APEX
ENVIRONMENTAL CONSULTING

February 3, 2021

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

RADON TESTING AT TIGARD HIGH SCHOOL IN TIGARD OREGON

Dear Mr. Cavazos:

At your request Apex Environmental collected samples for radon analysis at Tigard HS located at 9000 SW Durham Rd. 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 (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 all under the detection level of 0.3 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:

TIGARD HIGH SCHOOL

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9546991	AD OFFICE W111B	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546969	ATTENDANCE A100	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546653	AUTO CLASSROOM	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546619	AUTOSHOP	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546633	AUXILIARY GYM	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546639	AUXILIARY GYM	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546631	BLANK	2021-01-11 @ 2:00 pm	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546954	BLANK	2021-01-11 @ 4:00 pm	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546982	BLANK	2021-01-11 @ 3:00 pm	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546998	BLANK	2021-01-11 @ 3:00 pm	2021-01-14 @ 2:00 pm	< 0.3	2021-01-18
9546648	BOYS LOCKER ROOM	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546972	BREAK ROOM A108	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546973	BREAK ROOM A108	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546714	BUSINESS E113	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546628	BUSINESS E114	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546712	BUSINESS E115	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546950	CAREER CENFER E105	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546983	CE2	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546987	CE2	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546651	CERAMICS	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	???? UI	2021-01-18
9546661	CERAMICS	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546652	CERAMICS OFFICE	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
SPIKE 9546638	CLASSROOM 19	2021-01-11 @ 12:00 pm	2021-01-14 @ 11:00 am	17.6 ± 1.1	2021-01-19
9546640	CLEAN MAKER 005A	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546607	CLEANROOM 004A	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546988	COMMONS	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546989	COMMONS	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546993	COMMONS	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546994	COMMONS	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546992	CONCESSIONS	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546970	CONFERENCE A102	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546963	COUNSELING E101	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546976	CUSTODIAL OFFICE N110A	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546977	CUSTODIAL ROOM N110	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546996	CUSTODIAL W109	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546641	DRY TEAM ROOM 008	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546637	DRY TEAM ROOM 009	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 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:

TIGARD HIGH SCHOOL

	Kit #	Room Id	Started	Ended	pCi/L	Analyzed
	9546956	E108	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546951	E110	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546609	ENGINEERING 004	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546635	GIRLS LOCKER 004	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
SPIKE	9546615	GIRLS LOCKER 01	2021-01-11 @ 2:00 pm	2021-01-14 @ 2:00 pm	17.2 ± 1.0	2021-01-19
	9546626	GIRLS TEAM LOCKER 004G	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546629	GIRLS TEAM LOCKER 004H	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546634	GIRLS TEAM LOCKER 004J	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546660	HEAVY MAKER 005	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546713	ISS E121	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546620	IT 003	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546986	KITCHEN OFFICE 108C	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9547000	LOBBY W101	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546975	MAIL A109	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546995	MAIN GYM	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546997	MAIN GYM	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546985	MEETING N107A	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546646	MEETING ROOM	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546704	NURSE C63	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546708	OFFICE 36	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546705	OFFICE 38	2021-01-11 @ 2:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546965	OFFICE A104	2021-01-11 @ 4:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546967	OFFICE A105	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546968	OFFICE A106	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546974	OFFICE A107	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546966	OFFICE ASSISTANT A112	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546971	OFFICE ASSISTANT A112	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546953	OFFICE E102	2021-01-11 @ 4:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546952	OFFICE E103	2021-01-11 @ 4:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546957	OFFICE E103	2021-01-11 @ 4:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546955	OFFICE E106	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546958	OFFICE E107	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
SPIKE	9546896	OFFICE E108A	2021-01-11 @ 4:00 pm	2021-01-14 @ 2:00 pm	17.2 ± 1.0	2021-01-19
	9546959	OFFICE E109	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
	9546701	OFFICE E120A	2021-01-11 @ 3:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546702	OFFICE E120A	2021-01-11 @ 3:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
	9546703	OFFICE E120B	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 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:
TIGARD HIGH SCHOOL

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9546706	OFFICE E120C	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546984	OFFICE N107B	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546981	OFFICE N107C	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546624	OFFICE W002	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546630	OFFICE W003	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546632	PE TEACHERS 004A	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546636	PE TEACHERS 007A	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546642	PE TEACHERS 007A	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546960	PRINCIPAL A103	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546978	ROOM N104	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546979	ROOM N105	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546964	SRO A101	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546649	STORAGE 005B	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546608	STORAGE 006	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546990	STORAGE W111D	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546961	STUDENT RECORDS E111	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546627	STUDENT STORE	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546625	TEACHERS LOUGE	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546612	TEACHERS LOUNGE	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546980	TEACHING KITCHEN N107D	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546645	TEAM LOCKER 007J	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546643	TEAM ROOM 007G	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546644	TEAM ROOM 007H	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546611	TRAINING ROOM	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546647	TRAINING ROOM OFFICE	2021-01-11 @ 1:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546654	UNIFORM STORAGE	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546707	WAITING E120	2021-01-11 @ 2:00 pm	2021-01-14 @ 11:00 am	< 0.3	2021-01-18
9546999	WEIGHTS	2021-01-11 @ 3:00 pm	2021-01-14 @ 10:00 am	< 0.3	2021-01-18
9546962	WORK ROOM E11E	2021-01-11 @ 4:00 pm	2021-01-14 @ 10:00 am	< 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 Samples: 9546615, 9546638 and 9546896

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