



December 20, 2020

Kevin Farrell
Dufur School District #29
802 NE 5th Street
Dufur, Oregon 97021

Via email: kfarrell@dufur.k12.or.us

Regarding: District-Wide Short-Term Radon Testing
PBS Project 25842.003 Phase 0001

Dear Mr. Farrell:

From December 14 to 17, 2020, PBS Engineering and Environmental Inc. (PBS) performed short-term radon testing at Dufur School District.

TESTED LOCATIONS

The following sites were communicated to PBS by Dufur School District staff as eligible for testing and were tested by PBS:

- Dufur School: 802 NE 5th Street, Dufur, Oregon
- Petersburg School: 3855 Fifteen Mile Road, The Dalles, Oregon

PBS endeavored to use sample location names based on existing room numbers or common-sense descriptions, but at Petersburg School no room numbers or other designations were available, and PBS assigned names or numbers to the rooms. PBS has attached a sketch of the building with assigned room numbers included.

METHODOLOGY

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. Samples were analyzed by Air Chek, Inc.

Testing was conducted during the COVID-19 pandemic and District facilities were broadly unoccupied by the usual number of students and staff. However, staff members were present and working in both buildings. PBS recommended that the District set facility heating, ventilation, and air conditioning (HVAC) settings to typical parameters to simulate a fully-occupied building and to do so in advance of the scheduled testing. The District communicated to PBS that this was done and PBS did not independently verify HVAC conditions. Testing was conducted during the winter heating season under closed building conditions.

Light renovation in a portion of the building was taking place during sampling at the Petersburg School. Work included painting and wall finishing. PBS determined that the work was sufficiently minor and did not impact closed building conditions or HVAC operations, and would not influence the results of the testing.

RESULTS

Laboratory results identified short-term radon tests below 2.0 pCi/L in every location tested in both buildings. See the attached laboratory analysis summary for more details. See the attached sketch of the Petersburg School building for location names chosen by PBS.

RECOMMENDATIONS

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).

Based on these recommendations, PBS recommends short-term radon testing again throughout the District in 2030. If significant renovations impacting the building envelope, layout, or HVAC system occur to any of the tested buildings, PBS recommends conducting short-term radon testing again following completion of the work.

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 503.515.7489 or james.mastanduno@pbsusa.com with any questions or comments.

Sincerely,

James Mastanduno
Project Manager

Attachments: Radon Sample Results
Petersburg School Sketch

Radon test result report for:**DUFUR SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
10005029	BOYS LOCKER OFF	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.6 ± 0.3	2020-12-18
10005009	CAFETERIA	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005014	CAFETERIA	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005020	CONCESSION 101	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.6 ± 0.3	2020-12-18
10005033	CONFERENCE 103F	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005028	GYM	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005015	GYM	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005024	GYM DUP	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005013	KITCHEN	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005008	LIBRARY	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.7 ± 0.3	2020-12-18
10005007	LIBRARY	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.7 ± 0.3	2020-12-18
10005019	MAIN ENTRY	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.6 ± 0.3	2020-12-18
10005031	NURSE 103D	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005021	OFFICE 103A	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005039	OFFICE 104	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.6 ± 0.3	2020-12-18
10005037	OFFICE BY 103G	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005025	RECEPTION 102	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005026	ROOM 103B	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005027	ROOM 103B DUP	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005032	ROOM 103E	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005038	ROOM 106	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.9 ± 0.3	2020-12-18
10005064	ROOM 106 BLANK	2020-12-14 @ 11:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005034	ROOM 107	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	1.5 ± 0.3	2020-12-18
10005043	ROOM 108	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005035	ROOM 109	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	1.9 ± 0.3	2020-12-18
10005040	ROOM 110	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.8 ± 0.3	2020-12-18
10005046	ROOM 110 DUP	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.7 ± 0.3	2020-12-18
10005049	ROOM 111	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	1.0 ± 0.3	2020-12-18
10005051	ROOM 112	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	1.5 ± 0.3	2020-12-18
10005030	ROOM 113	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	0.9 ± 0.3	2020-12-18
10005036	ROOM 113 OFFICE	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	???? IF1	2020-12-18
10005042	ROOM 114	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	0.8 ± 0.3	2020-12-18
10005023	ROOM 115	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	1.2 ± 0.3	2020-12-18
10005018	ROOM 116	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	1.3 ± 0.3	2020-12-18
10005016	ROOM 117	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.9 ± 0.3	2020-12-18
10005017	ROOM 118	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.9 ± 0.3	2020-12-18
10005012	ROOM 119	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	1.3 ± 0.3	2020-12-18

