



**MCPS RADON TESTING – EXECUTIVE SUMMARY**

Site Name	Redland Middle School
Date of Test Report	05/12/2022
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	4
# Rooms $\geq$ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	0.8 pCi/L

**Project Status**

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



May 12, 2022

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

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

Location: Redland Middle School  
6505 Muncaster Mill Rd.  
Rockville, MD 20855

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 Redland Middle School, located at 6505 Muncaster Mill Rd. Rockville, MD 20855 (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 22, 2022 and deployed six (6) 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 March 25, 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 low 40°Fs and high temperatures ranged from the low 50°Fs to the low 70°Fs. Maximum sustained winds ranged from 0-29 miles per hour. Average humidity was around 56% with 0.51 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		
Redland MS RT		
Test Period: 03/22/2022 - 03/25/2022		
Kit Number	Room / Area	Result
11138968	112	0.5
11138975	135	< 0.3
11138970	147	0.7
11138976	147	< 0.3
11138980	147	0.8
11138979	189	0.7



Table 2- Radon Testing Results			
Redland MS RT			
Test Period: 03/22/2022 - 03/25/2022			
Kit Number	QC Type	Room / Area	Result
11138980	D	147	0.8
11138976	FB	147	< 0.3
11139902	OB	OFFICE BLANK	< 0.3
11139928	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Redland MS RT		
Test Period: 03/22/22 - 03/25/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and $\geq 4$ piC/L Tests		
Redland MS RT		
Test Period: 03/22/22 - 03/25/22		
Kit Number	Room/Area	Result
	NA	

Table Note:  
 \* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

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March 28, 2022

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

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Radon test result report for:  
**REDLAND MS RT  
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>
11138968	112	2022-03-22 @ 12:00 pm	2022-03-25 @ 11:00 am	0.5 ± 0.3	2022-03-28
11138975	135	2022-03-22 @ 12:00 pm	2022-03-25 @ 11:00 am	< 0.3	2022-03-28
11138970	147	2022-03-22 @ 12:00 pm	2022-03-25 @ 11:00 am	0.7 ± 0.3	2022-03-28
11138976	147	2022-03-22 @ 12:00 pm	2022-03-25 @ 11:00 am	< 0.3	2022-03-28
11138980	147	2022-03-22 @ 12:00 pm	2022-03-25 @ 11:00 am	0.8 ± 0.3	2022-03-28
11138979	189	2022-03-22 @ 12:00 pm	2022-03-25 @ 11:00 am	0.7 ± 0.3	2022-03-28

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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. Herbert Hoover MS
2. Parkland MS
3. Redland MS
4. Rock Creek Valley ES
5. Tilden MS
6. Rockville HS
7. Wootton HS
8. Capt. James E. Daly ES
9. Clarksburg HS
10. Clearspring ES
11. Hallie Wells MS
12. Northwest HS
13. Paint Branch HS
14. Rocky Hills MS
15. Seneca Valley HS
16. Sherwood HS
17. Wilson Wims ES

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	Date	Initials
Radon Test Kits Deployed	03/22/2022	BMM
Radon Test Kits Collected	03/25/2022	BMM
Radon Test Kits Shipped to Lab*	03/25/2022	BMM
Radon Test Kits Received by Lab*	03/28/2022	BMM

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



**MCPS RADON TESTING – EXECUTIVE SUMMARY**

Site Name	Redland Middle School
Date of Test Report	4/6/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	78
# Rooms $\geq$ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.5 pCi/L

Project Status:

Initial testing completed; Missing or compromised kits need re-sampling.





April 6, 2022

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

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

Location: Redland MS  
6505 Muncaster Mill Rd.  
Rockville, MD 20855

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 Redland MS, located at 6505 Muncaster Mill Rd. Rockville, MD 20855 (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 February 8, 2022 and deployed eighty eight (88) 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 February 11, 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 30s and high temperatures ranged from the mid 30s to the mid 50s Fahrenheit. Maximum sustained winds ranged from 3-12 miles per hour. Average humidity was around 23% 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	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		
Redland MS		
Test Period: 02/8/2022 - 02/11/2022		
Kit Number	Room / Area	Result
11115080	100	1.3
11107378	101	1.0
11114989	102	0.9
11114995	105	0.9
11114999	105	1.1
11114951	108	1.0
11115022	115	0.6
11114901	116	0.9
11114917	116	0.8
11115012	120	0.8
11115013	124	1.0
11115036	128	0.6
11115040	128	0.8
11115035	129	0.6
11115027	130	0.8
11115043	131	0.8
11115011	132	< 0.3
11115019	132	1.1
11115028	132	< 0.3
11115026	133	0.6
11115033	135	0.6
11115037	139	< 0.3
11115045	139	1.0
11115046	139	0.7
11115018	141	1.2
11115029	142	1.2
11115015	143	1.2
11115016	144	1.2
11115010	145	1.1
11115030	146	1.4
11115006	148	1.1
11115004	149	1.1
11115031	150	1.2
11115032	150	1.3
11115008	151	< 0.3
11115024	152	1.5
11115017	153	0.9
11115023	154	1.3
11115009	156	1.0
11115005	158	1.3
11115003	160	0.8
11115025	163	1.1

