A.B.E. Radiation Measurements Laboratory

Division of Health Physics Associates, Inc.
1005 Old 22 PO Box 214 Lenhartsville, PA 19534
(610) 756-4153 (610) 756-0042 (FAX) dee@radprotection.com

July 15, 2025

Andrew Mather
Director of Support Services
Southern Lehigh School District
5775 Main Street
Center Valley, PA 18034

re: **Radon Sampling**, SL Joseph P. Liberati Intermediate School, 5438 Rte 378, Bethlehem, PA 18015.
Date of test: July 8 to 10, 2025
Test Placed & Retrieved by: Jeanette Steber, ID 8834
Invoice #: 8362 C

Dear Mr. Mather:

The following is a report of the radon sampling conducted at the referenced school building. Radon sampling was performed over a 2-day period using activated charcoal manufactured by F & J, model RA40V, following US EPA screening test protocols. The charcoal analysis and testing procedures have passed the US EPA's Radon Measurement Proficiency Testing program and A.B.E. Radiation Measurements Lab is certified by the PA DEP for radon testing and radon laboratory analyses (certification numbers 0048 and 0050). Our last quality assurance spikes required by the PA DEP, which were sent to an approved DEP chamber showed a percent deviation of 5.2 %; May 17 to 19, 2025.

The attached table lists each sample location and the net radon concentrations in picocuries per liter (pCi/l). The term "picocuries per liter" is a measure of the radon gas concentration in the air. Proper screening testing in schools should be conducted under conditions simulating those occurring during normal occupied hours. However, ABE Radiation Measurements Laboratory has no control over the degree of ventilation in a building during the test or how the charcoal is treated in our absence.

All structures will contain some radon. Typically, ground and sub-ground level floors will have the highest levels in a multi-story building. Indoor concentrations will depend on the amount of radon seepage into the building and the air exchange rate of the ventilation system. Radon seepage into a building is variable, depending on atmospheric and indoor environmental conditions. Thus, indoor radon concentrations can fluctuate from day to day and over a 24-hour period. When samples are taken for a short time period, it is difficult to know if they represent the average or a high or low point in the range of fluctuation. However, the closed condition and the requirement of at least 25% fresh make-up air in school buildings generally results in short term tests being reasonably close to the annual average provided the wind and barometric pressure at the time of the test was reasonably average and that the HVAC system(s) were/was operated in an "occupied mode", and the windows were kept closed.

There are no government regulations setting occupational limits or guidelines pertaining to naturally occurring indoor radon levels in school buildings. However, the US EPA and the PA DEP suggest the guideline of 4 picocuries per liter (pCi/l) as the lower limit of its Remedial Action Guideline and recommend that radon concentrations of 4 pCi/l and above be reduced as far below this level as practicable. It should be noted that this guideline is based on a 75 percent occupancy rate. Thus, there is typically a lower total dose potential for schools, compared to residences for the same air concentrations because of lower occupancy times.

However, because of public concern over radon and the fact that staff and students may have elevated radon levels in their homes, the school administration may want to follow the 4.0 pCi/l guideline used for private homes.

Radon is the second leading cause of lung cancer, after smoking. The U.S. EPA and the Surgeon General strongly recommend taking further action when the radon test results are 4.0 pCi/l or greater. The national average indoor radon level is about 1.3 pCi/l. The higher the radon level the greater the health risk. Even buildings with very high radon levels can usually be reduced below 4.0 pCi/l. For further information about reducing elevated radon levels please refer to the "Pennsylvania's Consumer's Guide to Radon Reduction."

CONCLUSIONS

There is no radon reduction system in the building.

The radon concentrations measured during the test were all below the PA DEP screening guideline of less than 4.0 pCi/l. Remedial action to reduce the radon concentration is not indicated based on the results of this test.

No tampering or deviation from required test conditions has been observed.

Because of the variability of indoor radon air concentrations over the course of a year, follow-up bi-annual testing is recommended to better estimate the annual average air concentrations.

