



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	William B. Gibbs, Jr. Elementary School
Date of Test Report	1/25/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	55
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.3 pCi/L

Project Status:

1. 5-Year Re-Testing Completed.



January 25, 2023

Mr. Brian Croyle
Environmental Specialist
Montgomery County Public Schools
Gaithersburg, MD 20879

Re: **Radon Testing Services**
KCI Job # 122210551

Location: William B. Gibbs, Jr. Elementary School
12615 Royal Crown Drive
Germantown, MD 20876

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the William B. Gibbs, Jr. Elementary School located at 12615 Royal Crown Dr. Germantown, MD 20876 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Proficiency Program (NRPP) Radon Measurement Specialist (certification #111004 RT) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from <https://www.montgomeryschoolsmd.org> or www.epa.gov/radon.

KCI visited the site on December 19, 2022 and deployed sixty-four (64) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, KCI also included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner prior to being returned to the laboratory for analysis.

KCI returned to the site on December 22, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs - MA for analysis by gamma-ray spectroscopy.

Accustar Labs - MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

Evaluation of Testing Conditions:

These tests represent:

- Follow up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels at the facility.

According to AARST, *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*, ideal testing conditions would be when the building is fully occupied and the heating system is active. For this test, the facility’s HVAC system was operating in heating mode; therefore, KCI concludes that this test was conducted during ideal testing conditions.

KCI recorded observations of the following conditions in each room during the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate temperatures ranged from 23°F to 55°F. Maximum sustained winds ranged from 0-18 miles per hour. Average humidity was around 75% with 0.0 inches of precipitation (rain) was recorded during testing period.

Results:

The sampling locations and analytical results are listed on Table 1 (Attachment B). The quality control sample locations and analytical results are listed on Table 2 (Attachment B). Sampling locations and associated test kit identification numbers and relevant field observations are listed on Table 3 (Attachment B). The laboratory analytical results are included in Attachment C. Laboratory results and exposure data for the spike samples are also included in Attachment C.

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 pCi/L	None	N/A
<4.0 pCi/L	See Attachment B	

Quality Control Samples	
Results of Blank Canisters:	The office blanks, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L.
Adequate Laboratory Precision?	Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved.
Spike Sample Analysis:	The Spike Sample analysis results indicate the laboratory is operating within statistical control limits.

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (410) 891-1769.

Sincerely,



Tyler P. McCleaf
Radon Measurement Provider
#111004 RT
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
 B- Table 1-3, Radon Test Summary Spreadsheets
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Check, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

OC- Quality Control

Table 1- Radon Testing Results		
William B. Gibbs, Jr. ES		
Test Period: 12/19/2022 - 12/22/2022		
Kit Number	Room / Area	Result
11285042	102	0.8
11131935	106	0.6
11131912	113	< 0.3
11285025	121	< 0.3
11285057	122	< 0.3
11131917	124	0.8
11131913	125	< 0.3
11131918	126	< 0.3
11131907	127	< 0.3
11131922	128	< 0.3
11131902	133	0.7
11131921	134	0.8
11131934	134	0.6
11131911	135	< 0.3
11131905	139	< 0.3
11131919	140	< 0.3
11131908	146	< 0.3
11131915	150	0.7
11131960	151	0.6
11131914	154	0.7
11131916	158	< 0.3
11285072	160	< 0.3
11131933	164	0.7
11285074	164	1.0
11131901	168	0.8
11131906	172	1.3
11131909	172	< 0.3
11131903	174	0.6
11131904	178	0.8
11131923	180	1.2
11131924	180	1.3
11131966	186	< 0.3
11131959	188	< 0.3
11131939	190	< 0.3
11131932	192	< 0.3
11131941	201	< 0.3
11131951	201	0.9
11131937	213	< 0.3
11131938	213	< 0.3
11131943	228	1.2
11131931	238	0.8
11131930	244	1.2
11285047	100C	0.9
11285048	100D	< 0.3
11131936	100E	0.8

Table 1- Radon Testing Results		
William B. Gibbs, Jr. ES		
Test Period: 12/19/2022 - 12/22/2022		
Kit Number	Room / Area	Result
11285006	100E	0.6
11285041	100F	< 0.3
11285056	100I	< 0.3
11285050	102C	1.3
11131942	102D	< 0.3
11131920	111 MEDIA	< 0.3
11131927	BS OFFICE	< 0.3
11131928	CAFE	< 0.3
11131929	CAFE	0.7
11131950	GYM	< 0.3
11131958	GYM	< 0.3
11131952	GYM OFFICE	< 0.3
11131910	KITCHEN OFFICE	< 0.3
11285075	MAIN	0.7
11285014	MEDIA CENTER	< 0.3
11285080	MEDIA CENTER	0.9
11131925	MEDIA OFFICE	< 0.3
11285039	MEDIA OFFICE	< 0.3
11285051	TELEPHONE	< 0.3

