APEX
ENVIRONMENTAL CONSULTING

February 3, 2021

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

RADON TESTING AT CREEKSIDE COMMUNITY HIGH SCHOOL IN TIGARD OREGON

Dear Mr. Cavazos:

At your request Apex Environmental collected samples for radon analysis at Creekside ES located at 8040 SW Durham Road 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 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 with the exception of one location collected from the Science Classroom 123 and the duplicate sample collected side by side. (see attached table). Radon levels in the Science Classroom were 4.6 and 4.9 pCi/L. Based upon these results long term follow-up testing is recommended.

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 efficiency.

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 all under the detection level of 0.3 pCi/L. Results of radon samples collected at Bridgeport ES ranged from 0.6 to 4.9 pCi/L. However, because radon levels fluctuate daily, as well as seasonally, you may want to retest during another season. 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. Long term follow up sampling will be conducted in the Science Classroom 123 which showed levels above the action level.

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 4, 2021 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

CREEKSIDE COMMUNITY HIGH SCHOOL

	Kit #	Room Id	Started	Ended	pCi/L	Analyzed
	9546618	BLANK	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	< 0.3	2021-01-18
	9546613	COMMONS 120	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	1.5 ± 0.3	2021-01-18
	9546614	COMPUTER ROOM 115	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	1.4 ± 0.3	2021-01-18
	9546723	DIRECTOR 102	2021-01-11 @ 11:00 am	2021-01-14 @ 10:00 am	1.2 ± 0.3	2021-01-18
	9546747	FLEX ROOM 117	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	1.6 ± 0.4	2021-01-18
	9546737	KITCHEN	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	1.2 ± 0.4	2021-01-18
	9546605	MAKERSPACE 125	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	0.6 ± 0.3	2021-01-18
	9546617	MEETING 107	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	1.1 ± 0.3	2021-01-18
	9546616	PHONE ROOM 108	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	1.1 ± 0.3	2021-01-18
	9546623	RECEPTION 101	2021-01-11 @ 11:00 am	2021-01-14 @ 10:00 am	1.5 ± 0.3	2021-01-18
	9546724	RECEPTION 101	2021-01-11 @ 11:00 am	2021-01-14 @ 10:00 am	1.5 ± 0.4	2021-01-18
	9546622	ROOM 103	2021-01-11 @ 11:00 am	2021-01-14 @ 10:00 am	0.8 ± 0.3	2021-01-18
	9546722	ROOM 104	2021-01-11 @ 11:00 am	2021-01-14 @ 10:00 am	0.7 ± 0.3	2021-01-18
	9546604	ROOM 105	2021-01-11 @ 11:00 am	2021-01-14 @ 10:00 am	1.0 ± 0.3	2021-01-18
SPIKE	9546860	ROOM 106	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	18.6 ± 1.1	2021-01-19
	9546603	SCIENCE 123	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	4.6 ± 0.4	2021-01-18
	9546602	SCIENCE 123	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	4.9 ± 0.4	2021-01-18
	9546601	TECHNOLOGY 126	2021-01-11 @ 11:00 am	2021-01-14 @ 9:00 am	0.6 ± 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: 9546860

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