



**MCPS RADON TESTING – EXECUTIVE SUMMARY**

Site Name	Viers Mill 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	1
# Rooms $\geq$ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.9 pCi/L

**Project Status**

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



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: Viers Mill Elementary School  
11711 Joseph Mill Rd.  
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 Viers Mill Elementary School, located at 11711 Joseph Mill Rd. 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](http://www.epa.gov/radon).

KCI visited the site on March 29, 2022 and deployed three (3) 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.  $\geq 3.5$  pCi/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.

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		
Viers Mill ES RT		
Test Period: 03/29/2022 - 04/01/2022		
Kit Number	Room / Area	Result
11140022	506E	< 0.3
11140023	506E	1.5
11140033	506E	1.9



Table 2- Radon Testing Results			
Viers Mill ES RT			
Test Period: 03/29/2022 - 04/01/2022			
Kit Number	QC Type	Room / Area	Result
11140023	D	506e	1.5
11140022	FB	506e	< 0.3
11139883	OB	OFFICE BLANK	< 0.3
11139841	TB	TRAVEL BLANK	< 0.3

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

Summary of Missing, Compromised and $\geq 4$ pC/L Tests		
Viers Mill ES RT		
Test Period: 03/29/22 - 04/01/22		
Kit Number	Room/Area	Result
	NA	

Table Note:  
\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

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April 4, 2022

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

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Radon test result report for:  
**VIEWS MILL ES**

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<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
11140022	506E	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	< 0.3	2022-04-04
11140023	506E	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	1.5 ± 0.3	2022-04-04
11140033	506E	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	1.9 ± 0.3	2022-04-04

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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, Inc. Job Number 204620

NOMINAL Conditions: Radon Conc 27.0 pCi/L Rel. Hum 50.1 % Temp. 70.0 F

Date Start: 3/18/22 Date Stop: 3/21/22 Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0705 Time Stop: 0705 Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: (5) Char Bags - Device No.'s: \_\_\_\_\_

11139367, 11139368, 11139371, \_\_\_\_\_

11139710, 11139717 \_\_\_\_\_

E3 Right

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  $\mu$ R/h Elevation = 820 ft

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March 30, 2022

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

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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).

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<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
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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### 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

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	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

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



**MCPS RADON TESTING – EXECUTIVE SUMMARY**

Site Name	Viers Mill 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	102
# Rooms $\geq$ 4.0 pCi/L	1
Lowest Value	<0.3 pCi/L
Highest Value	4.2 pCi/L

Project Status:

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





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: Viers Mill Elementary School  
11711 Joseph Mill Rd.  
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 Viers Mill Elementary School, located at 11711 Joseph Mill Rd. 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](http://www.epa.gov/radon).

KCI visited the site on March 15, 2022 and deployed one hundred fifteen (115) 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 18, 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 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:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
≥4.0 pCi/L	506E	4.2
<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		
Viers Mill ES		
Test Period: 03/15/2022 - 03/18/2022		
Kit Number	Room / Area	Result
11134085	101	1.2
11134083	102	0.5
11134084	103	1.1
11134056	104	1.1
11134062	105	0.9
11134003	106	1.1
11134100	107	1.2
11139056	199	1.1
11139058	201	0.5
11139051	202	0.7
11139057	202	< 0.3
11139065	203	0.9
11139052	204	0.7
11139066	205	0.7
11139064	206	0.9
11139047	207	1.0
11139050	208	2.0
11139010	210	< 0.3
11139025	214	0.8
11139026	214	< 0.3
11139027	214	< 0.3
11134013	216	0.5
11134079	218	0.5
11139045	300	1.0
11139053	301	0.9
11139004	302	1.5
11139054	302	< 0.3
11139068	302	1.7
11139061	303	1.9
11139062	304	1.3
11139073	304	1.2
11139074	305	1.2
11139063	306	1.5
11139075	307	2.2
11139003	308	0.9
11139007	309	1.4
11139033	310	1.1
11139021	311	1.1
11139043	312	1.0
11139044	312	0.7
11139014	313	2.0
11139019	314	2.2