Table 2- Radon Testing Results			
William B. Gibbs, JR. ES			
Test Period: 12/19/22 - 12/22/22			
Kit Number	QC Type	Room / Area	Result
11131921	D	134	0.8
11285074	D	164	1.0
11131909	FB	172	< 0.3
11131923	D	180	1.2
11131941	D	201	< 0.3
11131937	FB	213	< 0.3
11131936	D	100E	0.8
11285014	D	Media Center	< 0.3
11131925	FB	Media Office	< 0.3
11288518	OB	OFFICE BLANK	< 0.3
11287685	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11131906		2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	1.3 ± 0.6	2022-12-28
11285047	100C	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.9 ± 0.5	2022-12-28
11285048	100D	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131936	100E	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.8 ± 0.5	2022-12-28
11285006	100E	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.6 ± 0.5	2022-12-28
11285041	100F	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285056	100I	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285042	102	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.8 ± 0.5	2022-12-28
11285050	102C	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	1.3 ± 0.6	2022-12-28
11131942	102D	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131935	106	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.6 ± 0.5	2022-12-28
11131920	111 MEDIA	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131912	113	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285025	121	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285057	122	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131917	124	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.8 ± 0.5	2022-12-28
11131913	125	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131918	126	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131907	127	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131922	128	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131902	133	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.7 ± 0.5	2022-12-28
11131934	134	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.6 ± 0.5	2022-12-28
11131921	134	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.8 ± 0.5	2022-12-28
11131911	135	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131905	139	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131919	140	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131908	146	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131915	150	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.7 ± 0.5	2022-12-28
11131960	151	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.6 ± 0.5	2022-12-28
11131914	154	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.7 ± 0.5	2022-12-28
11131916	158	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285072	160	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131933	164	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.7 ± 0.5	2022-12-28
11285074	164	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	1.0 ± 0.5	2022-12-28
11131901	168	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.8 ± 0.5	2022-12-28
11131909	172	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131903	174	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.6 ± 0.5	2022-12-28

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11131904	178	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	0.8 ± 0.5	2022-12-28
11131924	180	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	1.3 ± 0.5	2022-12-28
11131923	180	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	1.2 ± 0.5	2022-12-28
11131966	186	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131959	188	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131939	190	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131932	192	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131941	201	2022-12-19 @ 12:00 pm	2022-12-22 @ 11:00 am	< 0.3	2022-12-28
11131951	201	2022-12-19 @ 12:00 pm	2022-12-22 @ 11:00 am	0.9 ± 0.5	2022-12-28
11131938	213	2022-12-19 @ 12:00 pm	2022-12-22 @ 11:00 am	< 0.3	2022-12-28
11131937	213	2022-12-19 @ 12:00 pm	2022-12-22 @ 11:00 am	< 0.3	2022-12-28
11131943	228	2022-12-19 @ 12:00 pm	2022-12-22 @ 11:00 am	1.2 ± 0.6	2022-12-28
11131931	238	2022-12-19 @ 12:00 pm	2022-12-22 @ 11:00 am	0.8 ± 0.5	2022-12-28
11131930	244	2022-12-19 @ 12:00 pm	2022-12-22 @ 11:00 am	1.2 ± 0.5	2022-12-28
11131927	BS OFFICE	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131928	CAFE	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131929	CAFE	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.7 ± 0.5	2022-12-28
11131950	GYM	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131958	GYM	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131952	GYM OFFICE	2022-12-19 @ 12:00 pm	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11131910	KITCHEN OFFICE	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285075	MAIN	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.7 ± 0.5	2022-12-28
11285014	MEDIA CENTER	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285080	MEDIA CENTER	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	0.9 ± 0.5	2022-12-28
11131925	MEDIA OFFICE	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285039	MEDIA OFFICE	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28
11285051	TELEPHONE	2022-12-19 @ 11:00 am	2022-12-22 @ 10:00 am	< 0.3	2022-12-28

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KC1 TECHNOLOGIES, INC Job Number 208343

NOMINAL Conditions: Radon Conc 34.7 pCi/L Rel. Hum 49.4 % Temp. 69.6 F

Date Start: 12/24/22 Date Stop: 12/27/22 Date Start: _____ Date Stop: _____

Time Start: 0810 Time Stop: 0810 Time Start: _____ Time Stop: _____

Device No.'s: (5) CHAR BAGS - Device No.'s: _____

11285109, 11285110, 11285101

THRU 11285103

BY LEFT

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

**Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft**

December 29, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

OFFICE

MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285110	SK1	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	31.7 ± 2.5	2022-12-29
11285101	SK2	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	30.1 ± 2.4	2022-12-29
11285103	SK3	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	34.0 ± 2.7	2022-12-29
11285102	SK4	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	30.9 ± 2.5	2022-12-29
11285109	SK5	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	32.0 ± 2.6	2022-12-29

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498



Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Week 3 December Schools

Name of Schools:

1. Clopper Mill ES
2. Cold Spring ES
3. Fox Chapel ES
4. Gaithersburg HS
5. Longview School
6. North Lake Center
7. Ronald McNair ES
8. Rosemont ES
9. S. Christa McAuliffe ES
10. Spark M. Matsunaga ES
11. William B. Gibbs, JR. ES

	Date	Initials
Radon Test Kits Deployed	12/19/2022	BMM
Radon Test Kits Collected	12/22/2022	BMM
Radon Test Kits Shipped to Lab*	12/22/2022	BMM
Radon Test Kits Received by Lab*	12/28/2022	BMM

*All samples sent to Air Check, Inc., 2 Saber Way, Ward Hill, MA 01835



MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary:
William B. Gibbs, Jr. Elementary School
12615 Royal Crown Drive,
Germantown, MD 20876

Date of Test Report:	3/15/2019
Round of Testing:	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested:	1
# of Rooms \geq 4.0 pCi/L:	0
Low Value:	<0.4
High Value:	<0.4

Project Status

Retesting completed: No further action at this time.



