



March 16, 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
Mill Park Elementary School
1900 SE 117th Avenue
Portland, Oregon 97216
PBS Project 23179.043, Phase 0002

Dear Mr. Callaway:

From March 5 to 8, 2018, PBS Engineering and Environmental Inc. (PBS) performed short-term radon testing at Mill Park Elementary School located at 1900 SE 117th Avenue in Portland, 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 Air Chek, Inc., 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)
9014677	140 – STAGE OFFICE	9.1
9014679	STAGE	4.5
9014707	STAGE – Duplicate	4.4
9014680	CAFETERIA 1	4.8
9014681	CAFETERIA 2	5.4
9014682	147 – SUN OFFICE	4.2
9014705	151 – OFFICE	4.5

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 503.417.7694 or chris.boyce@pbsusa.com with any questions or comments.

Sincerely,



Chris Boyce
Project Manager

Attachment: Air Chek, Inc., Laboratory Analysis Report

CB::AJ

Radon test result report for:**MILL PARK
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9014665	1	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.0 ± 0.4	2018-03-12
9014675	10	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	1.2 ± 0.3	2018-03-12
9014657	103 OFFICE	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.6 ± 0.4	2018-03-12
9014704	11	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.0 ± 0.4	2018-03-12
9014662	111 STAFF LUNCH	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	3.6 ± 0.5	2018-03-12
9014664	116 COUNSELOR	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.1 ± 0.4	2018-03-12
9014703	12	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.3 ± 0.3	2018-03-12
9014702	13	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.4 ± 0.4	2018-03-12
9014701	14	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.4 ± 0.4	2018-03-12
9014677	140 STAGE OFFICE	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	9.1 ± 0.6	2018-03-12
9014682	147 SUN OFFICE	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	4.2 ± 0.5	2018-03-12
9014700	15	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.0 ± 0.3	2018-03-12
9014705	151 OFFICE	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	4.5 ± 0.5	2018-03-12
9014699	16	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.5 ± 0.4	2018-03-12
9014698	17	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.3 ± 0.4	2018-03-12
9014697	18	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.7 ± 0.4	2018-03-12
9014696	19	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.4 ± 0.4	2018-03-12
9014666	2	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.3 ± 0.3	2018-03-12
9014695	20	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.4 ± 0.4	2018-03-12
9014706	20 -DUP	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.2 ± 0.3	2018-03-12
9014691	21	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.8 ± 0.4	2018-03-12
9014692	21-DUP	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.5 ± 0.4	2018-03-12
9014694	22	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.5 ± 0.4	2018-03-12
9014689	23	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	2.6 ± 0.4	2018-03-12
9014690	24	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	2.1 ± 0.4	2018-03-12
9014676	25	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	1.0 ± 0.3	2018-03-12
9014678	25A	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	0.8 ± 0.3	2018-03-12
9014667	3	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.2 ± 0.4	2018-03-12
9014668	4	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	0.7 ± 0.3	2018-03-12
9014669	5	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	1.4 ± 0.4	2018-03-12
9014671	5-DUP	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	1.1 ± 0.3	2018-03-12
9014670	6	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.2 ± 0.4	2018-03-12
9014672	7	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	1.6 ± 0.3	2018-03-12
9014673	8	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	1.9 ± 0.4	2018-03-12
9014674	9	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	1.6 ± 0.4	2018-03-12
9014658	BLANK 1	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	< 0.3	2018-03-12
9014685	BLANK 2	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	< 0.3	2018-03-12

March 15, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**MILL PARK
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9014681	CAFETERIA2	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	5.4 ± 0.4	2018-03-12
9014680	CAFETRIA 1	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	4.8 ± 0.5	2018-03-12
9014684	CUST./GYM STOR.	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.2 ± 0.4	2018-03-12
9014686	GYM 1	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.6 ± 0.3	2018-03-12
9014687	GYM 2	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.6 ± 0.4	2018-03-12
9014688	GYM OFFICE	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	1.5 ± 0.4	2018-03-12
9014659	HEALTH	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.0 ± 0.4	2018-03-12
9014683	KITCHEN OFFICE	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	3.8 ± 0.4	2018-03-12
9014663	LIBRARY	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.7 ± 0.4	2018-03-12
9014656	MAIN OFFICE	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.2 ± 0.4	2018-03-12
9014660	PRINCIPAL	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.3 ± 0.4	2018-03-12
9014661	PRINCIPAL-DUP	2018-03-05 @ 1:00 pm	2018-03-08 @ 2:00 pm	1.4 ± 0.4	2018-03-12
9014679	STAGE	2018-03-05 @ 1:00 pm	2018-03-08 @ 3:00 pm	4.5 ± 0.5	2018-03-12
9014707	STAGE -DUP	2018-03-05 @ 2:00 pm	2018-03-08 @ 3:00 pm	4.4 ± 0.4	2018-03-12