

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

### MCPS RADON TESTING – EXECUTIVE SUMMARY

	T
Site Name	Rolling Terrace 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	3
# Rooms $\geq 4.0 \text{ pCi/L}$	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

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: Rolling Terrace Elementary School

705 Bayfield St.

Takoma Park, MD 20910

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 Rolling Terrace Elementary School, located at 705 Bayfield St. Takoma Park, MD 20910 (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 2022 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.

Attachments: A- Floor Plan with Test Locations

B- Table 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

Employee-Owned Since 1988

# 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		
	Rolling Terrace ES RT		
Te	Test Period: 03/29/2022 - 04/01/2022		
Kit Number	Room / Area	Result	
11140041	120	< 0.3	
11140035	ART	< 0.3	
11140037	ART	< 0.3	
11140039	ART	< 0.3	
11140031	ARTS	< 0.3	

Table 2- Radon Testing Results				
	Rolling Terrace ES RT			
Test Period: 03/29/2022 - 04/01/2022				
Kit Number	QC Type	Room / Area	Result	
11140035	Art	D	< 0.3	
11140037	Art	FB	< 0.3	
11139883	ОВ	OFFICE BLANK	< 0.3	
11139841	ТВ	TRAVEL BLANK	< 0.3	

Summary of Missed Locations			
Rolling Terrace School RT			
Т	Test Period: 03/29/22 - 04/01/22		
Kit Number	Room/Area	Result	
	NA		

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Rolling Terrace School 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: ROLLING TERRACE

11140035 ART 2022-03-29 @ 11:00 am 2022-04-01 @ 11:00 am < 0.3 11140037 ART 2022-03-29 @ 11:00 am 2022-04-01 @ 11:00 am < 0.3	Started Ended pCi/L Analyzed	Started	Room Id	Kit #
11140037 ART 2022-03-29 @ 11:00 am 2022-04-01 @ 11:00 am < 0.3	22-03-29 @ 11:00 am	2022-03-29 @ 11:00	120	11140041
	22-03-29 @ 11:00 am	2022-03-29 @ 11:00	ART	11140035
11140039 ART 2022-03-29 @ 11:00 am 2022-04-01 @ 11:00 am < 0.3	22-03-29 @ 11:00 am	2022-03-29 @ 11:00	ART	11140037
	22-03-29 @ 11:00 am	2022-03-29 @ 11:00	ART	11140039
11140031 ARTS 2022-03-29 @ 11:00 am 2022-04-01 @ 11:00 am < 0.3	22-03-29 @ 11:00 am	2022-03-29 @ 11:00	ARTS	11140031

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
* 4	
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

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 - 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	Rolling Terrace
	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	58
# Rooms $\geq$ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.3 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: Rolling Terrace Elementary School

705 Bayfield St.

Takoma Park, MD 20912

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 Rolling Terrace Elementary School, located at 705 Bayfield St. Takoma Park, MD 20912 (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 sixty-six (66) 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

www.kci.com

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 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	
Rolling Terrace ES	

Test Period: 03/14/2022 - 03/17/2022

<u> </u>		
Kit Number	Room / Area	Result
11139310	103	< 0.3
11139311	106	0.6
11139312	106	0.7
11139320	111	< 0.3
11139319	112	< 0.3
11139316	113	< 0.3
11139313	114	< 0.3
11139314	117	< 0.3
11139315	120	NA
11139317	121	< 0.3
11139318	122	< 0.3
11139307	A100	< 0.3
11139344	A101	0.6
11139308	A102	0.6
11139345	A103	< 0.3
11139309	A104	1.0
11139364	A204	0.7
11139304	AP OFFICE	< 0.3
11139337	APR	< 0.3
11139338	APR	0.6
11139360	ART	0.7
11139340	ARTS	< 0.3
11139341	ARTS	NA
11139342	ARTS	< 0.3
11139335	B.S. OFFICE	< 0.3
11139321	B100	< 0.3
11139322	B100	< 0.3
11139323	B100	< 0.3
11139348	B101	0.7
11139324	B102	< 0.3
11139325	B104	< 0.3
11139349	B105	0.7
11139326	B106	< 0.3
11139350	B107	1.1
11139327	B108	0.6
11139353	B109	< 0.3
11139328	B110	0.6
11139354	B111	0.6
11139355	B113	< 0.3
11139361	B202	< 0.3
11139362	B202	0.5
11139363	B202	< 0.3

Table 1- Radon Testing Results					
Rolling Terrace ES					
Te	est Period: 03/14/2022 - 03/17/2022				
Kit Number	Room / Area	Result			
11139365	B215	< 0.3			
11139330	C100	0.8			
11139331	C100	1.3			
11139357	C101	< 0.3			
11139329	C102	0.9			
11139358	C103	< 0.3			
11139366	C200	< 0.3			
11139303	COMM. CORD. OFFICE	0.9			
11139346 CONF 1		0.7			
11139347	1139347 CONF 2				
11139356	ESOL	0.6			
11139301	GENERAL OFFICE	< 0.3			
11139332	GYM	0.7			
11139333	GYM	< 0.3			
11139334	GYM OFFICE	< 0.3			
11139359	ITNL. ROOM	1.1			
11139306	MAIN OFF. CONF.	0.8			
11139305	MAIN OFF. COPY ROOM	< 0.3			
11139343	MUSIC	< 0.3			
11139336	OLD FAM. ROOM	< 0.3			
11139302	PRINCIPAL	0.6			
11139351	STAFF LOUNGE	0.9			
11139352 STAFF LOUNGE < 0.3					

