

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

## MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Bel Pre Elementary School
Date of Test Report	05/27/2022
Round of Testing	Initial
	Follow-up
	Post Remediation
	2 Year Testing
	5 Year Testing
	HVAC Upgrade
	Window Replacement
	New Addition
	New Facility
# Rooms Tested	2
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	3.5 pCi/L

### **Project Status**

Current Project Status at this time: Testing completed; no further action needed

KCI Technologies, Inc. WWW.kci.com

#### ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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May 27, 2022

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

Re: Radon Testing Services

KCI Job # 122108316

Location: Bel Pre Elementary School

13801 Rippling Brook Dr. Silver Spring, MD 20906

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 Bel Pre Elementary School, located at 13801 Rippling Brook Dr. Silver Spring, MD 20906 (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 March 29, 2022 and deployed five (5) 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.

KCI sampled the following locations during this follow-up test:

- 1. Rooms with missing test kits from the Radon 2022 testing period (i.e. test kit was deployed but not recovered),
- 2. Rooms with invalidated test kits from the Radon 2022 testing period (e.g. an open window in the room or disturbed test kit),
- 3. Rooms which were locked/inaccessible during the Radon 2022 testing period,
- 4. Rooms with elevated radon results (i.e.  $\geq$ 3.5 piC/L),
- 5. Rooms previously tested for radon but not tested in Radon 2022, and
- 6. Additional rooms that require testing (if applicable.)

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 April 01, 2022 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:**

These tests represent:

• Follow-up to initial testing.

These tests were conducted to:

• Evaluate radon concentrations 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 low temperatures were in the mid 20°Fs and high temperatures ranged from the low 50°Fs to the mid 70°Fs. Maximum sustained winds ranged from 0-33 miles per hour. Average humidity was around 47% with 0.23 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.

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The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	None	N/A
<4.0 piC/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.

Tyler McCleaf

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			
	Bel Pre ES RT		
Te	est Period: 03/29/2022 - 04/01/2022		
Kit Number	Kit Number Room / Area Result		
11139992	G4 GYM	1.1	
11139994 G4 GYM 1.3			
11139989	G4A OFFICE	< 0.3	
11139991	G4A OFFICE	3.5	
11139993	G4A OFFICE	1.8	

Table 2- Radon Testing Results				
	Bel Pro	e ES RT		
	Test Period: 03/29/2022 - 04/01/2022			
Kit Number QC Type Room / Area Result				
11139991	D	G4A Office	3.5	
11139989	FB	G4A Office	< 0.3	
11139883	ОВ	OFFICE BLANK	< 0.3	
11139841	ТВ	TRAVEL BLANK	< 0.3	

Summary of Missed Locations		
Bel Pre ES RT		
Test Period: 03/29/22 - 04/01/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Bel Pre ES RT		
Test Period: 03/29/22 - 04/01/22		
Kit Number	Room/Area	Result
	NA	

### Table Note:

<sup>\*</sup> Missing or Compromised Sample

## ATTACHMENT C

# Laboratory Analytical Results

## \*\* LABORATORY ANALYSIS REPORT \*\*

## Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139992	G4 GYM	2022-03-29 @ 2:00 pm	2022-04-01 @ 1:00 pm	$1.1 \pm 0.3$	2022-04-04
11139994	G4 GYM	2022-03-29 @ 2:00 pm	2022-04-01 @ 1:00 pm	$1.3 \pm 0.3$	2022-04-04
11139989	G4A OFFICE	2022-03-29 @ 3:00 pm	2022-04-01 @ 1:00 pm	< 0.3	2022-04-04
11139991	G4A OFFICE	2022-03-29 @ 3:00 pm	2022-04-01 @ 1:00 pm	$3.5 \pm 0.3$	2022-04-04
11139993	G4A OFFICE	2022-03-29 @ 3:00 pm	2022-04-01 @ 1:00 pm	$1.8 \pm 0.3$	2022-04-04

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

# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, I	10b Number 204620
NOMINAL Conditions: Radon Conc 27. 0 p	Ci/L Rel. Hum <u>50.1</u> % Temp. <u>70.0</u>
Date Start: 3/18/22 Date Stop: 3/21/22	Date Start: Date Stop:
Time Start: <u>0795</u> Time Stop: <u>0795</u>	(
Device No.'s: (5) Char Bags-	Device No.'s:
11139367 11139368, 11139371,	
11139710, 11139717	C
E3 Right	
Date Start: Date Stop:	Date Start: Date Stop:
Time Start: Time Stop:	Time Start: Time Stop:
Device No.'s:	Device No.'s:
	ři li
* a	
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 =  $7 \mu R/h$  Elevation = 820 ft

## \*\* LABORATORY ANALYSIS REPORT \*\*

### Radon test result report for:

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within  $\pm$  25% of the chamber's reference value (25.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139367	SK1	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$25.9 \pm 2.1$	2022-03-30
11139368	SK2	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$23.9 \pm 2.0$	2022-03-30
11139371	SK3	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$25.7 \pm 2.1$	2022-03-30
11139710	SK4	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$26.4 \pm 2.1$	2022-03-30
11139717	SK5	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$24.6 \pm 2.0$	2022-03-30

