



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Francis Scott Key Middle 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	5
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	0.9 pCi/L

Project Status

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



May 27, 2022

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

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

Location: Francis Scott Key Middle School
910 Schindler Dr.
Silver Spring, MD 20903

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 Francis Scott Key Middle School, located at 910 Schindler Dr. Silver Spring, MD 20903 (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 seven (7) 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		
Francis Scott Key MS RT		
Test Period: 03/29/2022 - 04/01/2022		
Kit Number	Room / Area	Result
11139865	102	< 0.3
11139855	191	0.8
11139860	191	0.9
11139856	193	< 0.3
11139857	193	< 0.3
11139866	195	< 0.3
11139859	101F	< 0.3

Table 2- Radon Testing Results			
Francis Scott Key MS RT			
Test Period: 03/29/2022 - 04/01/2022			
Kit Number	QC Type	Room / Area	Result
11139860	D	191	0.9
11139856	FB	193	< 0.3
11139883	OB	OFFICE BLANK	< 0.3
11139841	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

April 4, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**FRANCIS SCOTT KEY MS
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139859	101F	2022-03-29 @ 10:00 am	2022-04-01 @ 9:00 am	< 0.3	2022-04-04
11139865	102	2022-03-29 @ 10:00 am	2022-04-01 @ 9:00 am	< 0.3	2022-04-04
11139855	191	2022-03-29 @ 10:00 am	2022-04-01 @ 9:00 am	0.8 ± 0.3	2022-04-04
11139860	191	2022-03-29 @ 10:00 am	2022-04-01 @ 9:00 am	0.9 ± 0.3	2022-04-04
11139856	193	2022-03-29 @ 10:00 am	2022-04-01 @ 9:00 am	< 0.3	2022-04-04
11139857	193	2022-03-29 @ 10:00 am	2022-04-01 @ 9:00 am	< 0.3	2022-04-04
11139866	195	2022-03-29 @ 10:00 am	2022-04-01 @ 9:00 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 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 – 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	Francis Scott Key Middle 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	75
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.7 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: Francis Scott Key Middle School
910 Schindler Dr.
Silver Spring, MD 20903

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 Francis Scott Key Middle School, located at 910 Schindler Dr. Silver Spring, MD 20903 (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 7, 2022 and deployed eighty-five (85) 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:

Radon Concentration	Room	Result
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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
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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		
Francis Scott Key MS		
Test Period: 03/07/2022 - 03/10/2022		
Kit Number	Room / Area	Result
11130434	100	< 0.3
11130441	100	0.6
11130442	100	< 0.3
11133813	101	0.5
11133831	101	0.9
11133808	104	< 0.3
11133853	104	< 0.3
11130447	106	0.8
11133840	107	< 0.3
11130411	108	< 0.3
11130448	110	< 0.3
11130428	117	< 0.3
11130430	118	0.9
11130425	122	< 0.3
11133817	125	< 0.3
11130435	126	0.6
11133820	129	< 0.3
11133822	133	< 0.3
11130424	136	< 0.3
11133818	137	< 0.3
11133819	139	< 0.3
11130410	140	< 0.3
11133821	141	< 0.3
11130422	142	< 0.3
11130418	144	< 0.3
11133835	145	< 0.3
11130419	148	< 0.3
11130421	150	< 0.3
11130429	150	< 0.3
11130431	152	< 0.3
11133833	153	0.6
11133828	156	< 0.3
11133829	157	< 0.3
11133826	158	< 0.3
11130407	161	< 0.3
11130408	163	< 0.3
11130409	163	< 0.3
11133827	164	< 0.3
11133834	168	< 0.3
11133809	170	< 0.3
11130414	173	< 0.3
11130415	174	< 0.3

Table 1- Radon Testing Results		
Francis Scott Key MS		
Test Period: 03/07/2022 - 03/10/2022		
Kit Number	Room / Area	Result
11133802	174	< 0.3
11133825	174	< 0.3
11130405	181	< 0.3
11130420	182	1.7
11130402	185	0.6
11130406	186	1.0
11133810	207	< 0.3
11133851	224	< 0.3
11133852	232	< 0.3
11133848	248	< 0.3
11133824	1010	< 0.3
11133849	10100	< 0.3
11130440	100A	0.7
11130432	100B	< 0.3
11130443	100C	< 0.3
11133803	100D	< 0.3
11130436	100F	< 0.3
11133804	100G	0.6
11130433	100K	< 0.3
11130412	100M	< 0.3
11133814	101A	< 0.3
11133839	101D	0.6
11133807	101E	< 0.3
11130449	106A	< 0.3
11130450	106E	< 0.3
11130444	110A	< 0.3
11133838	110B	< 0.3
11133801	110C	< 0.3
11133837	110E	< 0.3
11133806	110F	< 0.3
11133836	110G	< 0.3
11130426	161A	0.6
11130413	186A	1.2
11133823	187A	< 0.3
11133830	187A	< 0.3
11133832	187A	< 0.3
11130403	CAFETERIA	< 0.3
11130404	CAFETERIA	< 0.3
11130417	CAFETERIA	< 0.3
11130401	ENSEMBLE OFFICE	0.6
11130423	GYM	0.8
11130427	GYM	1.1

