

School / Facility Radon Testing Report Form

Instructions: Submit one testing report form per-facility per-round of testing. Include the following as attachments:

Attachment 1- Summary Data Tables – containing the following: (see attached samples tables)

- Testing Results – lab/detector Identification, by room number/name (alpha-numeric order) as depicted on facility map/floor plan provided by the facility/school at the time of test device deployment;
- Summary Results – list of rooms by test result ≥ 2.0 -pCi/L; ≥ 2.7 -pCi/L; ≥ 4.0 -pCi/L; and ≥ 8.0 -pCi/L;
- QA/QC Results - (field blanks and duplicates) indicating location collected; trip and office blanks; and spike sample results;
- Invalid Measurement Locations – missed locations, missing and or damaged/compromised testing devices.

Attachment 2 – Laboratory Report(s)

Attachment 3 – Sampling Location Map(s) – indicating approximate location of samples, duplicates and blanks.

School Year: **23-24**

Facility:	MacDonald Knolls Early Childhood Center
Address:	10611 Tenbrook Drive
	Silver Spring, MD 20901

Reason for Testing:	<input checked="" type="checkbox"/> Scheduled Re-Testing (2 or 5-year schedule) <input type="checkbox"/> Clearance Testing (Post-Mitigation) <input type="checkbox"/> System(s) Performance Testing (Post-Mitigation) <input type="checkbox"/> New Construction/Facility
Facility Current Radon Status:	<input checked="" type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule) <input type="checkbox"/> Not Previously Tested
Round of Testing:	<input checked="" type="checkbox"/> Initial Testing -or- <input type="checkbox"/> Follow-up Testing
Testing Status:	<input checked="" type="checkbox"/> No Further Testing Needed -or- <input type="checkbox"/> Follow-Up Testing Required

Conclusion (When Testing Status is - No Further Testing Needed)

Mitigation -	Facility Radon Status:
<input checked="" type="checkbox"/> Not Required or Considered <input type="checkbox"/> Required (>8.0 -pCi/L) <input type="checkbox"/> Required (≥ 4.0 -pCi/L) <input type="checkbox"/> Consider (≥ 2.0 & <4.0 -pCi/L)	<input checked="" type="checkbox"/> No Change in Status <input type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule)

Detector and Deployment

Detector/Device Type:	<input checked="" type="checkbox"/> Passive	<input checked="" type="checkbox"/> Charcoal Absorption (CAD)	<input type="checkbox"/> Alpha Track (ATD)	<input type="checkbox"/> Other
	<input type="checkbox"/> Continuous	<input type="checkbox"/> Electret ion Chamber (EIC)	<input type="checkbox"/> Electronic Integration (EID)	
<i>Other—Specify here:</i>				
Detector/Device Name:	Air Chek – Radon Test Kits			
Manufacturer:	Radon Lab			
Person(s) Deploying or Retrieving Test Devices and certification number			Organization/Company	
John Adams			KCI Technologies, Inc.	
<i>If noncertified individuals, the qualified measurement professional providing oversight -</i>				
Tyler McCleaf, CSP – Cert. #111004-RMP			KCI Technologies, Inc.	

Testing

<input checked="" type="checkbox"/> Short-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	02/06/2024
<input type="checkbox"/> Long-Term				02/09/2024
Does the test period include weekends, school breaks or holidays?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<i>If “Yes” please explain/detail in the space below:</i>				
Was HVAC operating under occupied conditions?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<i>If “No” please explain/detail in the space below:</i>				

Testing (continued)

	Detectors Deployed		
	Ground-Contact	Upper-Level(s)	Total
Test Locations ¹	34	0	34
Duplicates ²	4	0	4
Field Blanks ³	2	0	2
Grand Total			40

1 – include all detectors deployed (duplicates, field blanks); 1 detector per occupied (or intended to be occupied) ground-contact space ≤ 2,000-square feet; large spaces ≥ 2,000-square feet - 1 detector per 2,000-square feet or part thereof); and upper floors - 10% of all occupied or intended to be occupied rooms per floor (these are in addition to ground contact locations)

2 - 10% of all locations tested, per floor

3 – 5% of all locations tested, per floor

Quality Assurance / Quality Control (QA/QC)

A Quality Assurance plan that is consistent with ANSI/AARST MS-QA (Radon Measurement Systems Quality Assurance) was submitted under separate cover, and is available to review at the MCPS Radon Testing and Mitigation Program website. The following number of QA/QC samples are associated this facility.