Table 1- Radon Testing Results		
Redland MS		
Test Period: 02/8/2022 - 02/11/2022		
Kit Number	Room / Area	Result
11115055	165	0.8
11115042	168	0.7
11115002	176	0.9
11115044	176	1.0
11115047	176	< 0.3
11115061	176	0.9
11115056	177	0.8
11115054	180	1.1
11115048	181	1.2
11115078	182	0.7
11115085	182	< 0.3
11115086	182	0.7
11115007	187	0.8
11115050	195	0.7
11115059	199	0.9
11115064	199	0.7
11107377	201	1.2
11115071	207	0.8
11115049	211	0.8
11115060	215	0.9
11115001	217	0.9
11115057	221	1.1
11115068	231	1.2
11115087	233	1.2
11115079	100B	0.7
11115000	100C	0.7
11115072	100D	0.8
11115084	100E	0.6
11115074	100F	1.0
11115073	100G	1.0
11115076	100H	0.8
11115067	100M	0.5
11115075	100M	0.7
11114987	101A	0.8
11114996	112A	1.4
11115014	126C	1.2
11115038	126H	0.9
11115039	128A	0.9
11115063	176A	< 0.3
11115053	180A	0.7
11115051	180B	0.6
11115052	180C	1.1



Table 1- Radon Testing Results		
Redland MS		
Test Period: 02/8/2022 - 02/11/2022		
Kit Number	Room / Area	Result
11115041	180D	1.2
11115077	229B	1.1
11115020	CAFETERIA	0.6
11115021	CAFETERIA	1.0

Table 2- Radon Testing Results			
Redland MS			
Test Period: 02/8/2022 - 02/11/2022			
Kit Number	QC Type	Room / Area	Result
11114901	D	116	0.9
11115019	D	132	1.1
11115011	FB	132	< 0.3
11115031	D	150	1.2
11115046	D	139	0.7
11115037	FB	139	< 0.3
11115034	D	135	NA
11115044	D	176	1.0
11115047	FB	176	< 0.3
11115064	D	199	0.7
11115078	D	182	0.7
11115085	FB	182	< 0.3
11115067	D	100m	0.5
11113478	OB	OFFICE BLANK	< 0.3
11113477	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Redland MS		
Test Period: 02/8/22 - 02/11/22		
Kit Number	Room/Area	Result
NA	147	NA

Summary of Missing, Compromised and >= 4 piC/L Tests		
Redland MS		
Test Period: 02/8/22 - 02/11/22		
Kit Number	Room/Area	Result
11114990	112	Missing
11115034	135	Missing
11115069	189	Missing

Table Note:  
 \* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

Radon test result report for:**REDLAND MS****1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11115080	100	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	1.3 ± 0.3	2022-02-14
11115079	100B	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.7 ± 0.3	2022-02-14
11115000	100C	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.7 ± 0.3	2022-02-14
11115072	100D	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.8 ± 0.3	2022-02-14
11115084	100E	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.6 ± 0.3	2022-02-14
11115074	100F	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	1.0 ± 0.3	2022-02-14
11115073	100G	2022-02-08 @ 11:00 am	2022-02-11 @ 9:00 am	1.0 ± 0.3	2022-02-14
11115076	100H	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.8 ± 0.3	2022-02-14
11115067	100M	2022-02-08 @ 11:00 am	2022-02-11 @ 9:00 am	0.5 ± 0.3	2022-02-14
11115075	100M	2022-02-08 @ 11:00 am	2022-02-11 @ 9:00 am	0.7 ± 0.3	2022-02-14
11107378	101	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.0 ± 0.3	2022-02-14
11114987	101A	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-14
11114989	102	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-14
11114995	105	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-14
11114999	105	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.1 ± 0.3	2022-02-14
11114951	108	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.0 ± 0.3	2022-02-14
11114996	112A	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.4 ± 0.3	2022-02-14
11115022	115	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.6 ± 0.3	2022-02-14
11114901	116	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-14
11114917	116	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-15
11115012	120	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-14
11115013	124	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.0 ± 0.3	2022-02-14
11115014	126C	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-14
11115038	126H	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-14
11115036	128	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.6 ± 0.3	2022-02-14
11115040	128	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-15
11115039	128A	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-14
11115035	129	2022-02-08 @ 9:00 am	2022-02-11 @ 9:00 am	0.6 ± 0.3	2022-02-14
11115027	130	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-14
11115043	131	2022-02-08 @ 9:00 am	2022-02-11 @ 9:00 am	0.8 ± 0.3	2022-02-14
11115019	132	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.1 ± 0.3	2022-02-14
11115011	132	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	< 0.3	2022-02-14
11115028	132	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	< 0.3	2022-02-15
11115026	133	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.6 ± 0.3	2022-02-14
11115033	135	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.6 ± 0.3	2022-02-15
11115037	139	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	< 0.3	2022-02-15
11115045	139	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.0 ± 0.3	2022-02-15

