School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Cannon Road Elementary School
Address:	901 Cannon Road
	Silver Spring, MD 20904
Reason for Testing:	Scheduled Re-Testing - ☐ 2-year or ☒ 5-year schedule ☐ Clearance Testing (Post-Mitigation) ☐ Building Envelope or HVAC Upgrades ☐ New Construction – Addition or Facility
Current Radon Status:	☐ Active Mitigation (2-year regular schedule) ☒ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested (New Facility)
Round of Testing:	☐ Initial Testing **-or-** ☒ Follow-up Testing
Testing Status:	☒ No Further Testing Needed **-or-** ☐ Follow-Up Testing Required

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

Mitigation -	**Facility Radon Status:**		
☒ Not Required ☐ Required (≥4.0-pCi/L) Rooms:	☒ No Change in Status ☐ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	45	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥4.0-pCi/L)	0	Highest Value (pCi/L)	1.6

Instructions: Submit one testing report form per-facility. 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.

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

Detector and Deployment

Detector/Device Type:	☒ Passive ☐ Continuous	☒ Charcoal Absorption (CAD) ☐ Alpha Track (ATD) ☐ Other ☐ Electret ion Chamber (EIC) ☐ Electronic Integration (EID)
	Other–Specify here:	
Detector/Device Name:	Air Chek – Radon Test Kits	
Manufacturer:	Radon Lab	

Person(s) Deploying or Retrieving Test Devices and certification number	Organization/Company
Tyler McCleaf, CSP – Cert. #111004-RMP	KCI Technologies, Inc.
Shannon King	KCI Technologies, Inc.
If noncertified individuals, the qualified measurement professional providing oversight -	
Tyler McCleaf, CSP – Cert. #111004-RMP	KCI Technologies, Inc.

Testing

☒ Short-Term ☐ Long-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	12/03/24 12/06/24	03/11/25 03/14/25
Does the test period include weekends, school breaks or holidays?				☐ Yes ☒ No	
*If "**Yes**" please explain/detail in the space below:*					
Was HVAC operating under occupied conditions?				☒ Yes ☐ No	
*If "**No**" please explain/detail in the space below:*					

Testing (continued)

	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
Round of Testing	Initial	Follow-Up	Initial	Follow-Up	
Test Locations[1]	41	2	3	0	46
Duplicates[2]	4	1	1	0	6
Field Blanks[3]	2	1	0	0	3
				Grand Total	55

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.

	QA/QC Samples		Total
Round of Testing	Initial	Follow-Up	
Spikes[1]	Not applicable		10
Trip Blanks[2]	1	1	2
Office Blanks[3, 4]	1	1	2
			14

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.

Quality Assurance / Quality Control (continued)

Spike Sample Lab Results. Measured values are satisfactory, i.e., within ± 25% of the chamber's reference value?	☒ Yes ☐ No	
Quality Control measurements comply with QA/QC requirements in the submitted testing organization's/company's QA plan?	☒ Yes ☐ No	
Round of Testing	**Initial**	**Follow-Up**
All Field, Trip and Office Blanks are **≤** (less than or equal to) to the Method Detection Limit?	☒ Yes ☐ No	☒ Yes ☐ No
For all Duplicate Samples[1], the higher value is **≤ 2x** the lower value?	☐ Yes ☒ No	☒ Yes ☐ No
For all Duplicate Samples[1], Relative Percent Difference(s) (RPD)[2] are less than the Warning Level[3]?	☒ Yes ☐ No	☒ Yes ☐ No
For all Duplicate Samples[1], Relative Percent Difference(s) (RPD)[2] are less than the Control Level[3]?	☒ Yes ☐ No	☒ Yes ☐ No

1 – Duplicate Control – a "NO" response constitute a control failure and the space/location represented by the duplicate sample becomes an invalid measurement location and should be listed in the "Invalid Measurement Locations" Table attached to this report.

2 - The objective of duplicate tests is to assess the precision error of the measurement method or, how well two side-by-side measurements agree or disagree. Precision involving duplicates is calculated by using Relative Percent Difference (RPD). RPD is equal to the difference between the higher test result minus the lower value test result divided by the average of the two duplicate test results, multiplied by 100. The RPD result is then compared to the warning and control limits.

3 - The Warning Level is set at the deviation from ideal performance that would be expected to occur by chance only 5% of the time, and Control Limits are set at that deviation from ideal performance that would be expected to occur by chance only 1% of the time. The Warning Level indicates a potential problem, which should be investigated. The Control Level indicates that the measurement system should be subject to corrective action.