Table 1- Radon Testing Results		
Viers Mill ES		
Test Period: 03/15/2022 - 03/18/2022		
Kit Number	Room / Area	Result
11139036	315	2.1
11139006	400	1.3
11139037	401	1.1
11139012	402	0.8
11139030	403	2.0
11139008	404	2.5
11139038	405	0.5
11139011	406	0.6
11139039	407	0.9
11139048	407	< 0.3
11139049	407	< 0.3
11139024	408	0.7
11139009	409	0.5
11139018	409	< 0.3
11139055	409	< 0.3
11139028	411	0.6
11139015	413	1.2
11139016	415	0.8
11139059	504	1.3
11139060	504	1.4
11139071	505	1.3
11134096	507	1.2
11139029	601	0.6
11139013	604	1.6
11139032	605	2.3
11139005	607	1.4
11139034	611	1.7
11139035	612	1.5
11139022	613	1.5
11139023	613	< 0.3
11139031	613	1.5
11139001	616	1.3
11139020	617	1.3
11139042	617	1.9
11139041	618	1.0
11139040	622	1.4
11134064	623	< 0.3
11134078	628	< 0.3
11134063	632	< 0.3
11139067	504 OFFICE	1.3
11139076	505C	0.8
11139083	505D	1.2



Table 1- Radon Testing Results		
Viers Mill ES		
Test Period: 03/15/2022 - 03/18/2022		
Kit Number	Room / Area	Result
11134093	506A	1.2
11134094	506B	1.4
11134098	506C	1.6
11134099	506D	1.8
11134097	506E	4.2
11134076	619A	< 0.3
11134075	619B	0.5
11134074	619C	< 0.3
11134071	625B	< 0.3
11134072	625C	0.7
11134077	625G	0.7
11134065	625H	< 0.3
11134092	625H	0.7
11134090	625J	1.1
11139072	APR	1.0
11139081	APR	1.0
11139082	APR	1.1
11134080	BE OFFICE	0.8
11134082	BE OFFICE	0.8
11134095	BSO	0.9
11139046	COM	2.1
11134081	ELECTRICAL	0.5
11134087	GYM	1.2
11134089	GYM	0.9
11134086	GYM OFFICE	0.9
11134088	GYM OFFICE	0.5
11134091	GYM OFFICE	< 0.3
11134073	HR	0.5
11139002	KITCHEN OFFICE	1.6
11134055	STAFF WORK ROOM	1.5
11139080	STAGE	1.3

Table 2- Radon Testing Results			
Viers Mill ES			
Test Period: 03/15/2022 - 03/18/2022			
Kit Number	QC Type	Room / Area	Result
11134082	D	BE office	0.8
11134088	D	Gym office	0.5
11134065	D	625h	< 0.3
11139025	D	214	0.8
11139026	FB	214	< 0.3
11139009	D	409	0.5
11139031	D	613	1.5
11139023	FB	613	< 0.3
11139048	D	407	< 0.3
11139049	FB	407	< 0.3
11139057	D	202	< 0.3
11139068	D	302	1.7
11139081	D	APR	1.0
11138953	OB	OFFICE BLANK	< 0.3
11138945	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Viers Mill ES		
Test Period: 03/15/22 - 03/18/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >= 4 piC/L Tests		
Viers Mill ES		
Test Period: 03/15/22 - 03/18/22		
Kit Number	Room/Area	Result
11134097	506E	4.2

Table Note:  
\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

Radon test result report for:  
**VIERS MILL ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11134085	101	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11134083	102	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.5 ± 0.3	2022-03-21
11134084	103	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.1 ± 0.3	2022-03-21
11134056	104	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.1 ± 0.3	2022-03-21
11134062	105	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.9 ± 0.3	2022-03-21
11134003	106	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.1 ± 0.3	2022-03-21
11134100	107	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11139056	199	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21
11139058	201	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11139051	202	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11139057	202	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139065	203	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139052	204	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11139066	205	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11139064	206	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139047	207	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.0 ± 0.3	2022-03-21
11139050	208	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	2.0 ± 0.3	2022-03-21
11139010	210	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139026	214	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139027	214	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139025	214	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.8 ± 0.3	2022-03-21
11134013	216	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11134079	218	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11139045	300	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.0 ± 0.3	2022-03-21
11139053	301	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139054	302	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139068	302	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.7 ± 0.3	2022-03-21
11139004	302	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139061	303	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.9 ± 0.3	2022-03-21
11139073	304	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.2 ± 0.3	2022-03-21
11139062	304	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.3 ± 0.3	2022-03-21
11139074	305	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.2 ± 0.3	2022-03-21
11139063	306	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139075	307	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	2.2 ± 0.3	2022-03-21
11139003	308	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139007	309	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.4 ± 0.3	2022-03-21
11139033	310	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21