Table 1- Radon Testing Results		
Francis Scott Key MS		
Test Period: 03/07/2022 - 03/10/2022		
Kit Number	Room / Area	Result
11130439	GYM	1.0

Table 2- Radon Testing Results			
Francis Scott Key MS			
Test Period: 03/07/2022 - 03/10/2022			
Kit Number	QC Type	Room / Area	Result
11130441	D	100	0.6
11130434	FB	100	< 0.3
11130427	D	Gym	1.1
11130429	D	150	< 0.3
11133802	D	174	< 0.3
11133825	FB	174	< 0.3
11130409	D	163	< 0.3
11133823	D	187a	< 0.3
11133832	FB	187a	< 0.3
11133808	D	104	< 0.3
11131662	OB	OFFICE BLANK	< 0.3
11131691	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:
FRANCIS SCOTT KEY MS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11130434	100	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130442	100	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130441	100	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	0.6 ± 0.3	2022-03-14
11130440	100A	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	0.7 ± 0.3	2022-03-14
11130432	100B	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130443	100C	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130436	100F	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130433	100K	2022-03-07 @ 9:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130412	100M	2022-03-07 @ 9:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130447	106	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	0.8 ± 0.3	2022-03-14
11130449	106A	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130450	106E	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130411	108	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130448	110	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130444	110A	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11130428	117	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130430	118	2022-03-07 @ 9:00 am	2022-03-10 @ 10:00 am	0.9 ± 0.3	2022-03-14
11130425	122	2022-03-07 @ 9:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130435	126	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	0.6 ± 0.3	2022-03-14
11130424	136	2022-03-07 @ 10:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11130410	140	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130422	142	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130418	144	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130419	148	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130421	150	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130429	150	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130431	152	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130407	161	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130426	161A	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	0.6 ± 0.3	2022-03-14
11130408	163	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130409	163	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130414	173	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130415	174	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130405	181	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130420	182	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	1.7 ± 0.3	2022-03-14
11130402	185	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	0.6 ± 0.3	2022-03-14
11130406	186	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	1.0 ± 0.4	2022-03-14

March 15, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
FRANCIS SCOTT KEY MS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11130413	186A	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	1.2 ± 0.3	2022-03-14
11130417	CAFETERIA	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130403	CAFETERIA	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130404	CAFETERIA	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11130401	ENSEMBLE OFFICE	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	0.6 ± 0.3	2022-03-14
11130439	GYM	2022-03-07 @ 9:00 am	2022-03-10 @ 9:00 am	1.0 ± 0.3	2022-03-14
11130423	GYM	2022-03-07 @ 9:00 am	2022-03-10 @ 9:00 am	0.8 ± 0.3	2022-03-14
11130427	GYM	2022-03-07 @ 9:00 am	2022-03-10 @ 9:00 am	1.1 ± 0.3	2022-03-14

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

Radon test result report for:
FRANCIS SCOTT KEY MS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11133803	100D	2022-03-07 @ 9:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133804	100G	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	0.6 ± 0.3	2022-03-14
11133831	101	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	0.9 ± 0.3	2022-03-14
11133813	101	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	0.5 ± 0.3	2022-03-14
11133814	101A	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133839	101D	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	0.6 ± 0.3	2022-03-14
11133807	101E	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133824	101E1	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133849	101E2	2022-03-07 @ 11:00 am	2022-03-10 @ 10:00 am	< 0.3	2022-03-14
11133808	104	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133853	104	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133840	107	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133838	110B	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11133801	110C	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11133837	110E	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11133806	110F	2022-03-07 @ 11:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11133836	110G	2022-03-07 @ 9:00 am	2022-03-10 @ 8:00 am	< 0.3	2022-03-14
11133817	125	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133820	129	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133822	133	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133818	137	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133819	139	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133821	141	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133835	145	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133833	153	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	0.6 ± 0.3	2022-03-14
11133828	156	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133829	157	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133826	158	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133827	164	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133834	168	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133809	170	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133825	174	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133802	174	2022-03-07 @ 10:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133832	187A	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133830	187A	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133823	187A	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133810	207	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14

March 15, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
FRANCIS SCOTT KEY MS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11133851	224	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133852	232	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 am	< 0.3	2022-03-14
11133848	248	2022-03-07 @ 11:00 am	2022-03-10 @ 9:00 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 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

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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

	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