The control and warning levels for duplicates, based on the averaged duplicate test result, are -

Average concentration of the two duplicate test results	**Warning Level**	**Control Level**
< 2.0-pCi/L	1-pCi/L	Not applicable
Between 2.0 and 3.9-pCi/L	50% RPD	67% RPD
≥ 4.0-pCi/L	28% RPD	36% RPD

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

Summary of Test Results[1] and Determination of Valid Measurements[2]

	Ground-Contact		Upper-Level(s)		Total
Round of Testing	**Initial**	**Follow-Up**	**Initial**	**Follow-Up**	
Number of test locations:	41	1	3	0	45
Number of locations ≥8.0-pCi/L:	0	0	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0	0	0
Number of locations ≥2.7 and <4-pCi/L:	0	0	0	0	0
Number of locations ≥2.0 and <2.7-pCi/L:	0	0	0	0	0
Number of missing required test locations[3]:	0	0	0	0	0
Number of failed duplicate control locations:	1	0	0	0	1
Percentage of missing test locations for the facility[4,5]:	0	0	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 ≤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 ≤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 Results[1] and Determination of Valid Measurements[2] (continued)

Round of Testing	Initial	Follow-Up
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?	☒ Yes ☐ No	☒ Yes ☐ 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?	☐ Yes ☒ No	☒ Yes ☐ No
If Yes to both above *– then Testing Status –* ***'No Further Testing Needed'*** *mark 'NA' below and complete Conclusions section*		
If No to either above, were all results obtained under 4.0-pCi/L **and** were sufficient valid measurements obtained?[1,2] ***If Yes,*** *then -* ***'No Further Testing Needed'*** *complete Conclusion section on first page.* ***If No****, then -* ***'Follow-up Testing Required'*** *continue below.*	☐ Yes ☐ No ☒ NA	☐ Yes ☐ No ☒ 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.

Follow-Up Testing

Required –

- If an insufficient number (greater than the allowance provided above) of valid measurements were obtained during the initial round of testing (the "missing required test locations" in the table above);
- Any location test results ≥ 4.0-pCi/L;
- Any location where duplicates fail QC checks; and or
- At the discretion of MCPS IAQ Staff

Reason for Follow-Up Testing	Testing Procedure	Follow-up Result	Conclusion
Insufficient Number of Measurements	Follow same procedures as Initial Testing	Not Applicable	Follow Initial Testing procedures
Results ≥ 4.0-pCi/L	Deploy two Short-term follow-up tests and required blanks and duplicates; Average the results of the two tests	≥4.0	Mitigation Required
Failed QC checks		≥2.0 and <4.0	Consider Mitigation
		<2.0	Mitigation Not Required

- ***If follow-up testing identifies additional spaces requiring additional testing it will be performed as part of the ongoing follow-testing round.***

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Cannon Road Elelmentary School		
Test Period: 12/03/2024 - 12/06/2024		
Kit Number	Room / Area	Result
11903421	105	< 0.3
11903422	105	< 0.3
11903397	107	0.6
11903387	111	< 0.3
11903416	111	0.6
11903398	112	< 0.3
11903390	115	0.5
11903391	116	0.9
11903399	117	0.8
11903381	120	0.6
11903415	121	< 0.3
11903375	124	0.7
11903373	126	< 0.3
11903394	130	0.7
11903439	141	< 0.3
11903446	141	0.6
11903431	145	1.5
11903368	146	1.3
11903453	150	0.5
11903392	151	0.6
11903469	154	< 0.3
11903470	154	0.6
11903454	156	0.6
11903462	156	< 0.3
11903385	157	0.7
11903396	158	0.9
11903377	162	0.8
11903386	166	0.7
11903378	170	0.7
11903395	222	0.6
11903369	242	0.7
11903461	242	0.8
11903370	256	0.8
11903389	100A	< 0.3
11903400	100B	< 0.3
11903372	100C	< 0.3
11903367	100H	< 0.3
11903423	140A	1.6
11903430	BUILDING SERVICES	< 0.3
11903408	GYM	< 0.3
11903424	GYM	< 0.3