Spike Samples ¹	6	Trip Blank(s) ²	1	Office Blank(s) ^{3,4}	1
----------------------------	---	----------------------------	---	--------------------------------	---

1 - 3% of EIC detectors; and 3% from each LOT of CAD and ATD detectors; a maximum of 6-spiked measurements per month for both EIC detectors and each LOT of CAD and ATD detectors.

2 – One per shipping container from start of detector deployment

3 – One per facility tested as devices are removed/allocated from the storage location for deployment;

4 - One additional blank, analyzed prior to deployment, for storage locations that have not been evaluated or monitored, for detectors that have been stored for more than 30-day durations.

Spike Sample Lab Results. Measured values are satisfactory, i.e., within ± 25% of the chamber's reference value.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Quality Control measurements comply with QA/QC requirements in the QA plan previously submitted?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Quality Assurance / Quality Control (QA/QC) (continued)

If “No” to either, please describe any QC measurements that were missing or outside of control tolerances established in the QAP here:

Summary of Test Results¹ and Determination of Valid Measurements²

	Ground-Contact	Upper-Level(s)	Total
Number of test locations:	34	0	34
Number of locations ≥ 8.0 -pCi/L:	0	0	0
Number of locations ≥ 4.0 and ≤ 8 -pCi/L:	0	0	0
Number of locations ≥ 2.7 and ≤ 4 -pCi/L:	0	0	0
Number of locations ≥ 2.0 and ≤ 4 -pCi/L:	2	0	2
Number of missing required test locations ³ :	0	0	0
Percentage of missing test locations for the facility ^{4,5} :	0	0	0

1 – for locations with multiple test results, report consistent with Section 7.2(When Two Test Results Disagree) and 8.1.2 (Averaging) of ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings;

2 - the allowance is to be calculated individually for Ground-Contact and Upper-Level(s) Test Locations;

3 – includes missed or inaccessible locations upon deployment or retrieval, damaged (not able to analyze) and missing detectors upon retrieval;

4 – if all valid measurements are < 4.0 -pCi/L and the total number of test locations are ≥ 18 , there is an allowance of $\leq 33\%$. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023;

5 – if any valid measurements are ≥ 4.0 -pCi/L and the total number of test locations are ≥ 20 , there is an allowance of $\leq 25\%$ of the total locations tested. If less than 20 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023.

Summary of Test Results¹ and Determination of Valid Measurements² (continued)

Were test devices deployed in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were valid measurements obtained in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<i>If Yes to both above – then Testing Status – ‘No Further Testing Needed’ mark ‘NA’ below and complete Conclusions section</i>	
If No to either above , were all results obtained under 4.0-pCi/L and were there sufficient valid measurements obtained? ^{1,2} <i>If Yes – then Testing Status - ‘No Further Testing Needed’ complete Conclusion section</i> <i>If No, then Testing Status - ‘Follow-up Testing Required’ continue below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA

1 – if all valid measurements are <4.0-pCi/L and the total number of test locations are ≥18, there is an allowance of ≤33%. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings to determine the allowance;
 2 – if any valid measurements are ≥4.0-pCi/L and the total number of test locations are ≥20, there is an allowance of ≤25% of the total locations tested. If less than 20 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings to determine the number the allowance.