Radon test result report for:**REDLAND MS****1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11115046	139	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.7 ± 0.3	2022-02-15
11115018	141	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-15
11115029	142	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-14
11115015	143	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-14
11115016	144	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-14
11115010	145	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.1 ± 0.3	2022-02-14
11115030	146	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.4 ± 0.3	2022-02-14
11115006	148	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.1 ± 0.3	2022-02-14
11115004	149	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.1 ± 0.3	2022-02-15
11115032	150	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.3 ± 0.3	2022-02-14
11115031	150	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-15
11115008	151	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	< 0.3	2022-02-15
11115024	152	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.5 ± 0.3	2022-02-15
11115017	153	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-15
11115023	154	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.3 ± 0.3	2022-02-15
11115009	156	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.0 ± 0.3	2022-02-15
11115005	158	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.3 ± 0.3	2022-02-15
11115003	160	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-15
11115025	163	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.1 ± 0.3	2022-02-15
11115055	165	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-14
11115042	168	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.7 ± 0.3	2022-02-15
11115061	176	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-14
11115047	176	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	< 0.3	2022-02-14
11115044	176	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	1.0 ± 0.3	2022-02-15
11115002	176	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-15
11115063	176A	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	< 0.3	2022-02-14
11115056	177	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-14
11115054	180	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	1.1 ± 0.3	2022-02-14
11115053	180A	2022-02-08 @ 9:00 am	2022-02-11 @ 8:00 am	0.7 ± 0.3	2022-02-14
11115051	180B	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	0.6 ± 0.3	2022-02-14
11115052	180C	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	1.1 ± 0.3	2022-02-14
11115041	180D	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-14
11115048	181	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-14
11115085	182	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	< 0.3	2022-02-14
11115078	182	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.7 ± 0.3	2022-02-14
11115086	182	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.7 ± 0.3	2022-02-14
11115007	187	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	0.8 ± 0.3	2022-02-14

Radon test result report for:**REDLAND MS****1**

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
11115050	195	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	0.7 ± 0.3	2022-02-14
11115064	199	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	0.7 ± 0.3	2022-02-14
11115059	199	2022-02-08 @ 10:00 am	2022-02-11 @ 8:00 am	0.9 ± 0.3	2022-02-14
11107377	201	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.2 ± 0.3	2022-02-14
11115071	207	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.8 ± 0.3	2022-02-15
11115049	211	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.8 ± 0.3	2022-02-14
11115060	215	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.9 ± 0.3	2022-02-14
11115001	217	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	0.9 ± 0.3	2022-02-14
11115057	221	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	1.1 ± 0.3	2022-02-14
11115077	229B	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	1.1 ± 0.3	2022-02-14
11115068	231	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	1.2 ± 0.3	2022-02-14
11115087	233	2022-02-08 @ 10:00 am	2022-02-11 @ 9:00 am	1.2 ± 0.3	2022-02-14
11115021	CAFETERIA	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	1.0 ± 0.3	2022-02-14
11115020	CAFETERIA	2022-02-08 @ 8:00 am	2022-02-11 @ 8:00 am	0.6 ± 0.3	2022-02-14

**EXPOSURE IN BOWSER-MORNER RADON CHAMBER**

CLIENT KCI Technologies, Inc. Job Number 204186

NOMINAL Conditions: Radon Conc 25.8 pCi/L Rel. Hum 50.1 % Temp. 70.9 F

Date Start: 2/18/22 Date Stop: 2/21/22 Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0911 Time Stop: 0911 Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: (3) Char Bags -  
11113484, 1112998, 20107126 Device No.'s: \_\_\_\_\_

23 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**



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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Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11113484	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK1		1	27.9
11122998	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK2		1	26.0
20107126	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK3		1	27.6

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### Radon Test Kit Chain of Custody

Project Name: MCPS Radon – February 2022 Schools

Name of Schools:

1. Earle. B Wood MS
2. Flower Valley ES
3. Parkland MS
4. Herbert Hoover MS
5. Ritchie Park ES
6. Wayside ES
7. Potomac ES
8. Redland MS
9. Sequoyah ES
10. Sherwood ES
11. Rock Terrace School

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	Date	Initials
Radon Test Kits Deployed	02/08/2022	PM
Radon Test Kits Collected	02/11/2022	PM
Radon Test Kits Shipped to Lab*	02/11/2022	PM
Radon Test Kits Received by Lab*	02/15/2022	PM

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