APEX
ENVIRONMENTAL CONSULTING

February 3, 2021

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

RADON TESTING AT FOWLER MIDDLE SCHOOL IN TIGARD OREGON

Dear Mr. Cavazos:

At your request Apex Environmental collected samples for radon analysis at Fowler MS located at 10865 Walnut Street in Tigard, 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 ar. 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 (0.6 to 1.9 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:

FOWLER MIDDLE SCHOOL

	Kit #	Room Id	Started	Ended	pCi/L	Analyzed
	9546922	BLANK	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
SPIKE	9546877	CHOIR OFFICE	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	15.9 ± 1.0	2021-01-19
	9546931	CHOIR ROOM	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546928	HEALTH ROOM 07	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546942	KLIN ROOM 38A	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	1.2 ± 0.3	2021-01-18
	9546938	MAKERSPACE 42C	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546920	OFFICE 02	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546929	OFFICE 03	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546930	OFFICE 04	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546925	OFFICE 05	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546926	OFFICE 05	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546933	RECEPTION 01	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546934	RECEPTION O9	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546940	ROBOTICS 42B	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546947	SCIENCE PREP 25	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546943	SCIENCE ROOM 24	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	0.7 ± 0.3	2021-01-18
	9546946	SCIENCE ROOM 26	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	1.9 ± 0.3	2021-01-18
	9546948	SCIENCE ROOM 27	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	1.5 ± 0.3	2021-01-18
	9546945	SCIENCE ROOM 28	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	0.6 ± 0.3	2021-01-18
	9546944	SCIENCE ROOM 29	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	0.6 ± 0.3	2021-01-18
	9546949	SCIENCE ROOM 30	2021-01-11 @ 5:00 pm	2021-01-14 @ 3:00 pm	< 0.3	2021-01-18
	9546941	STEM 42A	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546939	STEM 42D	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546932	TECHNOLOGY 42E	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546937	TECHNOLOGY 42E	2021-01-11 @ 5:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546936	WAITING O-11	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 pm	< 0.3	2021-01-18
	9546927	WORK ROOM 06	2021-01-11 @ 6:00 pm	2021-01-14 @ 4:00 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

Spike Sample: 9546877

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