



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
Floyd Light Middle School
10800 SE Washington 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 Floyd Light Middle School, located at 10800 SE Washington 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 Floyd Light Middle School 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 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:**FLOYD LIGHT
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9122913	ATTENDANCE MAIN	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.6 ± 0.2	2018-12-14
9122973	BOYS L.R. OFF DU	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	2.2 ± 0.3	2018-12-14
9122972	BOYS LOCKER OFF	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	2.1 ± 0.3	2018-12-14
9122975	CAF 1	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	0.9 ± 0.2	2018-12-14
9122981	CAF 2	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.0 ± 0.2	2018-12-14
9122988	CHSTODIAN OFFICE	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	0.9 ± 0.2	2018-12-14
9122936	COMP RM	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	3.0 ± 0.3	2018-12-14
9122957	COMP RM BLANK	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	< 0.3	2018-12-14
9122946	COMP RM DUP	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.9 ± 0.3	2018-12-14
9122905	CONF RM 01	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.2 ± 0.2	2018-12-14
9122911	CONF. 01 DUP	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.5 ± 0.3	2018-12-14
9122974	GIRLS L.R. LATU	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.6 ± 0.3	2018-12-14
9122971	GIRLS LOCKER OFF	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.9 ± 0.3	2018-12-14
9122962	GYM 1	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.2 ± 0.2	2018-12-14
9122961	GYM 2	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.4 ± 0.2	2018-12-14
9122983	KITCHEN OFFICE	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.3 ± 0.2	2018-12-14
9122934	LIBRARY 1	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.5 ± 0.3	2018-12-14
9122945	LIBRARY 2	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.2 ± 0.3	2018-12-14
9122958	LIBRARY OFFICE	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.9 ± 0.3	2018-12-14
9122901	MAIN OFFICE	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.6 ± 0.3	2018-12-14
9122908	MRS. CHARLES OFF	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.5 ± 0.2	2018-12-14
9122904	NURSES OFFICE	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.4 ± 0.2	2018-12-14
9122910	OFFICE 02	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.3 ± 0.2	2018-12-14
9122909	OFFICE 03	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.2 ± 0.2	2018-12-14
9122902	OFFICE 04	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.3 ± 0.2	2018-12-14
9122903	OFFICE 06	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.2 ± 0.2	2018-12-14
9122906	OFFICE 08	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.5 ± 0.2	2018-12-14
9122914	OFFICE 09	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.0 ± 0.3	2018-12-14
9122912	OFFICE BREAK RM	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.3 ± 0.2	2018-12-14
9122982	PANTRY RM	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.1 ± 0.2	2018-12-14
9122907	PRINCIPAL OFF.	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	1.5 ± 0.2	2018-12-14
9122959	RM 28 OFF BLANK	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	< 0.3	2018-12-14
9122966	RM 29 OFF DUP	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	0.9 ± 0.2	2018-12-14
9122967	RM 29 OFFICE	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.0 ± 0.2	2018-12-14
9122969	RM 30 OFFICE	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	0.9 ± 0.2	2018-12-14
9122935	RM 33 DUP	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.7 ± 0.3	2018-12-14
9122929	RM 4 DUP	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.7 ± 0.3	2018-12-14

Radon test result report for:**FLOYD LIGHT
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9122928	RM 5 BLANK	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	< 0.3	2018-12-14
9122930	ROOM 1	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.3 ± 0.3	2018-12-14
9122927	ROOM 10	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	3.0 ± 0.3	2018-12-14
9122944	ROOM 11	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	2.5 ± 0.3	2018-12-14
9122943	ROOM 12	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	2.3 ± 0.3	2018-12-14
9122942	ROOM 13	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	1.9 ± 0.3	2018-12-14
9122941	ROOM 14	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	2.2 ± 0.3	2018-12-14
9122940	ROOM 15	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	2.8 ± 0.3	2018-12-14
9122939	ROOM 16	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	2.3 ± 0.3	2018-12-14
9122938	ROOM 17	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	2.2 ± 0.3	2018-12-14
9122937	ROOM 18	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	2.2 ± 0.2	2018-12-14
9122950	ROOM 19	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	1.9 ± 0.3	2018-12-14
9122915	ROOM 2	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.4 ± 0.3	2018-12-14
9122949	ROOM 20	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	1.7 ± 0.3	2018-12-14
9122948	ROOM 21	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.1 ± 0.3	2018-12-14
9122947	ROOM 22	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.1 ± 0.3	2018-12-14
9122956	ROOM 23	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.2 ± 0.2	2018-12-14
9122954	ROOM 24	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	1.8 ± 0.3	2018-12-14
9122953	ROOM 25	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.2 ± 0.3	2018-12-14
9122952	ROOM 26	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	1.9 ± 0.3	2018-12-14
9122951	ROOM 27	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.5 ± 0.3	2018-12-14
9122963	ROOM 28	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.3 ± 0.2	2018-12-14
9122960	ROOM 28 OFFICE	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.3 ± 0.2	2018-12-14
9122968	ROOM 29	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.0 ± 0.2	2018-12-14
9122916	ROOM 3	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.6 ± 0.3	2018-12-14
9122965	ROOM 30	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.3 ± 0.2	2018-12-14
9122964	ROOM 31	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.5 ± 0.2	2018-12-14
9122970	ROOM 31 OFFICE	2018-12-10 @ 1:00 pm	2018-12-13 @ 1:00 pm	1.4 ± 0.2	2018-12-14
9122955	ROOM 33	2018-12-10 @ 12:00 pm	2018-12-13 @ 1:00 pm	2.7 ± 0.3	2018-12-14
9122923	ROOM 35	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	1.1 ± 0.2	2018-12-14
9122933	ROOM 35 DUP	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	1.2 ± 0.2	2018-12-14
9122924	ROOM 36	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	1.1 ± 0.2	2018-12-14
9122925	ROOM 37	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	0.8 ± 0.2	2018-12-14
9122926	ROOM 38	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	1.0 ± 0.2	2018-12-14
9122932	ROOM 39	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	1.0 ± 0.2	2018-12-14
9122917	ROOM 4	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.8 ± 0.3	2018-12-14
9122931	ROOM 40	2018-12-10 @ 12:00 pm	2018-12-13 @ 12:00 pm	1.4 ± 0.2	2018-12-14

December 18, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**FLOYD LIGHT
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9122918	ROOM 5	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.2 ± 0.3	2018-12-14
9122919	ROOM 6	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.6 ± 0.3	2018-12-14
9122920	ROOM 7	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.3 ± 0.3	2018-12-14
9122921	ROOM 8	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.4 ± 0.3	2018-12-14
9122922	ROOM 9	2018-12-10 @ 11:00 am	2018-12-13 @ 12:00 pm	2.1 ± 0.3	2018-12-14

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