March 15, 2019

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: Radon Testing Services

Location: William B. Gibbs, Jr. Elementary School
12615 Royal Crown Drive,
Germantown, MD 20876

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for William B. Gibbs, Jr. Elementary School, located at 12615 Royal Crown Drive, Germantown, MD 20876 (subject site).

Scope of Services:

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on February 25, 2019 and deployed one (1) activated charcoal (AC) radon test kit. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on February 28, 2019 to retrieve the radon sampling test kit. A floor plan map of the building with the test location is included as Attachment A of this report.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARLO007).

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages $\leq 65^{\circ}\text{F}$.

PSI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.



PSI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. PSI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	None	NA
≤ 4.0 pCi/L	See Attachment B	

Notes:
D -Duplicate Sample

The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C).

Laboratory results and exposure data for the spike samples are also included in Attachment C. Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (703) 698-9300.

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
William B. Gibbs Jr. Elementary School		
Testing period: 2/25/19 - 2/28/19		
Kit Number	Room / Area	Result (pCi/L)
3923467	100E- Conference Room	<0.4

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

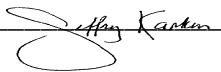
MCPS Radon Survey Gibbs ES
12615 Royal Crown Drive
Germantown MD 20876

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
3220706	3923467	02/25/2019 8:15 am 02/28/2019 8:01 am	Floor Main 100E (Conference Room)	< 0.4

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Distributed by: Intertek-PSI (VA)

Date Received: 03/04/2019 Date Logged: 03/04/2019 Date Analyzed: 03/05/2019 Date Reported: 03/05/2019

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

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MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary:

William B. Gibbs, Jr. Elementary School

12615 Royal Crown Drive,
Germantown, MD 20876

Date of Test Report:	2/13/2019
Round of Testing:	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested:	53
# of Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	0.9

Project Status

Initial testing complete: Missing or compromised samples need re-test.



February 13, 2019

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: Radon Testing Services

Location: William B. Gibbs, Jr. Elementary School
12615 Royal Crown Drive,
Germantown, MD 20876

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for William B. Gibbs, Jr. Elementary School, located at 12615 Royal Crown Drive, Germantown, MD 20876 (subject site).

Scope of Services:

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on December 4, 2018 and deployed sixty-seven (67) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on December 7, 2018 to retrieve the radon sampling test kits. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, PSI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, PSI submitted ten (10) test kits to Bowser-Morner Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner Inc. prior to being returned to the laboratory for analysis.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007) and 2 Saber Way, Haverhill, Massachusetts (certification # ARL0017).



Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages $\leq 65^{\circ}\text{F}$.

PSI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

PSI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. PSI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	None	NA
≤ 4.0 pCi/L	See Attachment B	

Notes:

D -Duplicate Sample

The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C).

Laboratory results and exposure data for the spike samples are also included in Attachment C. Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (703) 698-9300.



Respectfully Submitted,

INTERTEK-PSI

A handwritten signature in black ink that reads "Nand Kaushik". The signature is written in a cursive style.

Nand Kaushik, P.E.
Department Manager, Environmental Services
Nand.Kaushik@intertek.com

Attachments: A – Floor Plan with Test Locations
 B – Table 1 – Radon Test Summary Spreadsheet
 C – Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
William B. Gibbs Jr. Elementary School		
Testing period: 12/4/18 - 12/7/18		
Kit Number	Room / Area	Result (pCi/L)
3928452	100 (Main Office)	0.7
3928456	100C	0.6
3928454	100D	<0.4
--	100E (MISSED)	--
3928459	100F	0.8
3927062	102	0.5
3927063	102C	0.4
3927061	106	0.7
3928427	107 (IMC)	0.5
3928426	107 (IMC)	<0.4
3928425	107A	<0.4
3928458	108H	0.4
3927065	110B	0.5
3928424	111	<0.4
3928436	113	0.4
3928471	121	<0.4
3928437	122	0.8
3928438	124	0.4
3928473	125	<0.4
3928439	126	<0.4
3928474	127	<0.4
3928440	128	<0.4
3928497	133	<0.4
3928472	134	<0.4
3928499	135	<0.4
3928421	139	0.4
3928475	140	<0.4
3928428	145A	0.7
3928476	146	<0.4
3928477	150	<0.4
3928423	151	0.7
3928479	154	0.4
3928491	158	0.4
3928492	160	0.4
3928493	164	<0.4
3928494	168	<0.4
3928495	172	<0.4
3928498	174	<0.4
3928500	178	<0.4
3928422	180	0.9
3928435	186	0.6
3928434	188	<0.4
3926886	190	0.4

