



November 27, 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  
Alice Ott Middle School  
12500 SE Ramona Street  
Portland, Oregon  
PBS Project 23179.065, Phase 0001

Dear Mr. Callaway:

From November 13 to 16, 2018, PBS Engineering and Environmental Inc. (PBS) performed short-term radon testing at Alice Ott Middle School, located at 12500 SE Ramona 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.

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)
9122800	Mr. Bennor Counseling Office	4.2
9124161	Room under weight room (old locker rooms)	8.4

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: AirChek, Inc., Laboratory Analysis Report

DSV:mo

Radon test result report for:**ALICE OTT  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9124162	CAFETERIA 1	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	1.7 ± 0.4	2018-11-20
9124167	CAFETERIA 2	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	1.4 ± 0.4	2018-11-20
9124198	GIRLS LOCKER OFF	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.3 ± 0.4	2018-11-20
9124183	GYM 1	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.3 ± 0.3	2018-11-20
9124178	GYM 2	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.7 ± 0.4	2018-11-20
9124197	GYM OFFICE	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	0.8 ± 0.4	2018-11-20
9124192	GYM OFFICE BLANK	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	< 0.3	2018-11-20
9124190	GYM OFFICE DUP	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.2 ± 0.4	2018-11-20
9124137	HEALTH RM	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	3.5 ± 0.4	2018-11-20
9124163	KITCH. OFF BLANK	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	< 0.3	2018-11-20
9124168	KITCHEN OFFICE	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	< 0.3	2018-11-20
9124189	LIBRARY 1	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	3.1 ± 0.4	2018-11-20
9124173	LIBRARY 1 DUP	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	3.5 ± 0.4	2018-11-20
9124188	LIBRARY 2	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	3.0 ± 0.4	2018-11-20
9124139	MAIN OFFICE	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	2.3 ± 0.4	2018-11-20
9122800	MR. BENNOR COUNC	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	4.2 ± 0.5	2018-11-20
9122799	MR. FILLIS OFFIC	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	2.8 ± 0.4	2018-11-20
9124187	MUSIC OFFICE	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.2 ± 0.4	2018-11-20
9122797	OFFICE CONF.	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	1.3 ± 0.3	2018-11-20
9122795	OFFICE WORK RM	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	1.1 ± 0.4	2018-11-20
9124138	PRINCIPAL OFF.	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	2.3 ± 0.4	2018-11-20
9124143	RM 30	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	1.6 ± 0.4	2018-11-20
9122796	RM 32 WRK RM DUP	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	1.9 ± 0.4	2018-11-20
9124161	RM UNDER WEIGHT	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	8.4 ± 0.6	2018-11-20
9122798	RM. 32 WORK RM	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	1.9 ± 0.4	2018-11-20
9124145	ROOM 1	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	1.1 ± 0.4	2018-11-20
9124160	ROOM 10	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	2.4 ± 0.4	2018-11-20
9124154	ROOM 11	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	1.3 ± 0.3	2018-11-20
9124158	ROOM 11A	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	2.3 ± 0.4	2018-11-20
9124152	ROOM 12	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	1.4 ± 0.4	2018-11-20
9124153	ROOM 13	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	1.3 ± 0.4	2018-11-20
9124148	ROOM 14	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	1.1 ± 0.3	2018-11-20
9124172	ROOM 15	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	1.0 ± 0.4	2018-11-20
9124171	ROOM 15 BLANK	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	< 0.3	2018-11-20
9124142	ROOM 15D	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	2.6 ± 0.4	2018-11-20
9124170	ROOM 16	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	1.5 ± 0.4	2018-11-20
9124166	ROOM 16 DUP	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	1.3 ± 0.4	2018-11-20

Radon test result report for:**ALICE OTT  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9124165	ROOM 17	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	1.4 ± 0.4	2018-11-20
9124164	ROOM 18	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	2.0 ± 0.4	2018-11-20
9124157	ROOM 19	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	1.7 ± 0.4	2018-11-20
9124146	ROOM 2	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	1.0 ± 0.4	2018-11-20
9124147	ROOM 2 DUP	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	0.8 ± 0.3	2018-11-20
9124182	ROOM 20	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.8 ± 0.4	2018-11-20
9124169	ROOM 20 DUP	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.9 ± 0.4	2018-11-20
9124181	ROOM 21	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.3 ± 0.3	2018-11-20
9124177	ROOM 22	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	0.6 ± 0.3	2018-11-20
9124176	ROOM 23	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	0.6 ± 0.4	2018-11-20
9124175	ROOM 24	2018-11-13 @ 10:00 am	2018-11-16 @ 12:00 pm	0.6 ± 0.3	2018-11-20
9124186	ROOM 25	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.8 ± 0.4	2018-11-20
9124174	ROOM 26	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.8 ± 0.4	2018-11-20
9124185	ROOM 27	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.2 ± 0.3	2018-11-20
9124180	ROOM 28	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.3 ± 0.4	2018-11-20
9124179	ROOM 29	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.1 ± 0.4	2018-11-20
9124155	ROOM 3	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	0.8 ± 0.3	2018-11-20
9124144	ROOM 31	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	1.5 ± 0.4	2018-11-20
9124140	ROOM 32	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	1.4 ± 0.4	2018-11-20
9124156	ROOM 4	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	0.6 ± 0.3	2018-11-20
9124141	ROOM 5	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	1.1 ± 0.4	2018-11-20
9124151	ROOM 6	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	1.9 ± 0.4	2018-11-20
9124149	ROOM 7	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	2.1 ± 0.4	2018-11-20
9124150	ROOM 8	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	2.4 ± 0.4	2018-11-20
9124159	ROOM 9	2018-11-13 @ 10:00 am	2018-11-16 @ 11:00 am	3.0 ± 0.4	2018-11-20
9124184	SPEECH BY MUSIC	2018-11-13 @ 11:00 am	2018-11-16 @ 12:00 pm	1.3 ± 0.4	2018-11-20
9124119	VICE PRINCIPAL	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	2.1 ± 0.4	2018-11-20
9124133	WENDLER COUNC.	2018-11-13 @ 9:00 am	2018-11-16 @ 11:00 am	2.2 ± 0.4	2018-11-20