



**MCPS RADON TESTING – EXECUTIVE SUMMARY**

Site Name	Greencastle Elementary School
Date of Test Report	05/27/2022
Round of Testing	Initial <u>Follow-up</u> 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	<0.3 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: Greencastle Elementary School  
13611 Robey Rd.  
Silver Spring, MD 20904

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 Greencastle Elementary School, located at 13611 Robey Rd. Silver Spring, MD 20904 (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 four (4) 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		
Greencastle ES RT		
Test Period: 03/29/2022 - 04/01/2022		
Kit Number	Room / Area	Result
11139874	STAGE	< 0.3
11139875	STAGE	< 0.3
11139877	STAGE	< 0.3
11139878	STAGE	< 0.3



Table 2- Radon Testing Results			
Greencastle ES RT			
Test Period: 03/29/2022 - 04/01/2022			
Kit Number	QC Type	Room / Area	Result
11139874	D	Stage	< 0.3
11139878	FB	Stage	< 0.3
11139883	OB	OFFICE BLANK	< 0.3
11139841	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Greencastle 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		
Greencastle 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:  
**GREENCASTLE 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>
11139874	STAGE	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 0.3	2022-04-04
11139875	STAGE	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 0.3	2022-04-04
11139877	STAGE	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 0.3	2022-04-04
11139878	STAGE	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 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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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 – 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	Greencastle Elementary School
Date of Test Report	4/29/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	50
# Rooms $\geq$ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.9 pCi/L

Project Status:

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





April 29, 2022

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

Re: **Radon Testing Services**  
KCI Job # 122108316

Location: Greencastle Elementary School  
13611 Robey Rd.  
Silver Spring, MD 20904

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 Greencastle Elementary School, located at 13611 Robey Rd. Silver Spring, MD 20904 (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 7, 2022 and deployed fifty-seven (57) 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 10, 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 post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

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 20s and high temperatures ranged from the high 70s to the low 50s Fahrenheit. Maximum sustained winds ranged from 0-32 miles per hour. Average humidity was around 65% with 1.09 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	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		
Greencastle ES		
Test Period: 03/07/2022 - 03/10/2022		
Kit Number	Room / Area	Result
11133940	102	< 0.3
11133962	103	1.0
11133948	104	1.0
11133947	105	0.8
11133970	106	< 0.3
11133956	107	0.5
11130578	112	< 0.3
11130586	113	< 0.3
11130593	114	< 0.3
11130577	115	< 0.3
11130597	116	0.6
11130599	116	0.7
11130598	117	1.9
11130573	118	< 0.3
11130574	118	< 0.3
11130596	119	0.7
11130595	120	< 0.3
11130587	121	< 0.3
11130585	122	< 0.3
11130584	128	< 0.3
11130589	128	< 0.3
11130594	130	< 0.3
11130600	130	< 0.3
11133965	132	< 0.3
11133954	133	< 0.3
11133959	134	< 0.3
11133957	135	< 0.3
11133960	136	< 0.3
11130582	137	< 0.3
11130575	138	< 0.3
11130581	140	< 0.3
11133963	208	< 0.3
11133955	220	< 0.3
11133964	220	< 0.3
11133961	229	< 0.3
11130538	100B	0.7
11130545	100C	< 0.3
11130537	100D	< 0.3
11130547	100E	< 0.3
11130554	100H	< 0.3
11130561	100I	0.6
11130562	100I	0.7

Table 1- Radon Testing Results		
Greencastle ES		
Test Period: 03/07/2022 - 03/10/2022		
Kit Number	Room / Area	Result
11130546	100J	< 0.3
11130583	109 MULTIPURPOSE	< 0.3
11130588	109 MULTIPURPOSE	< 0.3
11133953	130 TELEPHONE	< 0.3
11130576	141 BS	< 0.3
11130569	144 MEDIA	< 0.3
11130571	144 MEDIA	< 0.3
11130572	144 MEDIA	< 0.3
11130591	GYM	< 0.3
11130592	GYM	< 0.3
11130590	GYM OFFICE	< 0.3
11130564	HEALTH OFFICE	< 0.3
11130579	KITCHEN OFFICE	< 0.3
11130552	MAIN OFFICE	< 0.3
11130570	MEDIA OFFICE	< 0.3