Radon Testing Results		
William B. Gibbs Jr. Elementary School		
Testing period: 12/4/18 - 12/7/18		
Kit Number	Room / Area	Result (pCi/L)
3928432	192	<0.4
3927069	216	<0.4
3927070	219	<0.4
3926882	224	0.5
3926883	232	<0.4
3926884	244	<0.4
3926885	254	<0.4
3927067	APR	<0.4
3927068	APR	<0.4
3927066	APR Stage	<0.4
3928430	Gym	0.5
3928429	Gym	0.6
3928451	Gym Office	<0.4
3927064	Kitchen	0.8

Radon Testing Results		
William B. Gibbs Jr. Elementary School		
Testing period: 12/4/18 - 12/7/18		
Kit Number	QC Type	Result (pCi/L)
3928457	100C (D)	0.7
3928455	100D (D)	<0.4
3928478	150 (D)	0.4
3928480	154 (D)	<0.4
3928496	172 (D)	0.6
3928433	192 (D)	<0.4
3928583	Field Blank	<0.4
3928584	Field Blank	<0.4
3928453	Main Office (D)	0.6
3928581	Office Blank	<0.4
3928582	Transit Blank	<0.4

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031


MCPS Radon Survey
William B. Gibbs ES
Germantown MD 20876

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2405574	3928432	12/04/2018 11:20 am	12/07/2018 9:30 am	Floor First Room 192	< 0.4
2405575	3928433	12/04/2018 11:20 am	12/07/2018 9:30 am	Floor First Room 192	< 0.4
2405576	3928434	12/04/2018 11:22 am	12/07/2018 9:31 am	Floor First Room 188	< 0.4
2405577	3928435	12/04/2018 11:24 am	12/07/2018 9:32 am	Floor First Room 186	0.6
2405578	3928436	12/04/2018 11:26 am	12/07/2018 9:33 am	Floor First Room 113	0.4
2405579	3928437	12/04/2018 11:28 am	12/07/2018 9:34 am	Floor First Room 122	0.8
2405580	3928438	12/04/2018 11:30 am	12/07/2018 9:35 am	Floor First Room 124	0.4
2405581	3928439	12/04/2018 11:32 am	12/07/2018 9:36 am	Floor First Room 126	< 0.4
2405582	3928440	12/04/2018 11:34 am	12/07/2018 9:37 am	Floor First Room 128	< 0.4
2405583	3928471	12/04/2018 11:36 am	12/07/2018 9:38 am	Floor First Room 121	< 0.4
2405584	3928472	12/04/2018 11:38 am	12/07/2018 9:39 am	Floor First Room 134	< 0.4

Comment: Per ANSI/AARST MAH 2014, requirements for test locations within a room were not met for device 3927064 (Kitchen). Your test is for informational purposes only. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/09/2018 Date Logged: 12/09/2018 Date Analyzed: 12/11/2018 Date Reported: 01/29/2019

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031


MCPS Radon Survey
William B. Gibbs ES
Germantown MD 20876

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2405585	3928473	12/04/2018 11:40 am	12/07/2018 9:40 am	Floor First Room 125	< 0.4
2405586	3928474	12/04/2018 11:42 am	12/07/2018 9:41 am	Floor First Room 127	< 0.4
2405587	3928475	12/04/2018 11:44 am	12/07/2018 9:42 am	Floor First Room 140	< 0.4
2405588	3928476	12/04/2018 11:46 am	12/07/2018 9:43 am	Floor First Room 146	< 0.4
2405589	3928477	12/04/2018 11:50 am	12/07/2018 9:45 am	Floor First Room 150	< 0.4
2405590	3928478	12/04/2018 11:50 am	12/07/2018 9:45 am	Floor First Room 150	0.4
2405591	3928479	12/04/2018 11:54 am	12/07/2018 9:47 am	Floor First Room 154	0.4
2405592	3928480	12/04/2018 11:54 am	12/07/2018 9:47 am	Floor First Room 154	< 0.4
2405593	3928491	12/04/2018 11:56 am	12/07/2018 9:48 am	Floor First Room 158	0.4
2405594	3928492	12/04/2018 11:58 am	12/07/2018 9:49 am	Floor First Room 160	0.4
2405595	3928493	12/04/2018 12:00 pm	12/07/2018 9:50 am	Floor First Room 164	< 0.4

Comment: Per ANSI/AARST MAH 2014, requirements for test locations within a room were not met for device 3927064 (Kitchen). Your test is for informational purposes only. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

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Report Approved By: 

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NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031


