



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Highland 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	<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: Highland Elementary School
3100 Medway St.
Silver Spring, MD 20902

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 Highland Elementary School, located at 3100 Medway St. Silver Spring, MD 20902 (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 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. ≥ 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		
Highland ES RT		
Test Period: 03/29/2022 - 04/01/2022		
Kit Number	Room / Area	Result
11140014	11	< 0.3
11140027	11	< 0.3
11140028	11	< 0.3

Table 2- Radon Testing Results			
Highland ES RT			
Test Period: 03/29/2022 - 04/01/2022			
Kit Number	QC Type	Room / Area	Result
11140027	D	11	< 0.3
11140014	FB	11	< 0.3
11139883	OB	OFFICE BLANK	< 0.3
11139841	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Highland 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		
Highland 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

April 4, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
HIGHLAND ES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11140014	11	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	< 0.3	2022-04-04
11140027	11	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	< 0.3	2022-04-04
11140028	11	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	< 0.3	2022-04-04

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, 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 μ R/h Elevation = 820 ft

March 30, 2022

**** 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



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

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



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Highland 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	80
# 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 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: Highland Elementary School
3100 Medway St.
Silver Spring, MD 20902

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 Highland Elementary School, located at 3100 Medway St. Silver Spring, MD 20902 (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 14, 2022 and deployed ninety-two (92) 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

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 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 pCi/L	None	N/A
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Quality Control Samples	
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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
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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		
Highland ES		
Test Period: 03/14/2022 - 03/17/2022		
Kit Number	Room / Area	Result
11132945	1	< 0.3
11132942	2	< 0.3
11132949	3	< 0.3
11132939	4	< 0.3
11132943	5	< 0.3
11132940	6	< 0.3
11132944	7	0.7
11132950	8	< 0.3
11132968	8	< 0.3
11132948	9	< 0.3
11133000	10	< 0.3
11132999	11	NA
11132997	12	< 0.3
11132996	13	< 0.3
11139633	13	< 0.3
11139634	13	< 0.3
11139637	14	< 0.3
11139627	15	< 0.3
11139628	16	< 0.3
11139622	17	< 0.3
11139623	17	< 0.3
11139629	18	< 0.3
11139624	19	< 0.3
11139625	20	< 0.3
11139626	21	< 0.3
11139618	22	< 0.3
11139615	23	< 0.3
11139617	24	< 0.3
11139620	24	< 0.3
11139621	24	< 0.3
11139610	25	< 0.3
11139609	26	< 0.3
11139619	27	< 0.3
11139616	28	< 0.3
11139613	29	< 0.3
11139614	30	< 0.3
11132998	11A	< 0.3
11132995	12A	< 0.3
11139638	13A	< 0.3
11139630	13B	< 0.3
11139632	14A	< 0.3
11132962	8A	< 0.3

Table 1- Radon Testing Results		
Highland ES		
Test Period: 03/14/2022 - 03/17/2022		
Kit Number	Room / Area	Result
11132954	8B	0.6
11132951	8C	< 0.3
11132953	9A	< 0.3
11132966	9B	< 0.3
11132946	9C	< 0.3
11132988	ALL PURPOSE ROOM	< 0.3
11132990	ALL PURPOSE ROOM	< 0.3
11139605	ART	< 0.3
11132971	ASST PRINCIPAL OFFICE	< 0.3
11132957	BLDG SERVICES	< 0.3
11132959	COUNSELOR O5	< 0.3
11139602	GYM	< 0.3
11139611	GYM	< 0.3
11139601	GYM OFFICE	< 0.3
11132978	H 104	< 0.3
11132980	H107	< 0.3
11132981	H109	0.9
11132986	H110	0.8
11132985	H111	1.5
11132984	H113	0.8
11132982	H117	< 0.3
11132983	H117	1.2
11132987	H117	1.1
11132977	H118	0.7
11132979	H119	1.0
11132976	H120	0.7
11132975	H123	< 0.3
11132989	KITCHEN OFFICE	< 0.3
11132991	KITCHEN OFFICE	< 0.3
11132947	LOWER OFFICE	< 0.3
11132969	MAIN OFFICE	< 0.3
11132970	MAIN OFFICE	< 0.3
11132972	MAIN OFFICE WORK ROOM	< 0.3
11132963	MATH	< 0.3
11132994	MEDIA CENTER	< 0.3
11132992	MEDIA CENTER WORK ROOM	< 0.3
11132993	MEDIA STORAGE/OFFICE	< 0.3
11139631	MUSIC ROOM	< 0.3
11132974	OFFICE CONFERENCE ROOM	< 0.3
11132973	PPR AROCHO	< 0.3
11132958	PPR FISHMAN	< 0.3
11132960	PRINCIPAL OFFICE	< 0.3

