APEX
ENVIRONMENTAL CONSULTING

February 3, 2021

Mr. Jesse Cavazos
Tigard Tualatin School District
6960 SW Sandburg
Tigard, Oregon 97223

RADON TESTING AT TEMPLETON ELEMENTARY SCHOOL IN TIGARD OREGON

Dear Mr. Cavazos:

At your request Apex Environmental collected samples for radon analysis at Templeton ES located at 9500 SW Murdock St. in Tigard, Oregon. This samples were collected for a period of approximately 48 hours using activated carbon short term kits. Short term radon test kits measure radon over a period of 2-4 days. The short-term kits utilized use a container that contains a quantity of granular activated charcoal. The charcoal absorbs the radon gas entering the container from the surrounding air. At the end of the testing period the container was sealed and set to Air Chek, Inc. for analysis. Radon levels reported by Air Chek were below the EPA corrective action recommendations (see attached table). Based upon these results follow-up testing or corrective action would not be required.

All testing was performed in accordance with the TTSD Radon Sampling Plan and the ANSI Protocol for Conducting Measurements of Radon Decay Products in Schools and Large Buildings (copyright 2015). Locations for testing were defined by the school district. Duplicate tests were performed at a rate of 10% in order to determine the reproducibility of the test and laboratory analysis. Field blank tests were taken at rate of 5%. Blanks are used to determine if the test kits have been contaminated during storage in order to maintain efficacy.

The US EPA action level for indoor radon is 4.0 pCi/L. The EPA indicates that there is little short-term risk with test results in this range (0.5 to 1.1 pCi/L). However, because radon levels fluctuate daily, as well as seasonally, the district may wish to retest during another season or in accordance with the district radon testing plan. Radon levels fluctuate so short-term test results may not be indicative of the true long-term average. Additionally, if you make any structural changes or start to use a lower level of the building more frequently, you should test again.

PO Box 1445
p 503.682.9737
Wilsonville, OR 97070
www.apexenviro.com
f 503.682.0525

If you have any questions or need anything further, please feel free to call me.

Sincerely,

Jose Godinez

Jose Godinez
Radon Measurement Technician

Attachments: Radon Results
Spike Results

February 3, 2021 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TEMPLETON ELEMENTARY SCHOOL

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9546677	A133	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546676	A134	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.7 ± 0.3	2021-01-18
9546675	A135	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546656	B110	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546610	B111	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546662	B111	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.5 ± 0.3	2021-01-18
9546903	B130	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.9 ± 0.3	2021-01-18
9546672	BLANK	2021-01-12 @ 8:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546689	BLANK	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546919	BLANK	2021-01-12 @ 8:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546681	CAFETERIA C101	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546685	CAFETERIA C101	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546915	CONFERENCE A104	2021-01-12 @ 7:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546671	CONFERENCE A127	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546658	CONFERENCE ROOM B104	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	1.1 ± 0.3	2021-01-18
9546683	COUNSELING A117	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546682	COUNSELING A118	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546684	COUNSELING A118	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546679	CUSTODIAL WORK ROOM A116	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546905	EXTENDED LEARNING B121	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546680	FAMILY RESOURCE A113	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546687	GYM D101	2021-01-12 @ 9:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546688	GYM D101	2021-01-12 @ 9:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546923	HALL A105	2021-01-12 @ 7:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546670	HALL A124	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546668	HALL A126	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546657	HALL B101	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.8 ± 0.3	2021-01-18
9546904	HALL B102	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546902	HALL B123	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.9 ± 0.3	2021-01-18
9546916	HEALTH ROOM A107	2021-01-12 @ 7:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546912	KILN B118	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.5 ± 0.3	2021-01-18
9546663	LIBRARY A121	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546664	LIBRARY A121	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546911	MAKERSPACE B117	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.5 ± 0.3	2021-01-18
9546667	MOBILITY A131	2021-01-12 @ 8:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546691	MUSIC C120	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
9546673	OFFICE A120	2021-01-12 @ 8:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18

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

February 3, 2021 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

TEMPLETON ELEMENTARY SCHOOL

	Kit #	Room Id	Started	Ended	pCi/L	Analyzed
	9546669	OFFICE A139	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.7 ± 0.3	2021-01-18
	9546692	PE OFFICE D103	2021-01-12 @ 9:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546693	PE OFFICE D103	2021-01-12 @ 9:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546690	PE STORAGE D103	2021-01-12 @ 9:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546917	PRINCIPAL A103	2021-01-12 @ 7:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
	9546924	RECEPTION A102	2021-01-12 @ 7:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
	9546906	RECORD C102	2021-01-12 @ 8:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
	9546666	RESOURCE ROOM A132	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546655	ROOM B115	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546921	ROOM B116	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546910	ROOM B127	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.6 ± 0.3	2021-01-18
	9546909	ROOM B128	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546908	ROOM B129	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.8 ± 0.3	2021-01-18
	9546913	ROOM B131	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546914	ROOM B131	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
	9546665	SPEECH A129	2021-01-12 @ 8:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
	9546678	STAFF ROOM A119	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
	9546686	STAGE C116	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
SPIKE	9546868	STAGE C117	2021-01-12 @ 9:00 am	2021-01-14 @ 3:00 pm	18.5 ± 1.1	2021-01-19
	9546918	TUTORIAL A106	2021-01-12 @ 7:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
	9546674	WORK ROOM A114	2021-01-12 @ 8:00 am	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
	9546659	WORK ROOM B103	2021-01-12 @ 8:00 am	2021-01-14 @ 2:00 pm	0.7 ± 0.3	2021-01-18

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Spike Sample: 9546868

Radon Chamber

Kansas State University

KSU Radon Chamber NRPP Certification ID Number SC-1006

Date: 1/13/2021

Tulla Stocker
Apex Environmental
12950 SW Westfall Rd Sherwood OR 97140
503.789.4185
Tulla.stocker@apexenviro.com

These are the results of the spiking that we performed on the device(s) listed below:

Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Chamber Value *
9546868	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546877	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546896	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546615	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546638	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546860	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546861	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546779	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546780	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546777	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546855	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**
9546898	**1/11/2021**	**11:00**	**1/13/2021**	**11:00**	**22.2 pCi/L**

These devices were spiked in our chamber at an average relative humidity of avg/rh 12.8 %.
These devices were spiked in our chamber at a chamber temperature of 72 ° f.
This chamber is at an elevation of approximately 1020 feet.

The additional information below is provided as a service for our customers who have furnished KSU Radon Chamber with the customer's measured values for the above devices. This equation calculates the difference between our chamber value and the customer's measured value and is called the percent error. It is calculated as follows:

$$\% \text{ Error} = \frac{\text{Measured Value} - \text{Chamber Value}}{\text{Chamber Value}} * 100$$

Measured Value: pCi/L **Chamber Value:** pCi/L **Error:**

Thank you for your patronage. If we can be of further help, please email us at radonchamber@ksu.edu or call us at (785-532-4992.

Sincerely,

Bruce Snead