MCPS Radon Survey
William B. Gibbs ES
Germantown MD 20876

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2405596	3928494	12/04/2018 12:02 pm	12/07/2018 9:51 am	Floor First Room 168	< 0.4
2405597	3928495	12/04/2018 12:06 pm	12/07/2018 9:53 am	Floor First Room 172	< 0.4
2405598	3928496	12/04/2018 12:06 pm	12/07/2018 9:53 am	Floor First Room 172	0.6
2405599	3928497	12/04/2018 12:08 pm	12/07/2018 9:54 am	Floor First Room 133	< 0.4
2405600	3928498	12/04/2018 12:10 pm	12/07/2018 9:55 am	Floor First Room 174	< 0.4
2405601	3928499	12/04/2018 12:12 pm	12/07/2018 9:56 am	Floor First Room 135	< 0.4
2405602	3928500	12/04/2018 12:14 pm	12/07/2018 9:57 am	Floor First Room 178	< 0.4
2405603	3928421	12/04/2018 12:16 pm	12/07/2018 9:58 am	Floor First Room 139	0.4
2405604	3928422	12/04/2018 12:18 pm	12/07/2018 9:59 am	Floor First Room 180	0.9
2405605	3928423	12/04/2018 12:20 pm	12/07/2018 10:00 am	Floor First Room 151	0.7
2405606	3928424	12/04/2018 12:22 pm	12/07/2018 10:01 am	Floor First Room 111	< 0.4

Comment: Per ANSI/AARST MAH 2014, requirements for test locations within a room were not met for device 3927064 (Kitchen). Your test is for informational purposes only. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/09/2018 Date Logged: 12/09/2018 Date Analyzed: 12/11/2018 Date Reported: 01/29/2019

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031


MCPS Radon Survey
William B. Gibbs ES
Germantown MD 20876

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2405607	3928425	12/04/2018 12:24 pm	12/07/2018 10:02 am	Floor First Room 107A	< 0.4
2405608	3928426	12/04/2018 12:26 pm	12/07/2018 10:03 am	Floor First Room IMC	< 0.4
2405609	3928427	12/04/2018 12:28 pm	12/07/2018 10:04 am	Floor First Room IMC	0.5
2405610	3928428	12/04/2018 12:30 pm	12/07/2018 10:05 am	Floor First Room 145A	0.7
2405611	3928429	12/04/2018 12:32 pm	12/07/2018 10:06 am	Floor First Room Gym	0.6
2405612	3928430	12/04/2018 12:34 pm	12/07/2018 10:07 am	Floor First Room Gym	0.5
2405613	3928451	12/04/2018 12:36 pm	12/07/2018 10:08 am	Floor First Room Gym Office	< 0.4
2405614	3928452	12/04/2018 12:40 pm	12/07/2018 10:10 am	Floor First Room Main Office	0.7
2405615	3928453	12/04/2018 12:40 pm	12/07/2018 10:10 am	Floor First Room Main Office	0.6
2405616	3928454	12/04/2018 12:44 pm	12/07/2018 10:12 am	Floor First Room 100D	< 0.4
2405617	3928455	12/04/2018 12:44 pm	12/07/2018 10:12 am	Floor First Room 100D	< 0.4

Comment: Per ANSI/AARST MAH 2014, requirements for test locations within a room were not met for device 3927064 (Kitchen). Your test is for informational purposes only. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/09/2018 Date Logged: 12/09/2018 Date Analyzed: 12/11/2018 Date Reported: 01/29/2019

Report Reviewed By: 

Report Approved By: 

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031


MCPS Radon Survey
William B. Gibbs ES
Germantown MD 20876

Log Number	Device Number	Test Exposure Duration:		Area Tested		Result pCi/L
2405618	3928456	12/04/2018 12:48 pm	12/07/2018 10:14 am	Floor First	Room 100C	0.6
2405619	3928457	12/04/2018 12:48 pm	12/07/2018 10:14 am	Floor First	Room 100C	0.7
2405620	3928459	12/04/2018 12:50 pm	12/07/2018 10:15 am	Floor First	Room 106F	0.8
2405621	3928458	12/04/2018 12:52 pm	12/07/2018 10:16 am	Floor First	Room 108H	0.4
2405622	3927061	12/04/2018 12:54 pm	12/07/2018 10:17 am	Floor First	Room 106	0.7
2405623	3927062	12/04/2018 12:56 pm	12/07/2018 10:18 am	Floor First	Room 102	0.5
2405624	3927063	12/04/2018 12:58 pm	12/07/2018 10:19 am	Floor First	Room 102C	0.4
2405625	3927064	12/04/2018 1:00 pm	12/07/2018 10:20 am	Floor First	Room Kitchen	0.8
2405626	3927065	12/04/2018 1:02 pm	12/07/2018 10:21 am	Floor First	Room 110B	0.5
2405627	3927066	12/04/2018 1:04 pm	12/07/2018 10:22 am	Floor First	Room APR Stage	< 0.4
2405628	3927067	12/04/2018 1:06 pm	12/07/2018 10:23 am	Floor First	Room APR	< 0.4

Comment: Per ANSI/AARST MAH 2014, requirements for test locations within a room were not met for device 3927064 (Kitchen). Your test is for informational purposes only. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/09/2018 Date Logged: 12/09/2018 Date Analyzed: 12/11/2018 Date Reported: 01/29/2019