Table 1- Radon Testing Results		
Highland ES		
Test Period: 03/14/2022 - 03/17/2022		
Kit Number	Room / Area	Result
11139603	READING ROOM	< 0.3
11139604	READING ROOM	< 0.3
11132955	SD	< 0.3
11132964	SOAR	< 0.3
11132956	STAFF LOUNGE	< 0.3
11132961	STAFF LOUNGE	< 0.3
11132967	STAFF LOUNGE	< 0.3
11132952	STAFF WORK ROOM	< 0.3

Table 2- Radon Testing Results			
Highland ES			
Test Period: 03/14/2022 - 03/17/2022			
Kit Number	QC Type	Room / Area	Result
11132968	D	8	< 0.3
11132961	D	Staff Lounge	< 0.3
11132956	FB	Staff Lounge	< 0.3
11132970	D	Main Office	< 0.3
11132987	D	H117	1.1
11132982	FB	H117	< 0.3
11139633	D	13	< 0.3
11132996	FB	13	< 0.3
11139622	D	17	< 0.3
11139621	D	24	< 0.3
11139620	FB	24	< 0.3
11139604	D	Reading Room	< 0.3
11138932	OB	OFFICE BLANK	< 0.3
11138946	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Highland ES		
Test Period: 03/14/22 - 03/17/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and ≥ 4 pIC/L Tests		
Highland ES		
Test Period: 03/14/22 - 03/17/22		
Kit Number	Room/Area	Result
11132999	11	Compromised

Table Note:
 * Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11132945	1	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11133000	10	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132999	11	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	???? IF1	2022-03-21
11132998	11A	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132997	12	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132995	12A	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132996	13	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139634	13	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139633	13	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139638	13A	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139630	13B	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139637	14	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139632	14A	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139627	15	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139628	16	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139622	17	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139623	17	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139629	18	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139624	19	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132942	2	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139625	20	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139626	21	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139618	22	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139615	23	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139621	24	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139620	24	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139617	24	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139610	25	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139609	26	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139619	27	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139616	28	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139613	29	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132949	3	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139614	30	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132939	4	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132943	5	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132940	6	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11132944	7	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11132968	8	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132950	8	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132962	8A	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132954	8B	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	0.6 ± 0.3	2022-03-21
11132951	8C	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132948	9	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132953	9A	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132966	9B	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132946	9C	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132988	ALL PURPOSE ROOM	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132990	ALL PURPOSE ROOM	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139605	ART	2022-03-14 @ 1:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132971	ASST PRINCIPAL OFFICE	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132957	BLDG SERVICES	2022-03-14 @ 10:00 am	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11132959	COUNSELOR O5	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139611	GYM	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139602	GYM	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139601	GYM OFFICE	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132978	H 104	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132980	H107	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132981	H109	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	0.9 ± 0.3	2022-03-21
11132986	H110	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	0.8 ± 0.3	2022-03-21
11132985	H111	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	1.5 ± 0.4	2022-03-21
11132984	H113	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	0.8 ± 0.3	2022-03-21
11132983	H117	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	1.2 ± 0.3	2022-03-21
11132982	H117	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132987	H117	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	1.1 ± 0.3	2022-03-21
11132977	H118	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11132979	H119	2022-03-14 @ 10:00 am	2022-03-17 @ 11:00 am	1.0 ± 0.3	2022-03-21
11132976	H120	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11132975	H123	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132989	KITCHEN OFFICE	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132991	KITCHEN OFFICE	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132947	LOWER OFFICE	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132970	MAIN OFFICE	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132969	MAIN OFFICE	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11132972	MAIN OFFICE WORK ROOM	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132963	MATH	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132994	MEDIA CENTER	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132992	MEDIA CENTER WORK ROOM	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132993	MEDIA STORAGE/OFFICE	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139631	MUSIC ROOM	2022-03-14 @ 12:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132974	OFFICE CONFERENCE ROOM	2022-03-14 @ 10:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132973	PPR AROCHO	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132958	PPR FISHMAN	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132960	PRINCIPAL OFFICE	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139603	READING ROOM	2022-03-14 @ 1:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139604	READING ROOM	2022-03-14 @ 1:00 pm	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11132955	SD	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132964	SOAR	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132961	STAFF LOUNGE	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132956	STAFF LOUNGE	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132967	STAFF LOUNGE	2022-03-14 @ 10:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11132952	STAFF WORK ROOM	2022-03-14 @ 9:00 am	2022-03-17 @ 10:00 am	< 0.3	2022-03-21

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 μ R/h Elevation = 820 ft

March 30, 2022

**** 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



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	BMM
Radon Test Kits Collected	03/17/2022	BMM
Radon Test Kits Shipped to Lab*	03/17/2022	BMM
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