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



### Engineers • Planners • Scientists • Construction Managers

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## **Radon Test Kit Chain of Custody**

Project Name: MCPS Radon - March 2022 Schools - Retesting

#### Name of Schools:

- 1. Watkins Mill HS
- 2. Cresthaven ES
- 3. East Silver Spring ES
- 4. Fairland Center
- 5. Francis Scott Key MS
- 6. Greencastle ES
- 7. Roscoe Nix ES
- 8. West Farm Transportation Depot
- 9. Wheaton HS
- 10.White Oak MS
- 11. William Tyler Page ES
- 12.Bel Pre ES
- 13. Fairland ES
- 14. Highland ES
- 15. Rolling Terrace ES
- 16. Takoma Park MS
- 17. Viers Mill ES
- 18.Poolesville ES

	Date	Initials
Radon Test Kits Deployed	03/29/2022	BMM
Radon Test Kits Collected	04/01/2022	BMM
Radon Test Kits Shipped to Lab*	04/01/2022	BMM
Radon Test Kits Received by Lab*	04/04/2022	BMM

<sup>\*</sup>All samples sent to Air Check, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759



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## MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Bel Pre Elementary
	School
Date of Test Report	5/11/2022
Round of Testing	(Initial)
	Follow-up
	Post Remediation
	2 Year Testing
	5 Year Testing
	HVAC Upgrade
	Window Replacement
	New Addition
	New Facility
# Rooms Tested	51
# Rooms $\geq$ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.4 pCi/L

### Project Status:

Initial testing completed; Missing or compromised samples need re-sampling

KCI Technologies, Inc. www.kci.com



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May 11, 2022

Brian T. Croyle, PG, CHMM Environmental Specialist Montgomery County Public Schools Gaithersburg, MD 20879

Re: Radon Testing Services

KCI Job # 122108316

Location: Bel Pre Elementary School

13801 Rippling Brook Dr. Silver Spring, MD 20906

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 Bel Pre Elementary School, located at 13801 Rippling Brook Dr. Silver Spring, MD 20906 (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 <a href="https://www.montgomeryschoolsmd.org">https://www.montgomeryschoolsmd.org</a> or <a href="https://www.montgomeryschoolsmd.org">www.epa.gov/radon</a>.

KCI visited the site on March 14, 2022 and deployed fifty-eight (58) 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 March 17, 2022 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

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NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

#### **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 low temperatures were in the low 20s and high temperatures ranged from the mid 70s to the high 50s Fahrenheit. Maximum sustained winds ranged from 0-32 miles per hour. Average humidity was around 61% with 0.1 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 piC/L	None	N/A
<4.0 piC/L	See Attachment B	

KCI Technologies, Inc. WWW.kci.com

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			
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.

Tyler McCleaf

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	
Ral Dra FS	

Test Period: 03/15/2022 - 03/18/2022

Kit Number	Room / Area	Describ
KIT NUTTIBET	•	Result
11139544	100	< 0.3
11139567	100	< 0.3
11139575	100	< 0.3
11139555	101	< 0.3
11139566	101	< 0.3
11139553	102	< 0.3
11139528	104	< 0.3
11139542	106	< 0.3
11139570	106	< 0.3
11139571	106	< 0.3
11139535	109	< 0.3
11139558	111	< 0.3
11139580	112	< 0.3
11139572	114	< 0.3
11139569	118	< 0.3
11139549	120	< 0.3
11139504	124	< 0.3
11139503	125	< 0.3
11139537	126	< 0.3
11139533	128	0.5
11139548	131	< 0.3
11139531	132	0.7
11139573	135	< 0.3
11139529	136	1.1
11139502	137	< 0.3
11139540	138	1.4
11139539	140	1.4
11139579	141	< 0.3
11139559	142	< 0.3
11139565	144	< 0.3
11139574	145	< 0.3
11139527	147	< 0.3
11139560	147	< 0.3
11132619	153	< 0.3
11139530	157	0.5
11139532	161	0.6
11139534	165	< 0.3
11139538	165	< 0.3
11139541	221	< 0.3
11139546	235	< 0.3
11139536	263	< 0.3
11139578	100B	< 0.3

	Table 1- Radon Testing Results				
	Bel Pre ES				
Te	est Period: 03/15/2022 - 03/18/2022				
Kit Number	Room / Area	Result			
11139568	100C	< 0.3			
11139576	100D	< 0.3			
11139543	100E	< 0.3			
11139581	100F	< 0.3			
11139556	< 0.3				
11139562	101B1	< 0.3			
11139557	102C	< 0.3			
11139550	102D	< 0.3			
11139545	106T	< 0.3			
11139552	113A	< 0.3			
11139547	113C	< 0.3			
11139561	141D	< 0.3			
11139563	144E	< 0.3			
11139564	144E	< 0.3			
11139551	205 PREP	< 0.3			
11139554 TELEPHONE < 0.3					