December 18, 2020

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**DUFUR SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
10005010	ROOM 120	2020-12-14 @ 9:00 am	2020-12-17 @ 9:00 am	1.9 ± 0.3	2020-12-18
10005011	ROOM 121	2020-12-14 @ 9:00 am	2020-12-17 @ 9:00 am	???? IF1	2020-12-18
10005006	ROOM 122	2020-12-14 @ 9:00 am	2020-12-17 @ 9:00 am	0.9 ± 0.3	2020-12-18
10005002	ROOM 123	2020-12-14 @ 9:00 am	2020-12-17 @ 9:00 am	0.8 ± 0.3	2020-12-18
10005005	ROOM 123 DUP	2020-12-14 @ 9:00 am	2020-12-17 @ 9:00 am	0.8 ± 0.3	2020-12-18
10005001	ROOM 124	2020-12-14 @ 9:00 am	2020-12-17 @ 9:00 am	1.3 ± 0.3	2020-12-18
10005003	ROOM 125	2020-12-14 @ 9:00 am	2020-12-17 @ 9:00 am	0.8 ± 0.3	2020-12-18
10005004	ROOM 126	2020-12-14 @ 9:00 am	2020-12-17 @ 9:00 am	< 0.3	2020-12-18
10005045	ROOM 8	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	1.5 ± 0.3	2020-12-18
10005022	SPEECH OFFICE	2020-12-14 @ 10:00 am	2020-12-17 @ 9:00 am	0.8 ± 0.3	2020-12-18

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

IFI: Invalid Test

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**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**DUFUR SCHOOL
UPPER GYM**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
10005041	GYM	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	0.9 ± 0.3	2020-12-18
10005047	GYM	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	1.2 ± 0.3	2020-12-18
10005060	GYM BLANK	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	< 0.3	2020-12-18

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**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**DUFUR SCHOOL
VOC BUILDING**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
10005058	305 BLANK	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	< 0.3	2020-12-18
10005055	METAL SHOP	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	< 0.3	2020-12-18
10005057	METAL SHOP DUP	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.5 ± 0.3	2020-12-18
10005044	ROOM 301	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	< 0.3	2020-12-18
10005048	ROOM 302	2020-12-14 @ 10:00 am	2020-12-17 @ 10:00 am	< 0.3	2020-12-18
10005050	ROOM 303	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	< 0.3	2020-12-18
10005052	ROOM 303 DUP	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	< 0.3	2020-12-18
10005053	ROOM 304	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.5 ± 0.3	2020-12-18
10005056	ROOM 305	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.6 ± 0.3	2020-12-18
10005059	SHOPS OFFICE	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.9 ± 0.3	2020-12-18
10005054	WOOD SHOP	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.7 ± 0.3	2020-12-18

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**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**PETERSBURG SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
10005072	GYM	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	1.2 ± 0.3	2020-12-18
10005066	GYM	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	1.2 ± 0.3	2020-12-18
10005068	GYM DUP	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	0.9 ± 0.3	2020-12-18
10005073	KITCHEN	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	1.2 ± 0.3	2020-12-18
10005074	MAIN OFFICE	2020-12-14 @ 12:00 pm	2020-12-17 @ 11:00 am	0.7 ± 0.3	2020-12-18
10005075	OFFICE BLANK	2020-12-14 @ 12:00 pm	2020-12-17 @ 11:00 am	< 0.3	2020-12-18
10005071	PRINCIPAL	2020-12-14 @ 12:00 pm	2020-12-17 @ 11:00 am	0.7 ± 0.3	2020-12-18
10005070	RECEPTION	2020-12-14 @ 12:00 pm	2020-12-17 @ 11:00 am	1.0 ± 0.3	2020-12-18
9407795	ROOM 01	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	1.2 ± 0.3	2020-12-18
9367782	ROOM 02	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.7 ± 0.3	2020-12-18
9407977	ROOM 03	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.6 ± 0.3	2020-12-18
9407779	ROOM 04	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.8 ± 0.3	2020-12-18
9407781	ROOM 05	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.8 ± 0.3	2020-12-18
9407786	ROOM 05 DUP	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.8 ± 0.3	2020-12-18
10005063	ROOM 06	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.9 ± 0.3	2020-12-18
9367788	ROOM 07	2020-12-14 @ 11:00 am	2020-12-17 @ 10:00 am	0.5 ± 0.3	2020-12-18
10005065	ROOM 08	2020-12-14 @ 11:00 am	2020-12-17 @ 11:00 am	0.7 ± 0.3	2020-12-18
10005062	ROOM 09	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	0.7 ± 0.3	2020-12-18
10005067	ROOM 09 OFFICE	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	0.8 ± 0.3	2020-12-18
10005061	ROOM 09 OFFICE	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	0.7 ± 0.3	2020-12-18
10005069	ROOM 10	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	0.6 ± 0.3	2020-12-18
9408000	ROOM 11	2020-12-14 @ 12:00 pm	2020-12-17 @ 10:00 am	< 0.3	2020-12-18

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Petersburg School Radon Assigned Room Numbers 12/14/2020

