APEX
ENVIRONMENTAL CONSULTING

February 3, 2021

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

RADON TESTING AT TUALATIN HIGH SCHOOL IN TUALATIN OREGON

Dear Mr. Cavazos:

At your request Apex Environmental collected samples for radon analysis at Tualatin HS located at 22300 SW Boones Ferry Rd. in Tualatin, Oregon. This samples were collected for a period of approximately 72 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 3.0 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:

TUALATIN HIGH SCHOOL

	Kit #	Room Id	Started	Ended	pCi/L	Analyzed
	9546757	134	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	0.8 ± 0.3	2021-01-18
	9546752	134A	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546758	135	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546762	135A	2021-01-11 @ 9:00 am	2021-01-14 @ 7:00 am	1.6 ± 0.3	2021-01-18
	9546760	135B	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	1.2 ± 0.3	2021-01-18
	9546759	135C	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	0.6 ± 0.3	2021-01-18
	9546763	136	2021-01-11 @ 9:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546770	137	2021-01-11 @ 9:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546766	137A	2021-01-11 @ 9:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546790	171	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	0.8 ± 0.3	2021-01-18
	9546785	173	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	0.6 ± 0.3	2021-01-18
SPIKE	9546898	173B	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	17.8 ± 1.1	2021-01-19
	9546784	174	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546783	175	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546800	185	2021-01-11 @ 7:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546795	186	2021-01-11 @ 7:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546796	187	2021-01-11 @ 7:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546772	191	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546776	191A	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	2.2 ± 0.4	2021-01-18
	9546771	191B	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	3.0 ± 0.4	2021-01-18
	9546774	191C	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	1.6 ± 0.4	2021-01-18
	9546778	192	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546773	192A	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	0.5 ± 0.3	2021-01-18
	9546781	193	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546769	195	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546768	196	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546767	196A	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546764	198	2021-01-11 @ 9:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546765	198	2021-01-11 @ 9:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
	9546754	322	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546755	322	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546756	323	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
SPIKE	9546777	324	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	17.8 ± 1.1	2021-01-19
	9546761	BLANK	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546775	BLANK	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546789	BLANK	2021-01-11 @ 8:00 am	2021-01-14 @ 8:00 am	< 0.3	2021-01-18
	9546751	COMMONS	2021-01-11 @ 9:00 am	2021-01-14 @ 8:00 am	0.7 ± 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:
TUALATIN HIGH SCHOOL

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9546794	CONFERENCE ROOM	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
9546782	FITNESS	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
9546787	FITNESS	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
9546788	INTERNATIONAL HALL	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
9546799	PRINCIPLE 1	2021-01-11 @ 7:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
9546791	ROOM 170	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	1.1 ± 0.4	2021-01-18
9546792	ROOM 170	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	0.7 ± 0.3	2021-01-18
9546786	ROOM 172	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
9546793	VP1	2021-01-11 @ 8:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
9546798	VP2	2021-01-11 @ 7:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18
9546797	VP3	2021-01-11 @ 7:00 am	2021-01-14 @ 7:00 am	< 0.3	2021-01-18

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Spike Sample: 9546898 and 9546777

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