- **If ‘No Further Testing Needed’** complete conclusions section on first page.
- **If ‘Follow-up Testing Required’** – complete Follow-up Testing described below and the conclusion section on the first page for only the valid measurements/results obtained

Follow-Up Testing (if required)

Required if –

- 1- Not enough valid results were obtained from a facility (table above);
- 2- Any results ≥ 4.0 – pCi/L; and
- 3- At the discretion of MCPS IAQ Staff

Follow-up Testing:

- 1- If an insufficient number of valid measurements obtained during initial round:
 - return to facility to test locations that require valid measurements
- 2- Follow-up Testing for valid measurements ≥ 4.0-pCi/L

Initial Result(s)	Procedure	Follow-up Result	Conclusion
≥ 4.0-pCi/L	1- Short-term follow-up test 2- Average the results of the two tests	≥4.0	Mitigation Required
		<4.0 but >2.0	Consider Mitigation
		<2.0	Not Required or Considered

- **Complete second School/Facility Radon Testing Report Form for only Follow-up Testing locations.**

Attachment 1:
Summary Data Tables

Table 1- Radon Testing Results		
MacDonald Knolls Early Childhood Center		
Test Period: 02/06/2024 - 02/09/2024		
Kit Number	Room / Area	Result
11284641	1	< 0.3
11284677	1	2.6
11284678	2	2.3
11284642	3	0.6
11284673	3	1.6
11284626	4	< 0.3
11284649	4	1.8
11284657	4	1.2
11284637	5	0.6
11284629	6	< 0.3
11284643	7	< 0.3
11284625	8	< 0.3
11284644	9	< 0.3
11284636	10	< 0.3
11284638	10	< 0.3
11284653	11	0.6
11284671	12	0.6
11284656	13	1.1
11284655	14	0.6
11284654	15	0.7
11284648	16	0.6
11284672	17	< 0.3
11284633	2A	0.8
11284630	2B	< 0.3
11284634	BLDG SCVS OFFICE	1.8
11284658	BUILDING BRIDGES OFFICE	1.9
11284632	COORDINATOR OFFICE	0.8
11284640	DAYCARE CONF ROOM	1.8
11284652	DAYCARE MAIN OFFICE 1	0.7
11284651	DAYCARE MAIN OFFICE 2	1.0
11284675	DIRECTOR OFFICE	0.7
11284635	HEALTH	1.2
11284631	KITCHEN OFFICE	0.8
11284645	LITTLE GYM	1.2
11284639	MULTIPURPOSE ROOM	1.1
11284646	MULTIPURPOSE ROOM	< 0.3
11284647	MULTIPURPOSE ROOM	0.9
11284650	MULTIPURPOSE ROOM	1.4

Table 1- Radon Testing Results		
MacDonald Knolls Early Childhood Center		
Test Period: 02/06/2024 - 02/09/2024		
Kit Number	Room / Area	Result
11284676	NURSE OFFICE	0.5
11284628	STAFF LOUNGE	1.7

Table 3 - QC Radon Testing Results			
MacDonald Knolls Early Childhood Center			
Test Period: 02/06/2024 - 02/09/2024			
Kit Number	QC Type	Room / Area	Result
11284649	D	4	1.8
11284638	D	10	<0.3
11284639	D	Multipurpose room	1.1
11284646	FB	Multipurpose room	<0.3
11478304	OB	OFFICE BLANK	< 0.3
11478309	TB	TRAVEL BLANK	< 0.3

Attachment 2:
Laboratory Reports

February 14, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MAIN

BACK WING

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11284677	1	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	2.6 ± 0.3	2024-02-12
11284678	2	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	2.3 ± 0.3	2024-02-12
11284673	3	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	1.6 ± 0.3	2024-02-12
11284649	4	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	1.8 ± 0.3	2024-02-12
11284657	4	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	1.2 ± 0.3	2024-02-12
11284658	BUILDING BRIDGES OFFICE	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	1.9 ± 0.3	2024-02-12
11284628	STAFF LOUNGE	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	1.7 ± 0.3	2024-02-12