Table 1- Radon Testing Results		
Cannon Road Elelmentary School		
Test Period: 12/03/2024 - 12/06/2024		
Kit Number	Room / Area	Result
11903429	GYM OFFICE	< 0.3
11903374	HEALTH	< 0.3
11903382	HEALTH OFFICE	< 0.3
11903437	KITCHEN OFFICE	0.7
11903438	KITCHEN OFFICE	< 0.3
11903388	MAIN OFFICE	< 0.3
11903432	MEDIA	1.3
11903440	MEDIA	1.2
11903393	MPR	< 0.3
11903445	MPR	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Cannon Road Elementary School							
Test Period: 12/03/2024 - 12/06/2024							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Cannon Road Elementary School			
Test Period: 12/03/2024 - 12/06/2024			
Kit Number	**QC Type**	**Room / Area**	**Result**
11903422	D	105	< 0.3
11903387	D	111	< 0.3
11903439	FB	141	< 0.3
11903469	D	154	< 0.3
11903462	FB	156	< 0.3
11903461	D	242	0.8
11903438	D	KITCHEN OFFICE	< 0.3
11904291	OB	OFFICE BLANK	< 0.3
11904272	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation

Cannon Road Elementary School

Test Period: 12/03/2024 - 12/06/2024

Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11903416	11903387	111	0.6	0.3	✓	0.6	PASS	0.5	<1-pCi/L	✓
11903421	11903422	105	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11903438	11903437	Kitchen Office	0.7	0.3	✓	0.6	FAIL	0.5	<1-pCi/L	✗
11903454	11903462	156	0.6	0.3	✓	0.6	PASS	0.5	<1-pCi/L	✓
11903461	11903369	242	0.8	0.7	✓	1.4	PASS	0.8	<1-pCi/L	✓

NOTES:

QC Check #1 - Data Entry

QC Check #2 - Higher duplicate concentration is < or = to 2x the Lower

QC Check #3 - Meets RPD Limits, by average duplicate concentration

- enter 2 if RPD is BELOW warning and control levels, AND passes QC Check 1 and 2
- enter 1 if RPD is ABOVE warning and BELOW control levels, AND passes QC Check 1 and 2
- enter 0 if RPD is ABOVE control level, or 'FAILS' QC Check 1 or 2

Average (pCi/L)	Warning Level	Control Level
< 2.0	1-pCi/L	NA
Between 2.0 and 3.9	50% RPD	67% RPD
≥ 4.0	28% RPD	36% RPD

Table 4 - Summary of Invalid Measurement Locations		
Cannon Road Elementary School		
Test Period: 12/03/24 - 12/06/24		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Table 1- Radon Testing Results		
Cannon Road Elementary School RT		
Test Period: 3/11/2025 - 3/14/2025		
Kit Number	Room / Area	Result
11892430	KITCHEN OFFICE	< 0.3
11892431	KITCHEN OFFICE	< 0.3
11892432	KITCHEN OFFICE	< 0.3
11892433	KITCHEN OFFICE	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Cannon Road Elementary School RT							
Test Period: 3/11/2025 - 3/14/2025							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Cannon Road Elementary School RT			
Test Period: 3/11/2025 - 3/14/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11892432	D	KITCHEN OFFICE	< 0.3
11892430	FB	KITCHEN OFFICE	< 0.3
11886599	OB	OFFICE BLANK	< 0.3
11886600	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation

Cannon Road Elementary School RT

Test Period: 3/11/2025 - 3/14/2025

Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11892432	11892431 11892433	KITCHEN OFFICE	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓

NOTES:

QC Check #1 - Data Entry

QC Check #2 - Higher duplicate concentration is < or = to 2x the Lower

QC Check #3 - Meets RPD Limits, by average duplicate concentration

- enter 2 if RPD is BELOW warning and control levels, AND passes QC Check 1 and 2
- enter 1 if RPD is ABOVE warning and BELOW control levels, AND passes QC Check 1 and 2
- enter 0 if RPD is ABOVE control level, or 'FAILS' QC Check 1 or 2

Average (pCi/L)	Warning Level	Control Level
< 2.0	1-pCi/L	NA
Between 2.0 and 3.9	50% RPD	67% RPD
≥ 4.0	28% RPD	36% RPD

Table 4 - Summary of Invalid Measurement Locations		
Cannon Road Elementary School RT		
Test Period: 3/11/25 - 3/14/25		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