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031


MCPS Radon Survey
William B. Gibbs ES
Germantown MD 20876

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2405629	3927068	12/04/2018 1:08 pm	12/07/2018 10:24 am	Floor First Room APR	< 0.4
2405630	3927069	12/04/2018 1:10 pm	12/07/2018 10:25 am	Floor Second Room 216	< 0.4
2405631	3927070	12/04/2018 1:12 pm	12/07/2018 10:26 am	Floor Second Room 219	< 0.4
2405632	3926882	12/04/2018 1:14 pm	12/07/2018 10:27 am	Floor Second Room 224	0.5
2405633	3926883	12/04/2018 1:16 pm	12/07/2018 10:28 am	Floor Second Room 232	< 0.4
2405634	3926884	12/04/2018 1:18 pm	12/07/2018 10:29 am	Floor Second Room 244	< 0.4
2405635	3926885	12/04/2018 1:20 pm	12/07/2018 10:30 am	Floor Second Room 254	< 0.4
2405636	3926886	12/04/2018 1:22 pm	12/07/2018 10:31 am	Floor Second Room 190	0.4
2405637	3928581	12/04/2018 6:00 am	12/07/2018 6:00 pm	Office Blank	< 0.4
2405638	3928582	12/04/2018 6:00 am	12/07/2018 6:00 pm	Transit Blank	< 0.4
2405639	3928583	12/04/2018 11:20 am	12/07/2018 10:31 am	Field Blank	< 0.4

Comment: Per ANSI/AARST MAH 2014, requirements for test locations within a room were not met for device 3927064 (Kitchen). Your test is for informational purposes only. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/09/2018 Date Logged: 12/09/2018 Date Analyzed: 12/11/2018 Date Reported: 01/29/2019

Report Reviewed By: 

Report Approved By: 

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NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031


MCPS Radon Survey
William B. Gibbs ES
Germantown MD 20876

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2405640	3928584	12/04/2018 11:20 am 12/07/2018 10:31 am	Field Blank	< 0.4

Comment: Per ANSI/AARST MAH 2014, requirements for test locations within a room were not met for device 3927064 (Kitchen). Your test is for informational purposes only. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/09/2018 Date Logged: 12/09/2018 Date Analyzed: 12/11/2018 Date Reported: 01/29/2019

Report Reviewed By: 

Report Approved By: 

Disclaimer:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

NRPP 105011 AL
NRSB ARL0007
Ohio RL41

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey
4514 Taylorsville Road
Dayton OH 45424

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
3204125	3926831	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	36.1
3204126	3926832	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.8
3204127	3926833	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	33.7
3204128	3926834	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	35.8
3204129	3926835	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	35.0
3204130	3926836	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.5
3204131	3926837	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.6
3204132	3926838	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.3
3204133	3926839	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	33.2
3204134	3926840	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.0

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Test Performed By: Unknown

Distributed by: Intertek-PSI (VA)

Date Received: 12/12/2018 Date Logged: 12/12/2018 Date Analyzed: 12/12/2018 Date Reported: 12/13/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

Shawn Price, Director of Laboratory Operations, AccuStar Labs

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Intertek - PSI

Job Number 187732

NOMINAL Conditions: Radon Conc 32.6 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/7/18 Date Stop: 12/10/18

Date Start: _____ Date Stop: _____

Time Start: 0947 Time Stop: 0947

Time Start: _____ Time Stop: _____

Device No.'s: (10) Char. Cans-

Device No.'s: _____

3926831 thru 3926840

G2 left

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft



Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

1. Grosvenor Center (Luxmanor ES)
2. Montrose Center
3. Gibbs ES
4. Westbrook ES
5. Hadley Farms (Resnik ES)
6. Kingsview MS
7. Longview School
8. Lynnbrook Center
9. Magruder HS
10. McAuliffe ES
11. McNair ES
12. Mill Creek Towne ES
13. Martin Luther King MS
14. Montgomery Village MS
15. Great Seneca Creek ES
16. Quince Orchard HS
17. Redland MS
18. North Bethesda MS
19. Spark Matsunaga ES
20. Whetstone ES
21. Wood Acres ES

	Date	Initials
Radon Test Kits Deployed	12/04/2018	ML
Radon Test Kits Sampled	12/07/2018	ML
Radon Test Kits Shipped to Lab*	12/07/2018	ML
Radon Test Kits Received by Lab*	12/08/2018; 12/09/2018	ML

*All samples sent to AccuStar Laboratories, 929 Mount Zion Road, Lebanon, PA 17046 and 2 Saber Way, Haverhill, MA 01835



MCPS RADON TESTING

Executive Summary: William B. Gibbs Elementary School

Date of Test Report:	2/19/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	46
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.2

Project Status:

Initial testing completed; no further action at this time.



February 19, 2016

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: **Radon Testing Services**
KCI Job # 12146341.25

Location: William B. Gibbs Elementary School
12615 Royal Crown Drive
Germantown, MD 20876

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the William B. Gibbs Elementary School, located at 12615 Royal Crown Drive in Germantown, Maryland 20876 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on January 19, 2016 and deployed fifty-six (56) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner prior to being returned to the laboratory for analysis.