STAGE

0.6

11139339

Table 2- Radon Testing Results					
	Rolling T	errace ES			
	Test Period: 03/14	/2022 - 03/17/2022			
Kit Number	QC Type	Room / Area	Result		
11139312	D	106	0.7		
11139322 D B100 < 0					
11139323	I1139323 FB B100 < 0.3				
11139331 D C100 1.3					
11139341	D	Arts 1			
11139342 FB Arts < 0		< 0.3			
11139352	11139352 D Staff lounge < 0.3				
11139362	11139362 D B202 0.5				
11138932	11138932 OB OFFICE BLANK < 0.3				
11138946 TB TRAVEL BLANK < 0.3					

Summary of Missed Locations					
Rolling Terrace ES					
Т	Test Period: 03/14/22 - 03/17/22				
Kit Number Room/Area Resul					
	NA				

Summary of Missing, Compromised and >/= 4 piC/L Tests						
Rolling Terrace ES						
	Test Period: 03/14/22 - 03/17/22					
Kit Number	Kit Number Room/Area Result					
11139315	120	Compromised				
11139341	ARTS	Compromised				

### Table Note:

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

# ATTACHMENT C

# Laboratory Analytical Results

# Radon test result report for: ROLLING TERRACE ES MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
11139310	103	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139312	106	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$0.7 \pm 0.3$	2022-03-21
11139311	106	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$0.6 \pm 0.3$	2022-03-21
11139320	111	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139319	112	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139316	113	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139313	114	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139314	117	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139315	120	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	???? IF1	2022-03-21
11139317	121	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139318	122	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139307	A100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139344	A101	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.6 \pm 0.3$	2022-03-21
11139308	A102	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$0.6 \pm 0.3$	2022-03-21
11139345	A103	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139309	A104	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$1.0 \pm 0.3$	2022-03-21
11139364	A204	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.7 \pm 0.3$	2022-03-21
11139304	AP OFFICE	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139338	APR	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	$0.6 \pm 0.3$	2022-03-21
11139337	APR	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139360	ART	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.7 \pm 0.3$	2022-03-21
11139342	ARTS	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139340	ARTS	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139341	ARTS	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	???? IF1	2022-03-21
11139335	B.S. OFFICE	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139322	B100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139323	B100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139321	B100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139348	B101	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.7 \pm 0.3$	2022-03-21
11139324	B102	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139325	B104	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139349	B105	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.7 \pm 0.3$	2022-03-21
11139326	B106	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139350	B107	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$1.1 \pm 0.4$	2022-03-21
11139327	B108	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$0.6 \pm 0.3$	2022-03-21
11139353	B109	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139328	B110	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$0.6 \pm 0.3$	2022-03-21

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# Radon test result report for: ROLLING TERRACE ES MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
11139354	B111	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.6 \pm 0.3$	2022-03-21
11139355	B113	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139361	B202	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139362	B202	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.5 \pm 0.3$	2022-03-23
11139363	B202	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-2
11139365	B215	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-2
11139330	C100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$0.8 \pm 0.3$	2022-03-2
11139331	C100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$1.3 \pm 0.4$	2022-03-21
11139357	C101	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-2
11139329	C102	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$0.9 \pm 0.3$	2022-03-2
11139358	C103	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-2
11139366	C200	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-2
11139303	COMM. CORD. OFFICE	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	$0.9 \pm 0.4$	2022-03-2
11139346	CONF 1	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.7 \pm 0.3$	2022-03-2
11139347	CONF 2	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.7 \pm 0.3$	2022-03-2
11139356	ESOL	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.6 \pm 0.3$	2022-03-2
11139301	<b>GENERAL OFFICE</b>	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	< 0.3	2022-03-2
11139333	GYM	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-2
11139332	GYM	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	$0.7 \pm 0.3$	2022-03-2
11139334	GYM OFFICE	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-2
11139359	ITNL. ROOM	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$1.1 \pm 0.3$	2022-03-2
11139306	MAIN OFF. CONF.	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	$0.8 \pm 0.4$	2022-03-2
11139305	MAIN OFF. COPY ROOM	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	< 0.3	2022-03-2
11139343	MUSIC	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-2
11139336	OLD FAM. ROOM	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-2
11139302	PRINCIPAL	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	$0.6 \pm 0.3$	2022-03-2
11139352	STAFF LOUNGE	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-2
11139351	STAFF LOUNGE	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.9 \pm 0.4$	2022-03-2
11139339	STAGE	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	$0.6 \pm 0.3$	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
* 4	
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. Silver Spring International MS
- 2. Sligo Creek ES
- 3. Takoma Park MS
- 4. Takoma Park ES
- 5. Highland ES
- 6. Rolling Terrace ES

	Date	Initials
Radon Test Kits Deployed	03/14/2022	Bull
Radon Test Kits Collected	03/17/2022	BUCK
Radon Test Kits Shipped to Lab*	03/17/2022	BUU
Radon Test Kits Received by Lab*	03/20/2022	BUU

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