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

Radon test result report for:**MAIN****MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11284641	1	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284636	10	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284638	10	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284653	11	2024-02-06 @ 10:00 am	2024-02-09 @ 11:00 am	0.6 ± 0.3	2024-02-12
11284671	12	2024-02-06 @ 10:00 am	2024-02-09 @ 11:00 am	0.6 ± 0.3	2024-02-12
11284656	13	2024-02-06 @ 10:00 am	2024-02-09 @ 11:00 am	1.1 ± 0.3	2024-02-12
11284655	14	2024-02-06 @ 10:00 am	2024-02-09 @ 11:00 am	0.6 ± 0.3	2024-02-12
11284654	15	2024-02-06 @ 10:00 am	2024-02-09 @ 11:00 am	0.7 ± 0.3	2024-02-12
11284648	16	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	0.6 ± 0.3	2024-02-12
11284672	17	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	< 0.3	2024-02-12
11284633	2A	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	0.8 ± 0.3	2024-02-12
11284630	2B	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284642	3	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	0.6 ± 0.3	2024-02-12
11284626	4	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284637	5	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	0.6 ± 0.3	2024-02-12
11284629	6	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284643	7	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284625	8	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284644	9	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	< 0.3	2024-02-12
11284634	BLDG SCVS OFFICE	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	1.8 ± 0.3	2024-02-12
11284632	COORDINATOR OFFICE	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	0.8 ± 0.3	2024-02-12
11284640	DAYCARE CONF ROOM	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	1.8 ± 0.3	2024-02-12
11284652	DAYCARE MAIN OFFICE 1	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	0.7 ± 0.3	2024-02-12
11284651	DAYCARE MAIN OFFICE 2	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	1.0 ± 0.3	2024-02-12
11284675	DIRECTOR OFFICE	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	0.7 ± 0.3	2024-02-12
11284635	HEALTH	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	1.2 ± 0.3	2024-02-12
11284631	KITCHEN OFFICE	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	0.8 ± 0.3	2024-02-12
11284645	LITTLE GYM	2024-02-06 @ 10:00 am	2024-02-09 @ 11:00 am	1.2 ± 0.3	2024-02-12
11284639	MULTIPURPOSE ROOM	2024-02-06 @ 10:00 am	2024-02-09 @ 11:00 am	1.1 ± 0.3	2024-02-12
11284647	MULTIPURPOSE ROOM	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	0.9 ± 0.3	2024-02-12
11284650	MULTIPURPOSE ROOM	2024-02-06 @ 10:00 am	2024-02-09 @ 10:00 am	1.4 ± 0.3	2024-02-12
11284646	MULTIPURPOSE ROOM	2024-02-06 @ 10:00 am	2024-02-09 @ 11:00 am	< 0.3	2024-02-12
11284676	NURSE OFFICE	2024-02-06 @ 11:00 am	2024-02-09 @ 11:00 am	0.5 ± 0.3	2024-02-12

February 13, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**KCI
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11470089	OB	2024-02-05 @ 8:00 am	2024-02-08 @ 12:00 pm	< 0.3	2024-02-12
11478304	OB	2024-02-06 @ 8:00 am	2024-02-09 @ 12:00 pm	< 0.3	2024-02-12
11470096	TB	2024-02-05 @ 8:00 am	2024-02-08 @ 12:00 pm	< 0.3	2024-02-12
11478309	TB	2024-02-06 @ 8:00 am	2024-02-09 @ 12:00 pm	< 0.3	2024-02-12

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

January 29, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
STORAGE
KCI

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11635097	Storage	2024-01-07 @ 9:00 am	2024-01-11 @ 9:00 am	< 0.3	2024-01-15

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 213819

NOMINAL Conditions: Radon Conc 50.0 pCi/L Rel. Hum 28.9 % Temp. 69.1 F

Date Start: 2/23/24 Date Stop: 2/26/24 Date Start: _____ Date Stop: _____

Time Start: 0812 Time Stop: 0812 Time Start: _____ Time Stop: _____

Device No.'s: (6) CHAR BAGS Device No.'s: _____

11478400, 11477842, 11477845, _____

11477852, 11477996, 11477999 _____

E3 left

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 1, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