KCI returned to the site on January 22, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages $\leq 65^{\circ}$ F.

KCI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

KCI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. KCI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	none	n/a
< 4.0 pCi/L	See Attachment B	

Notes:
D- Duplicate sample

The field blanks, office blank, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C). Laboratory results and exposure data for the spike samples are also included in Attachment C.

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (410) 316-7800.

Sincerely,



James M. Mouldale
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
 B- Table 1-Radon Test Summary Spreadsheet
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
William B Gibbs Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	Room / Area	Result
7722521	100	0.7
7722516	102	< 0.3
7722551	104	0.8
7722556	104	0.6
7722595	106	< 0.3
7722522	107	0.7
7722540	111	0.6
7722553	113	0.6
7722564	121	< 0.3
7722539	122	< 0.3
7722514	124	< 0.3
7722535	125	< 0.3
7722568	127	0.6
7722567	133	< 0.3
7722526	134	< 0.3
7722562	135	< 0.3
7722570	139	< 0.3
7722536	140	< 0.3
7722524	146	< 0.3
7722565	150	0.6
7722538	151	< 0.3
7722566	154	< 0.3
7722569	158	< 0.3
7722525	160	< 0.3
7722533	164	< 0.3
7722542	168	< 0.3
7722546	172	0.8
7722573	174	< 0.3
7722572	178	< 0.3
7722534	180	1.1
7722549	186	< 0.3
7722541	187	0.8
7722543	187	< 0.3
7722547	188	0.7
7722545	190	< 0.3
7722519	192	< 0.3
7722523	247	< 0.3
7722581	249	< 0.3
7722515	254	0.7
7722548	100C	0.9
7722552	100D	0.8
7722529	100E	1.2
7722530	100F	0.9
7722513	102C	< 0.3
7722517	102D	< 0.3
7722518	107A	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
William B Gibbs Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	Room / Area	Result
7722571	108H	< 0.3
7722554	187A	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
William B Gibbs Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	QC Type	Result
7722563	D (100E)	0.9
7722555	D (104)	< 0.3
7722550	D (133)	< 0.3
7722577	D (151)	< 0.3
7722544	D (187)	< 0.3
7722520	FB (100)	< 0.3
7722584	FB (249)	< 0.3
7722575	OB (0)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 11, 2016 **LABORATORY ANALYSIS REPORT** **

Radon test result report for:
WILLIAM B GIBBS ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7722575	0	2016-01-19 @ 3:00 pm	2016-01-22 @ 11:00 am	< 0.3	2016-01-27
7722520	100	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-27
7722521	100	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.7 ± 0.3	2016-01-27
7722548	100C	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.9 ± 0.3	2016-01-27
7722552	100D	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.8 ± 0.3	2016-01-27
7722563	100E	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.9 ± 0.3	2016-01-27
7722529	100E	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	1.2 ± 0.4	2016-01-27
7722530	100F	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.9 ± 0.3	2016-01-27
7722516	102	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722513	102C	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722517	102D	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722556	104	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.6 ± 0.3	2016-01-26
7722551	104	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.8 ± 0.3	2016-01-27
7722555	104	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-27
7722595	106	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-27
7722522	107	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.7 ± 0.3	2016-01-26
7722518	107A	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722571	108H	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722540	111	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.6 ± 0.2	2016-01-26
7722553	113	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.6 ± 0.3	2016-01-26
7722564	121	2016-01-19 @ 9:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722539	122	2016-01-19 @ 9:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722514	124	2016-01-19 @ 9:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722535	125	2016-01-19 @ 9:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722568	127	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	0.6 ± 0.3	2016-01-26
7722567	133	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722550	133	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722526	134	2016-01-19 @ 9:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722562	135	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722570	139	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722536	140	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722524	146	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722565	150	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	0.6 ± 0.3	2016-01-27
7722577	151	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722538	151	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722566	154	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722569	158	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26

February 11, 2016 **LABORATORY ANALYSIS REPORT** **

Radon test result report for:
WILLIAM B GIBBS ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7722525	160	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722533	164	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722542	168	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722546	172	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	0.8 ± 0.3	2016-01-26
7722573	174	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722572	178	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722534	180	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	1.1 ± 0.4	2016-01-27
7722549	186	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-27
7722543	187	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722544	187	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722541	187	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.8 ± 0.3	2016-01-27
7722554	187A	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-27
7722547	188	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	0.7 ± 0.3	2016-01-27
7722545	190	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722519	192	2016-01-19 @ 9:00 am	2016-01-22 @ 7:00 am	< 0.3	2016-01-26
7722523	247	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722584	249	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-26
7722581	249	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7722515	254	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	0.7 ± 0.3	2016-01-27

