



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
West Powellhurst Elementary School
2921 SE 116th Avenue
Portland, Oregon
PBS Project 23179.065, Phase 0001

Dear Mr. Callaway:

From December 11 to 14, 2018, PBS Engineering and Environmental Inc. (PBS) performed short-term radon testing at the West Powellhurst Elementary School, located at 2921 SE 116th Avenue 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.

The following table lists all samples in which radon levels were found to be above the EPA action level.

Test Kits with Radon 4.0 pCi/L or above

Test Kit Number	Sample Location	Radon Level (pCi/L)
9123167	Custodial office	4.2
9123482	Ms. Chartier office	4.3
9123171	Office by Cafeteria	4.5
9123475	Room 14	4.3

A long-term radon detector kit has been placed in all areas with radon levels between 4.0 and 8.0 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 with any questions or comments.

Sincerely,

Dale Voeller, CHMM, CSP
Senior Project Manager

Attachment: Air Chek, Inc., Laboratory Analysis Report

DSV:mo

Radon test result report for:
**WEST POWELLHURST
 MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9123162	CAFETERIA 1	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.3 ± 0.3	2018-12-15
9123160	CAFETERIA 2	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.0 ± 0.2	2018-12-15
9123164	COMPUTER ROOM	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	3.5 ± 0.3	2018-12-15
9123167	CUSTODIAL OFFICE	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	4.2 ± 0.3	2018-12-15
9123455	FACULTY LOUNGE	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.9 ± 0.3	2018-12-15
9123454	HEALTH ROOM	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.0 ± 0.3	2018-12-15
9123159	KITCH. OFF. DUP	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.5 ± 0.3	2018-12-15
9123471	KITCHEN OFFICE	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.8 ± 0.3	2018-12-15
9123163	LIBR. 1 DUP	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.3 ± 0.3	2018-12-15
9123474	LIBRARY 1	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.1 ± 0.3	2018-12-15
9123166	LIBRARY 2	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.1 ± 0.3	2018-12-15
9123453	MAIN OFFICE	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.0 ± 0.3	2018-12-15
9123482	MS. CHARTIER OFF	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	4.3 ± 0.4	2018-12-15
9123171	OFFICE BY CAF	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	4.5 ± 0.3	2018-12-15
9123456	OFFICE WORK RM	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.1 ± 0.3	2018-12-15
9123457	PRINCIPAL OFFICE	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.9 ± 0.3	2018-12-15
9123462	ROOM 10	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.3 ± 0.3	2018-12-15
9123463	ROOM 11	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.7 ± 0.3	2018-12-15
9123464	ROOM 12	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.8 ± 0.3	2018-12-15
9123476	ROOM 13	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.7 ± 0.3	2018-12-15
9123475	ROOM 14	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	4.3 ± 0.3	2018-12-15
9123467	ROOM 15	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	3.2 ± 0.3	2018-12-15
9123468	ROOM 16	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.7 ± 0.3	2018-12-15
9123469	ROOM 17	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.6 ± 0.3	2018-12-15
9123470	ROOM 18	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.2 ± 0.3	2018-12-15
9123156	ROOM 19	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.2 ± 0.3	2018-12-15
9123472	ROOM 20	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.5 ± 0.3	2018-12-15
9123157	ROOM 21	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	3.1 ± 0.3	2018-12-15
9123480	ROOM 22	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.1 ± 0.3	2018-12-15
9123479	ROOM 23	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.7 ± 0.3	2018-12-15
9123478	ROOM 24	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.5 ± 0.3	2018-12-15
9123466	ROOM 24 BLANK	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	< 0.3	2018-12-15
9123477	ROOM 25	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.5 ± 0.3	2018-12-15
9123465	ROOM 25 DUP	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.4 ± 0.3	2018-12-15
9123458	ROOM 4	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	1.5 ± 0.2	2018-12-15
9123169	ROOM 5	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	3.2 ± 0.3	2018-12-15
9123459	ROOM 7	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.8 ± 0.3	2018-12-15

December 17, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**WEST POWELLHURST
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9123481	ROOM 7 DUP	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.8 ± 0.3	2018-12-15
9123460	ROOM 8	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	1.9 ± 0.3	2018-12-15
9123461	ROOM 9	2018-12-11 @ 2:00 pm	2018-12-14 @ 2:00 pm	2.1 ± 0.3	2018-12-15
9123165	SPEECH ROOM	2018-12-11 @ 3:00 pm	2018-12-14 @ 3:00 pm	2.0 ± 0.2	2018-12-15
9123168	STAGE OFF. BLANK	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	< 0.3	2018-12-15
9123173	STAGE OFFICE	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.2 ± 0.3	2018-12-15

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

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**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**WEST POWELLHURST
MUSIC POD**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9123178	MUSIC OFFICE	2018-12-11 @ 4:00 pm	2018-12-14 @ 2:00 pm	< 0.3	2018-12-15
9123473	MUSIC OFFICE DUP	2018-12-11 @ 4:00 pm	2018-12-14 @ 2:00 pm	0.6 ± 0.2	2018-12-15

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**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**WEST POWELLHURST
SPORTS CENTER**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9123172	GYM 1	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	1.2 ± 0.2	2018-12-15
9123174	GYM 2	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	1.1 ± 0.2	2018-12-15
9123176	MUSIC RM	2018-12-11 @ 4:00 pm	2018-12-14 @ 2:00 pm	1.0 ± 0.2	2018-12-15
9123177	ROOM 1	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	2.8 ± 0.3	2018-12-15
9123175	ROOM 2	2018-12-11 @ 3:00 pm	2018-12-14 @ 3:00 pm	1.7 ± 0.3	2018-12-15
9123170	ROOM 3	2018-12-11 @ 3:00 pm	2018-12-14 @ 2:00 pm	1.4 ± 0.3	2018-12-15

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