FEB SK

MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11477842	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	50.3 ± 4.0	2024-03-01
11477845	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	55.3 ± 4.4	2024-03-01
11477852	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	49.4 ± 4.0	2024-03-01
11477996	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	49.8 ± 4.0	2024-03-01
11477999	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	55.4 ± 4.4	2024-03-01
11478400	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	47.0 ± 3.8	2024-03-01

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 – Testing February 6th to February 9th 2024

Name of Schools:

1. English Manor
2. MacDonald Knolls ECC
3. Watkins Mill ES
4. Wilson Wims ES

	Date	Initials
Radon Test Kits Deployed	02/06/2024	<i>AM</i>
Radon Test Kits Collected	02/09/2024	<i>AM</i>
Radon Test Kits Shipped to Lab*	02/09/2024	<i>AM</i>
Radon Test Kits Received by Lab*	02/13/2024	<i>AM</i>

*All samples sent to Air Check, Inc., 2 Saber Way, Ward Hill, MA 01835

Attachment 3:
Sampling Location Map



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	MacDonald Knolls Early Childhood Center
Date of Test Report	2/16/2023
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:

1. Post mitigation testing completed.



February 16, 2023

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

Re: **Radon Testing Services**
KCI Job # 122210551

Location: MacDonald Knolls Early Childhood Center
10611 Tenbrook Drive
Silver Spring, MD 20901

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 MacDonald Knolls Early Childhood Center, located at 10611 Tenbrook Dr. Silver Spring, MD 20901 (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 January 10, 2023 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.

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 January 13, 2023 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs - MA for analysis by gamma-ray spectroscopy.

Accustar Labs - MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

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 temperatures ranged from the 26°F to the mid 56°F. Maximum sustained winds ranged from 0-21 miles per hour. Average humidity was around 68% with .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
≥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		
MacDonald Knolls ECC		
Test Period: 01/10/2023 - 01/13/2023		
Kit Number	Room / Area	Result
11288402	10	< 0.3
11288407	10	< 0.3
11288600	10	< 0.3

Table 2- Radon Testing Results			
MacDonald Knolls ECC			
Test Period: 01/10/23 - 01/13/23			
Kit Number	QC Type	Room / Area	Result
11288407	D	10	< 0.3
11288402	FB	10	< 0.3
11285162	OB	OFFICE BLANK	< 0.3
11284899	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

January 16, 2023

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**MACDONALD KNOLLS ECC
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11288402	10	2023-01-10 @ 12:00 pm	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16
11288407	10	2023-01-10 @ 12:00 pm	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16
11288600	10	2023-01-10 @ 12:00 pm	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16

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 KC1 TECHNOLOGIES, INC Job Number 208343

NOMINAL Conditions: Radon Conc 34.7 pCi/L Rel. Hum 49.4 % Temp. 69.6 F

Date Start: 12/24/22 Date Stop: 12/27/22 Date Start: _____ Date Stop: _____

Time Start: 0810 Time Stop: 0810 Time Start: _____ Time Stop: _____

Device No.'s: (5) CHAR BAGS - Device No.'s: _____

11285109, 11285110, 11285101

THRU 11285103

BY LEFT

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

December 29, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

OFFICE

MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285110	SK1	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	31.7 ± 2.5	2022-12-29
11285101	SK2	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	30.1 ± 2.4	2022-12-29
11285103	SK3	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	34.0 ± 2.7	2022-12-29
11285102	SK4	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	30.9 ± 2.5	2022-12-29
11285109	SK5	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	32.0 ± 2.6	2022-12-29

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 – Week 1 January Schools

Name of Schools:

1. Woodfield ES
2. Montgomery Village MS
3. Albert Einstein HS
4. Garrett Park Annex
5. Garrett Park ES
6. Kensington-Parkwood ES
7. Silver Creek MS
8. Stephen Knolls School
9. Highland View ES
10. MacDonald Knolls ECC
11. Montgomery Knolls ES
12. Rock Terrace HS

	Date	Initials
Radon Test Kits Deployed	01/10/2023	BMM
Radon Test Kits Collected	01/13/2023	BMM
Radon Test Kits Shipped to Lab*	01/13/2023	BMM
Radon Test Kits Received by Lab*	01/17/2023	BMM

*All samples sent to Air Check, Inc., 2 Saber Way, Ward Hill, MA 01835



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	MacDonald Knolls ECC
Date of Test Report	03/14/2022
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 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	2.9 pCi/L

Project Status

Current Project Status at this time: Testing Completed; Remediation Plan for Room 10.



March 14, 2022

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

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

Location: MacDonal Knolls ECC
10611 Tenbrook Dr.
Silver Spring, MD 20901

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 MacDonal Knolls ECC, located at 10611 Tenbrook Dr. Silver Spring, MD 20901 (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 January 18, 2022 and 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 December 2021 testing period (i.e. test kit was deployed but not recovered),
2. Rooms with invalidated test kits from the December 2021 testing period (e.g. an open window in the room or disturbed test kit),
3. Rooms which were locked/inaccessible during the December 2021 testing period,
4. Rooms with elevated December 2021 results (i.e. ≥ 3.5 pCi/L),
5. Rooms previously tested for radon but not tested in December 2021, 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 January 21, 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 20°Fs and high temperatures ranged from the mid 20°Fs to the high 50°Fs. Maximum sustained winds ranged from 9-11 miles per hour. Average humidity was around 61% with 0.0 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	NA
<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 Spreadsheets

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		
Macdonald Knolls ECC RT		
Test Period: 01/18/2022-01/21/2022		
Kit Number	Room / Area	Result
11106903	10	2.9
11106906	10	2.8
11106902	MPAC INNER OFFICE	0.9
11106905	MPAC INNER OFFICE	< 0.3
11106901	MPAC OFFICE	0.7

Table 2- Radon Testing Results			
Macdonald Knolls ECC RT			
Test Period: 01/18/22-01/21/22			
Kit Number	QC Type	Room / Area	Result
11106903	D	10	2.9
11106905	FB	Mpac inner office	< 0.3

ATTACHMENT C

Laboratory Analytical Results

P4792 / WILLIAM LYMAN

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11106901	2022-01-18	8:00 am	2022-01-21	9:00 am	72	MACDONALD KNOLLS ES RT	MAIN	MPAC OFFICE		1	0.7
11106902	2022-01-18	8:00 am	2022-01-21	9:00 am	72	MACDONALD KNOLLS ES RT	MAIN	MPAC INNER OFFICE		1	0.9
11106903	2022-01-18	8:00 am	2022-01-21	9:00 am	72	MACDONALD KNOLLS ES RT	MAIN	10		1	2.9
11106905	2022-01-18	8:00 am	2022-01-21	9:00 am	72	MACDONALD KNOLLS ES RT	MAIN	MPAC INNER OFFICE		1	< 0.3
11106906	2022-01-18	8:00 am	2022-01-21	9:00 am	72	MACDONALD KNOLLS ES RT	MAIN	10		1	2.8

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 203404

NOMINAL Conditions: Radon Conc 16.2 pCi/L Rel. Hum 28.8 % Temp. 59.9 F

Date Start: 12/24/21 Date Stop: 12/27/21 Date Start: _____ Date Stop: _____

Time Start: 0809 Time Stop: 0809 Time Start: _____ Time Stop: _____

Device No.'s: (2) Char Bags- Device No.'s: _____

9341721, 9341722

G4 left

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**

December 31, 2021

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

SK
MA MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within $\pm 25\%$ of the chamber's reference value (16.2 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341721	1	2021-12-24 @ 8:00 am	2021-12-27 @ 8:00 am	11.6 \pm 0.9	2021-12-31
9341722	1	2021-12-24 @ 8:00 am	2021-12-27 @ 8:00 am	15.4 \pm 1.2	2021-12-31