The results of this test are valid only for the date, time and conditions under which the test was conducted and only for the client ordering the test. Should you wish to discuss additional testing or this report, please do not hesitate to contact us at (610) 756-4153.

Thank you for the opportunity to serve you.

Sincerely,

A La Mastra

A. LaMastra
Certified Health Physicist

A.B.E. RADIATION MEASUREMENTS LABORATORY

RADON TESTING RESULTS

Joseph P. Liberati Intermediate School
5438 Rte 378
Bethlehem, PA 18015

Test dates: July 8 to 10, 2025

Canister Number	Location	Start Time	End Time	pCi/l	Duplicate Average
Top Floor					
197581	Main Office	09:16	09:53	2.8	
197582	Main Off (duplicate)	09:16	09:53	2.7	2.8
197583	Blank	N/A	N/A	<0.5	
197584	Office 266	09:20	09:59	2.6	
197585	Health Suite	09:21	09:59	3.1	
197586	Room 256	09:22	10:01	2.9	
197587	Room 252	09:24	10:02	2.4	
197588	Comp Rm 250	09:26	10:03	2.1	
197589	Library	09:30	10:05	2.3	
197590	Library (duplicate)	09:30	10:05	2.3	2.3
197591	Art 253	09:32	10:07	2.7	
197592	Staff 261	09:35	10:08	2.8	
197593	Music 273	09:37	10:10	3.0	
197594	Faculty Lounge 279	09:39	10:11	3.1	
197595	Cafeteria	09:42	10:12	3.2	
197596	Kitchen Off 285 C	09:44	10:14	2.8	
197597	Mech Rm 286	09:46	10:19	1.5	
197598	Custodian Office	09:49	10:20	2.4	
197599	Stage	09:51	10:21	3.3	
197600	Gym	09:53	10:22	3.1	
197601	Gym Office 280	09:55	10:23	2.2	
197602	Library Elevator	10:01	10:42	1.5	
197603	Room 200	10:05	10:29	0.7	
197604	Stairwell Exit 16	10:08	10:28	0.9	
197612	Room 221	10:29	10:31	2.0	
197613	Stairwell Exit 15	10:26	10:30	1.7	
197614	Stairwell Exit 13	10:31	10:33	2.2	
197615	Elevator by Exit 13	10:32	10:33	2.3	
197616	Room 240	10:33	10:35	2.4	
197617	Room 241	10:35	10:36	2.2	
197618	Room 246	10:36	10:39	2.1	
197619	Rm 246 (duplicate)	10:36	10:39	1.8	2.0
197620	Stairwell Exit 11	10:38	10:38	2.2	
197621	Conference Rm 268	10:45	09:57	2.5	

A.B.E. RADIATION MEASUREMENTS LABORATORY

RADON TESTING RESULTS

Joseph P. Liberati Intermediate School
5438 Rte 378
Bethlehem, PA 18015

Test dates: July 8 to 10, 2025

Canister Number	Location	Start Time	End Time	pCi/l	Duplicate Average
Bottom Floor					
197605	Room 100	10:11	10:48	1.6	
197606	Room 101	10:13	10:49	1.5	
197607	Room 105	10:16	10:50	1.7	
197608	Room 104	10:16	10:51	1.5	
197609	Room 107	10:19	10:52	1.5	
197610	Rm 107 (duplicate)	10:19	10:52	1.4	1.5
197611	Blank	N/A	N/A	<0.5	
197622	Room 149	12:39	11:03	2.4	
197623	Room 146	12:41	11:02	2.4	
197624	Room 145	12:42	11:01	2.3	
197625	Room 142	12:44	11:00	2.1	
197626	Room 140	12:45	10:59	2.1	
197627	Room 141	12:46	10:59	2.3	
197628	Room 129	12:48	10:58	2.0	
197629	Room 126	12:49	10:57	2.0	
197630	Room 125	12:50	10:56	2.1	
197631	Room 124	12:51	10:55	2.2	
197632	Room 120	12:53	10:54	2.2	
197633	Room 121	12:54	10:55	2.0	