Radon test result report for:  
**VIERS MILL ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139021	311	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21
11139044	312	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11139043	312	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.0 ± 0.3	2022-03-21
11139014	313	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	2.0 ± 0.3	2022-03-21
11139019	314	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	2.2 ± 0.3	2022-03-21
11139036	315	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	2.1 ± 0.3	2022-03-21
11139006	400	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.3 ± 0.3	2022-03-21
11139037	401	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21
11139012	402	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.8 ± 0.3	2022-03-21
11139030	403	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	2.0 ± 0.3	2022-03-21
11139008	404	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	2.5 ± 0.3	2022-03-21
11139038	405	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11139011	406	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.6 ± 0.3	2022-03-21
11139049	407	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139039	407	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139048	407	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139024	408	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.7 ± 0.3	2022-03-21
11139009	409	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.5 ± 0.3	2022-03-21
11139018	409	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139055	409	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139028	411	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.6 ± 0.3	2022-03-21
11139015	413	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11139016	415	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.8 ± 0.3	2022-03-21
11139059	504	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.3 ± 0.3	2022-03-21
11139060	504	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.4 ± 0.3	2022-03-21
11139067	504 OFFICE	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.3 ± 0.3	2022-03-21
11139071	505	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.3 ± 0.3	2022-03-21
11139076	505C	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	0.8 ± 0.3	2022-03-21
11139083	505D	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11134093	506A	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11134094	506B	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.4 ± 0.3	2022-03-21
11134098	506C	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.6 ± 0.3	2022-03-21
11134099	506D	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.8 ± 0.3	2022-03-21
11134097	506E	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	4.2 ± 0.4	2022-03-21
11134096	507	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11139029	601	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.6 ± 0.3	2022-03-21
11139013	604	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.6 ± 0.3	2022-03-21

Radon test result report for:  
**VIERS MILL ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139032	605	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	2.3 ± 0.3	2022-03-21
11139005	607	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.4 ± 0.3	2022-03-21
11139034	611	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.7 ± 0.3	2022-03-21
11139035	612	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139031	613	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139023	613	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139022	613	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139001	616	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.3 ± 0.3	2022-03-21
11139042	617	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.9 ± 0.3	2022-03-21
11139020	617	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.3 ± 0.3	2022-03-21
11139041	618	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.0 ± 0.3	2022-03-21
11134076	619A	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134075	619B	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11134074	619C	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139040	622	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.4 ± 0.3	2022-03-21
11134064	623	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134071	625B	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134072	625C	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11134077	625G	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11134065	625H	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134092	625H	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11134090	625J	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21
11134078	628	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134063	632	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139072	APR	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.0 ± 0.3	2022-03-21
11139082	APR	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.1 ± 0.3	2022-03-21
11139081	APR	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.0 ± 0.3	2022-03-21
11134082	BE OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.8 ± 0.3	2022-03-21
11134080	BE OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.8 ± 0.3	2022-03-21
11134095	BSO	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.9 ± 0.3	2022-03-21
11139046	COM	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	2.1 ± 0.3	2022-03-21
11134081	ELECTRICAL	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.5 ± 0.3	2022-03-21
11134087	GYM	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11134089	GYM	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.9 ± 0.3	2022-03-21
11134086	GYM OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.9 ± 0.3	2022-03-21
11134088	GYM OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.5 ± 0.3	2022-03-21

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March 22, 2022

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

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Radon test result report for:

**VIERS MILL ES  
MAIN**

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<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
11134091	GYM OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11134073	HR	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11139002	KITCHEN OFFICE	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.6 ± 0.3	2022-03-21
11134055	STAFF WORK ROOM	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.5 ± 0.3	2022-03-21
11139080	STAGE	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.3 ± 0.3	2022-03-21

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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, Inc. Job Number 204620

NOMINAL Conditions: Radon Conc 27.0 pCi/L Rel. Hum 50.1 % Temp. 70.0 F

Date Start: 3/18/22 Date Stop: 3/21/22 Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0705 Time Stop: 0705 Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: (5) Char Bags - Device No.'s: \_\_\_\_\_

11139367, 11139368, 11139371, \_\_\_\_\_

11139710, 11139717 \_\_\_\_\_

E3 light

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  $\mu$ R/h Elevation = 820 ft

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March 30, 2022

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

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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).

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<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
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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### 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

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	Date	Initials
Radon Test Kits Deployed	03/15/2022	BMM
Radon Test Kits Collected	03/18/2022	BMM
Radon Test Kits Shipped to Lab*	03/18/2022	Bell
Radon Test Kits Received by Lab*	03/20/2022	BMM

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