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 – December 2021 Schools Retesting

Name of Schools:

1. 45 Gude
2. Bethesda M&T
3. Darnestown ES
4. McDonald Knolls ECC
5. Shady Grove M&T

	Date	Initials
Radon Test Kits Deployed	01/18/2022	DM
Radon Test Kits Collected	01/21/2022	DM
Radon Test Kits Shipped to Lab*	01/21/2022	DM
Radon Test Kits Received by Lab*	01/23/2022	DM

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



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	MacDonald Knolls ECC
Date of Test Report	01/20/2022
Round of Testing	<p>Initial</p> <p>Follow-up</p> <p>Post Remediation</p> <p>2 Year Testing</p> <p>5 Year Testing</p> <p>HVAC Upgrade</p> <p>Window Replacement</p> <p>New Addition</p> <p>New Facility</p>
# Rooms Tested	28
# Rooms \geq 4.0 pCi/L	1
Lowest Value	<0.3 pCi/L
Highest Value	5.9 pCi/L

Project Status

Current Project Status at this time: Testing Complete; missing locations to be sampled; elevated tests to be re-sampled.



January 20, 2022

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
Gaithersburg, MD 20879

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

Location: MacDonal Knolls ECC
10611 Tenbrook Dr.
Silver Spring, MD 20901

Dear Mr. Cox:

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 MacDonal Knolls ECC, located at 10611 Tenbrook Dr. Silver Spring, MD 20901 (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 December 13, 2021 and deployed thirty-two (32) 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 December 16, 2021 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:

- 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 30°Fs and high temperatures ranged from the mid 50°Fs to the high 60°Fs. Maximum sustained winds ranged from 3-12 miles per hour. Average humidity was around 50% with 0.0 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	10	5.9
<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 Spreadsheets

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		
MacDonald Knoll ECC		
Test Period: 12/13/2021-12/16/2021		
Kit Number	Room / Area	Result
9341734	8	1.3
9341736	GYM	1.5
9341740	6	1.2
9341742	HEALTH ROOM	2.8
9341743	MPR	< 0.3
9341745	15	0.8
9341747	7	2
9341748	KITCHEN OFFICE	1.3
9341760	13	1.1
9341762	16	0.8
9341769	12	0.9
9341776	5	1.4
9341779	10	5.9
9341780	17	0.5
9341782	9	1.3
9341783	MPR	1.1
9341784	SHERRY O	1.5
9341786	COORDINATOR	2
9341790	11	0.7
9341791	OFFICE	0.8
9341793	1	1.7
9341799	MPR OFFICE	1.1
9341800	MPR OFFICE	1.2
9346985	4	1.6
9346987	3	1.8
9346994	14	1.2
9346998	OFFICE	0.6
9348374	5	1.6
9348381	BUILDING SERVICES	3.7
9348384	2B	2.4
9348389	2A	2.3
9348392	NURSE	0.7

