996	MAIN OFFICE	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	2.2 ± 0.3	2018-12-14
9122992	NURSE RM	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	1.8 ± 0.2	2018-12-14
9123000	OFFICE CONF. RM	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	1.9 ± 0.3	2018-12-14
9122998	PRINCIPAL OFFICE	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	2.6 ± 0.3	2018-12-14
9122979	RM 1 DUP	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	0.8 ± 0.2	2018-12-14
9122978	ROOM 1	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	0.8 ± 0.2	2018-12-14
9123153	ROOM 10	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	1.6 ± 0.2	2018-12-14
9123154	ROOM 11	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	1.6 ± 0.2	2018-12-14
9122976	ROOM 12	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	1.6 ± 0.3	2018-12-14
9122995	ROOM 14	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	2.2 ± 0.3	2018-12-14
9122984	ROOM 2	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	0.8 ± 0.2	2018-12-14
9122985	ROOM 3	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	0.8 ± 0.2	2018-12-14
9122986	ROOM 4	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	0.7 ± 0.2	2018-12-14
9122987	ROOM 5	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	0.9 ± 0.2	2018-12-14
9122989	ROOM 6	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	0.7 ± 0.2	2018-12-14
9123149	ROOM 7	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	2.3 ± 0.3	2018-12-14
9123150	ROOM 8	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	2.4 ± 0.3	2018-12-14
9123148	ROOM 9	2018-12-10 @ 3:00 pm	2018-12-13 @ 2:00 pm	2.5 ± 0.3	2018-12-14
9122993	STAFF BREAK RM	2018-12-10 @ 2:00 pm	2018-12-13 @ 2:00 pm	1.2 ± 0.2	2018-12-14