February 2, 2016
LABORATORY ANALYSIS REPORT

Radon test result report for:
MCPS PHASE 5 & 6 TRANSIT BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7722194	1	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718494	10	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718475	11	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718495	12	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718496	13	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718497	14	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718498	15	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718499	16	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718500	17	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718296	18	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718295	19	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722195	2	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716789	20	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716785	21	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-26
7716791	22	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716786	23	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716793	24	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718274	25	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716792	26	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718294	27	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718293	28	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718292	29	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722197	3	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718290	30	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722198	4	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722199	5	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722211	6	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718491	7	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718476	8	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-26
7718479	9	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27

February
15,
2016

**LABORATORY ANALYSIS
REPORT ****

Spike Sample Laboratory Results

Radon test result report for:
MCPS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7718273	101A	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04
7718281	102B	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.4 ± 0.6	2016-02-04
7718282	103C	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.3 ± 0.6	2016-02-04
7718288	104D	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.7 ± 0.6	2016-02-04
7718289	105E	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.6 ± 0.6	2016-02-04
7718291	106F	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04

Air Chek, Inc. 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

Note: Spike samples are test canisters that are deliberately exposed to a controlled high level of radon in a laboratory. They provide a quality control measure in the testing process and do NOT reflect radon levels in the building being tested.

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

NOMINAL Conditions: Radon Conc 5.9 pCi/L Rel. Hum 45.9 % Temp. 79.0 F

Date Start: 1/30/16 Date Stop: 2/1/16 Date Start: _____ Date Stop: _____

Time Start: 0926 Time Stop: 0926 Time Start: _____ Time Stop: _____

Device No.'s: (6) Char. Bags - Device No.'s: _____

7718281, 7718282, 7718291, _____

7718288, 7718289, 7718273 _____

ε3 Left

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft



Chain of Custody

Project Name: MCPS Radon Phase VI

Name of Schools:

- | | | |
|--------------------------|------------------------------|---------------------------|
| 1. Francis Scott Key MS | 12. Little Bennett ES | 23. Rolling Terrace ES |
| 2. Gaithersburg ES | 13. Loiderman MS | 24. Roscoe Nix ES |
| 3. Gaithersburg MS | 14. Longview ES | 25. Sally K. Ride ES |
| 4. Galway ES | 15. Meadow Hall ES | 26. Spark Matsunaga ES |
| 5. Great Seneca Creek ES | 16. Neelsville MS | 27. Tacoma Park ES |
| 6. Harmony Hills ES | 17. New Hampshire Estates ES | 28. Thomas Pyle MS |
| 7. John Poole MS | 18. North Bethesda MS | 29. Wayside ES |
| 8. Judith A. Resnik ES | 19. Northwest HS | 30. Westbrook ES (retest) |
| 9. Kemp Mill ES | 20. Pine Crest ES | 31. Westland MS (retest) |
| 10. Kingsview MS | 21. Radnor Center | 32. William B. Gibbs ES |
| 11. Lakelands Park MS | 22. Ritchie Park ES | 33. William Tyler Page ES |

	Date	Initials
Radon Test Kits Deployed	1/19/16	JM
Radon Test Kits Sampled	1/22/16	JM
Radon Test Kits Shipped to Lab*	1/22/16	JM
Radon Test Kits Received by Lab*	1/26/16	JM

*All samples sent to Air Check, Inc., 1936 Butler Bridge Road, Mills River, NC 28758

M. A. CECIL & ASSOCIATES, INC.

4475 Shannon Way, Port Republic, Maryland 20676 (301) 855-7710
INDUSTRIAL HYGIENE AND ENVIRONMENTAL HEALTH

July 25, 2011

Mr. Sean Yarup
Montgomery County Public Schools
16651 Crabbs Branch Way
Rockville, Maryland 20855

Re: Radon Evaluation- Gibbs Elementary School

Dear Mr. Yarup:

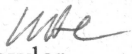
Environmental radon testing has been completed at Gibbs Elementary School.

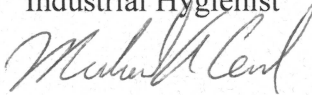
Charcoal canisters were placed in twenty-seven locations on the first floor of the school. The canisters were placed on July 8, 2011 and retrieved on July 11, 2011. The results and sampling locations are summarized in the attached table.

The detected radon concentrations for all 27 sampling locations were below the EPA recommended level of 4.0 pico curies per liter (pCi/l) of air.

Should you have any questions concerning this report please do not hesitate to contact us.

Sincerely,


Kim Fowler
Industrial Hygienist


Michael A. Cecil, CIH

Environmental Radon Test Results
Gibbs Elementary School
July 11, 2011

Location	Detected Radon Concentration (pCi/l)
Main Office	1.8
Room 178	1.4
Room 139	0.9
Room 174	1.2
Room 135	1.5
Room 172	1.4
Room 168	1.5
Room 164	1.4
Room 160	0.6
Room 158	0.9
Room 154	0.7
Room 150	1.2
Room 146	1.0
Room 140	0.7
Room 125	1.2
Room 134	1.3
Room 121	1.5
Room 186	1.3
Room 188	1.3
Room 190	1.0
Room 192	0.7
Gym	1.2
Room 113	1.6
IMC	1.5
Multi-Purpose Room	1.2
Staff Lounge	2.0
Room 180	1.7