Table 2- Radon Testing Results			
MacDonald Knolls ECC			
Test Period: 12/13/2021-12/16/2021			
Kit Number	QC Type	Room / Area	Result
9348374	D	5	1.6
9341743	FB	MPR	< 0.3
9341800	D	MPR Office	1.2
9341791	D	Office	0.8
9347000	OB	OFFICE BLANK	< 0.3
9347992	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:
**MACDONALD KNOLLS ECC
 MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341793	1	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.7 ± 0.3	2021-12-17
9341779	10	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	5.9 ± 0.5	2021-12-17
9341790	11	2021-12-13 @ 10:00 am	2021-12-16 @ 9:00 am	0.7 ± 0.3	2021-12-17
9341769	12	2021-12-13 @ 10:00 am	2021-12-16 @ 9:00 am	0.9 ± 0.3	2021-12-17
9341760	13	2021-12-13 @ 10:00 am	2021-12-16 @ 9:00 am	1.1 ± 0.3	2021-12-17
9346994	14	2021-12-13 @ 10:00 am	2021-12-16 @ 9:00 am	1.2 ± 0.3	2021-12-17
9341745	15	2021-12-13 @ 10:00 am	2021-12-16 @ 9:00 am	0.8 ± 0.3	2021-12-17
9341762	16	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	0.8 ± 0.3	2021-12-17
9341780	17	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	0.5 ± 0.3	2021-12-17
9348389	2A	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	2.3 ± 0.3	2021-12-17
9348384	2B	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	2.4 ± 0.3	2021-12-17
9346987	3	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.8 ± 0.3	2021-12-17
9346985	4	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.6 ± 0.3	2021-12-17
9341776	5	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.4 ± 0.3	2021-12-17
9348374	5	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.6 ± 0.3	2021-12-17
9341740	6	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.2 ± 0.3	2021-12-17
9341747	7	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	2.0 ± 0.3	2021-12-17
9341734	8	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.3 ± 0.3	2021-12-17
9341782	9	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.3 ± 0.3	2021-12-17
9348381	BUILDING SERVICES	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	3.7 ± 0.3	2021-12-17
9341786	COORDINATOR	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	2.0 ± 0.3	2021-12-17
9341736	GYM	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.5 ± 0.3	2021-12-17
9341742	HEALTH ROOM	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	2.8 ± 0.3	2021-12-17
9341748	KITCHEN OFFICE	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.3 ± 0.3	2021-12-17
9341783	MPR	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.1 ± 0.3	2021-12-17
9341743	MPR	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	< 0.3	2021-12-17
9341799	MPR OFFICE	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.1 ± 0.3	2021-12-17
9341800	MPR OFFICE	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	1.2 ± 0.3	2021-12-17
9348392	NURSE	2021-12-13 @ 10:00 am	2021-12-16 @ 8:00 am	0.7 ± 0.3	2021-12-17
9346998	OFFICE	2021-12-13 @ 10:00 am	2021-12-16 @ 9:00 am	0.6 ± 0.3	2021-12-17
9341791	OFFICE	2021-12-13 @ 10:00 am	2021-12-16 @ 9:00 am	0.8 ± 0.3	2021-12-17
9341784	SHERRY O	2021-12-13 @ 10:00 am	2021-12-16 @ 9:00 am	1.5 ± 0.3	2021-12-17

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 203404

NOMINAL Conditions: Radon Conc 16.2 pCi/L Rel. Hum 28.8 % Temp. 59.9 F

Date Start: 12/24/21 Date Stop: 12/27/21 Date Start: _____ Date Stop: _____

Time Start: 0809 Time Stop: 0809 Time Start: _____ Time Stop: _____

Device No.'s: (2) Char Bags- Device No.'s: _____

9341721, 9341722

64 left

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**

December 31, 2021

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

SK
MA MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within $\pm 25\%$ of the chamber's reference value (16.2 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341721	1	2021-12-24 @ 8:00 am	2021-12-27 @ 8:00 am	11.6 \pm 0.9	2021-12-31
9341722	1	2021-12-24 @ 8:00 am	2021-12-27 @ 8:00 am	15.4 \pm 1.2	2021-12-31

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 - December 2021 Schools

Name of Schools:

1. Ewing at Cloverleaf Center
2. Bethesda Main. & Tran.
3. Clarksburg ES Annex
4. Clarksburg Main. & Tran.
5. Taylor Learning Center
6. Darnestown ES
7. Shady Grove Main. & Tran.

	Date	Initials
Radon Test Kits Deployed	12/14/2021	JM
Radon Test Kits Collected	12/17/2021	JM
Radon Test Kits Shipped to Lab*	12/17/2021	JM
Radon Test Kits Received by Lab*	12/18/2021	JM

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