Table 2- Radon Testing Results			
Greencastle ES			
Test Period: 03/07/2022 - 03/10/2022			
Kit Number	QC Type	Room / Area	Result
11130561	D	100I	0.6
11130574	D	118	< 0.3
11130572	FB	144 Media	< 0.3
11130597	D	116	0.6
11130584	D	128	< 0.3
11130594	FB	130	< 0.3
11133955	D	220	< 0.3
11131662	OB	OFFICE BLANK	< 0.3
11131691	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Greencastle ES		
Test Period: 03/07/22 - 03/10/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >= 4 piC/L Tests		
Greencastle ES		
Test Period: 03/07/22 - 03/10/22		
Kit Number	Room/Area	Result
11130580	Stage	Missing

Table Note:  
 \* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

Radon test result report for:**GREENCASTLE ES**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11130538	100B	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	0.7 ± 0.3	2022-03-14
11130545	100C	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130537	100D	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130547	100E	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130554	100H	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130561	100I	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	0.6 ± 0.3	2022-03-14
11130562	100I	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	0.7 ± 0.3	2022-03-14
11130546	100J	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130588	109 MULTIPURPOSE	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130583	109 MULTIPURPOSE	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130578	112	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130586	113	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130593	114	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130577	115	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130599	116	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	0.7 ± 0.3	2022-03-14
11130597	116	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	0.6 ± 0.3	2022-03-14
11130598	117	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	1.9 ± 0.3	2022-03-14
11130574	118	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130573	118	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130596	119	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	0.7 ± 0.3	2022-03-14
11130595	120	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130587	121	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130585	122	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130589	128	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130584	128	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130594	130	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130600	130	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130582	137	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130575	138	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130581	140	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130576	141 BS	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130572	144 MEDIA	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130571	144 MEDIA	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130569	144 MEDIA	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130592	GYM	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130591	GYM	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130590	GYM OFFICE	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14

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March 15, 2022

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

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Radon test result report for:

**GREENCASTLE 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>
11130564	HEALTH OFFICE	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130579	KITCHEN OFFICE	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130552	MAIN OFFICE	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130570	MEDIA OFFICE	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14

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

March 15, 2022

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

Radon test result report for:

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
11133940	102	2022-03-07 @ 12:00 pm	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133962	103	2022-03-07 @ 12:00 pm	2022-03-10 @ 10:00 am	1.0 ± 0.3	2022-03-14
11133948	104	2022-03-07 @ 12:00 pm	2022-03-10 @ 10:00 am	1.0 ± 0.3	2022-03-14
11133947	105	2022-03-07 @ 12:00 pm	2022-03-10 @ 10:00 am	0.8 ± 0.3	2022-03-14
11133970	106	2022-03-07 @ 12:00 pm	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133956	107	2022-03-07 @ 12:00 pm	2022-03-10 @ 10:00 am	0.5 ± 0.3	2022-03-14
11133953	130 TELEPHONE	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133965	132	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133954	133	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133959	134	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133957	135	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133960	136	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133963	208	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133955	220	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133964	220	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133961	229	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14

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# 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

Name of Schools:

1. Cresthaven ES
2. Key, Francis Scott MS
3. Nix, Roscoe ES
4. Greencastle ES
5. Jackson Road
6. Page, William Tyler ES
7. West Farm Transportation Depot
8. Westover ES
9. White Oak MS

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	Date	Initials
Radon Test Kits Deployed	03/07/2022	BMM
Radon Test Kits Collected	03/10/2022	BMM
Radon Test Kits Shipped to Lab*	03/10/2022	BMM
Radon Test Kits Received by Lab*	03/13/2022	BMM

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