	Table 2- Radon Testing Results					
	Bel F	re ES				
	Test Period: 03/15	/2022 - 03/18/2022				
Kit Number	QC Type	Room / Area	Result			
11139567	D	100	< 0.3			
11139575 FB 100 < 0.3						
11139527 D 147 < 0.3						
11139538 D 165 < 0.3						
11139570 D 106 < 0.3						
11139542 FB 106 < 0.3						
11139504	11139504 D 124 < 0.3					
11138953	11138953 OB OFFICE BLANK < 0.3					
11138945	11138945 TB TRAVEL BLANK < 0.3					

Summary of Missed Locations							
Bel Pre ES							
Т	est Period: 03/15/22 - 03/18/22						
Kit Number Room/Area Result							
NA	Gym	NA					
NA	Gym Office	NA					

Summary of Missing, Compromised and >/= 4 piC/L Tests							
	Bel Pre ES						
	Test Period: 03/15/22 - 03/18/22						
Kit Number Room/Area Result							
	NA						

### Table Note:

<sup>\*</sup> Missing or Compromised Sample

## ATTACHMENT C

# Laboratory Analytical Results

# Radon test result report for: **BEL PRE ES**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139544	100	2022-03-15 @ 8:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139567	100	2022-03-15 @ 8:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139575	100	2022-03-15 @ 8:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139578	100B	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139568	100C	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139576	100D	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139543	100E	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139581	100F	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139556	100J	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139555	101	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139566	101	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139562	101B1	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139553	102	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139557	102C	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139550	102D	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139528	104	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139570	106	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139542	106	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139571	106	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139545	106T	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139535	109	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139558	111	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139580	112	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139552	113A	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139547	113C	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139572	114	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139569	118	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139549	120	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139504	124	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139503	125	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139537	126	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139533	128	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	$0.5 \pm 0.3$	2022-03-21
11139548	131	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139531	132	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	$0.7 \pm 0.3$	2022-03-21
11139573	135	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139529	136	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	$1.1 \pm 0.3$	2022-03-21
11139502	137	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21

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# Radon test result report for: **BEL PRE ES**

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
11139540	138	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	$1.4 \pm 0.3$	2022-03-21
11139539	140	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	$1.4 \pm 0.3$	2022-03-21
11139579	141	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139561	141D	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139559	142	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139565	144	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139563	144E	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139564	144E	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139574	145	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139560	147	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139527	147	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11132619	153	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139530	157	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	$0.5 \pm 0.3$	2022-03-21
11139532	161	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	$0.6 \pm 0.3$	2022-03-21
11139538	165	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139534	165	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139551	205 PREP	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139541	221	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139546	235	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139536	263	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139554	TELEPHONE	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21

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# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, I	10b Number 204620
NOMINAL Conditions: Radon Conc 27. 0 p	Ci/L Rel. Hum <u>50.1</u> % Temp. <u>70.0</u>
Date Start: 3/18/22 Date Stop: 3/21/22	Date Start: Date Stop:
Time Start: <u>0795</u> Time Stop: <u>0795</u>	(
Device No.'s: (5) Char Bags-	Device No.'s:
11139367 11139368, 11139371,	
11139710, 11139717	C
E3 Right	
Date Start: Date Stop:	Date Start: Date Stop:
Time Start: Time Stop:	Time Start: Time Stop:
Device No.'s:	Device No.'s:
	ři li
* a	
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 =  $7 \mu R/h$  Elevation = 820 ft

## \*\* LABORATORY ANALYSIS REPORT \*\*

### Radon test result report for:

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within  $\pm$  25% of the chamber's reference value (25.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139367	SK1	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$25.9 \pm 2.1$	2022-03-30
11139368	SK2	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$23.9 \pm 2.0$	2022-03-30
11139371	SK3	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$25.7 \pm 2.1$	2022-03-30
11139710	SK4	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$26.4 \pm 2.1$	2022-03-30
11139717	SK5	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	$24.6 \pm 2.0$	2022-03-30

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### Engineers • Planners • Scientists • Construction Managers

Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

## **Radon Test Kit Chain of Custody**

Project Name: MCPS Radon - March 2022 Schools

### Name of Schools:

- 1. Singer, Flora M. ES
- 2. Sligo MS
- 3. Spring Mill Center
- 4. Fairland ES
- 5. Bel Pre ES
- 6. Shriver, Sargent ES
- 7. Strathmore ES
- 8. Viers Mill ES
- 9. Piney Branch ES

	Date	Initials
Radon Test Kits Deployed	03/15/2022	Mun
Radon Test Kits Collected	03/18/2022	BUIL
Radon Test Kits Shipped to Lab*	03/18/2022	BellI
Radon Test Kits Received by Lab*	03/20/2022	BUILL

<sup>\*</sup>All samples sent to Air Check, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759