December 10, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
CANNON RD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11903389	100A	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903400	100B	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903372	100C	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903367	100H	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903421	105	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903422	105	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903397	107	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.6 ± 0.3	2024-12-10
11903387	111	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903416	111	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.6 ± 0.3	2024-12-10
11903398	112	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903390	115	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.5 ± 0.4	2024-12-10
11903391	116	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.9 ± 0.4	2024-12-10
11903399	117	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.8 ± 0.4	2024-12-10
11903381	120	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.6 ± 0.4	2024-12-10
11903415	121	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903375	124	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.7 ± 0.4	2024-12-10
11903373	126	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903394	130	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.7 ± 0.4	2024-12-10
11903423	140A	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	1.6 ± 0.4	2024-12-10
11903439	141	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903446	141	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.6 ± 0.4	2024-12-10
11903431	145	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	1.5 ± 0.4	2024-12-10
11903368	146	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	1.3 ± 0.4	2024-12-10
11903453	150	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.5 ± 0.4	2024-12-10
11903392	151	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.6 ± 0.4	2024-12-10
11903470	154	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.6 ± 0.4	2024-12-10
11903469	154	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903454	156	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.6 ± 0.3	2024-12-10
11903462	156	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903385	157	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.7 ± 0.4	2024-12-10
11903396	158	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.9 ± 0.4	2024-12-10
11903377	162	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.8 ± 0.4	2024-12-10
11903386	166	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.7 ± 0.4	2024-12-10
11903378	170	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.7 ± 0.3	2024-12-10
11903395	222	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.6 ± 0.3	2024-12-10
11903461	242	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.8 ± 0.4	2024-12-10
11903369	242	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.7 ± 0.4	2024-12-10

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

December 10, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
CANNON RD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11903370	256	2024-12-03 @ 10:00 am	2024-12-06 @ 9:00 am	0.8 ± 0.4	2024-12-10
11903430	BUILDING SERVICES	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903424	GYM	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903408	GYM	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903429	GYM OFFICE	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903374	HEALTH	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903382	HEALTH OFFICE	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903437	KITCHEN OFFICE	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	0.7 ± 0.3	2024-12-10
11903438	KITCHEN OFFICE	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903388	MAIN OFFICE	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903440	MEDIA	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	1.2 ± 0.4	2024-12-10
11903432	MEDIA	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	1.3 ± 0.4	2024-12-10
11903393	MPR	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10
11903445	MPR	2024-12-03 @ 9:00 am	2024-12-06 @ 9:00 am	< 0.3	2024-12-10

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

P4792 / TYLER MCCLEAF

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11892899	2024-12-02	11:00 am	2024-12-05	11:00 am	70	OFFICE	MAIN	O		1	< 0.3
11892900	2024-12-02	11:00 am	2024-12-05	11:00 am	70	TRAVEL	MAIN	T		1	< 0.3
11904003	2024-12-02	10:00 am	2024-12-05	11:00 am	70	JAMES HUBERT BLAKE HS	MAIN	SMALL GYM		1	1.4
11904272	2024-12-03	11:00 am	2024-12-06	11:00 am	70	TRAVEL	MAIN	T		1	< 0.3
11904291	2024-12-03	11:00 am	2024-12-06	11:00 am	70	OFFICE	MAIN	O		1	< 0.3

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 20001560

NOMINAL Conditions: Radon Conc 50.6 pCi/L Rel. Hum 50.6 % Temp. 70.8 F

Date Start: 12/14/24 Date Stop: 12/17/24	Date Start: _____ Date Stop: _____
Time Start: 0815 Time Stop: 0815	Time Start: _____ Time Stop: _____
Device No.'s: (3) CHAR BAGS	Device No.'s: _____
11477880, 11477883, 11477896	_____
_____	_____
B4 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 µR/h Elevation = 820 ft

December 23, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
SK
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11477880	SK1	2024-12-14 @ 8:00 am	2024-12-17 @ 8:00 am	52.0 ± 4.2	2024-12-23
11477883	SK2	2024-12-14 @ 8:00 am	2024-12-17 @ 8:00 am	54.6 ± 4.4	2024-12-23
11477896	SK3	2024-12-14 @ 8:00 am	2024-12-17 @ 8:00 am	45.5 ± 3.6	2024-12-23

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KCI TECHNOLOGIES

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Corporate Office: 936 Ridgebrook road • Sparks, Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing December 3rd – December 6th, 2024

Name of Schools:

1. Cannon Road ES
2. Cloverly ES
3. Dr. Charles R. Drew ES
4. East Silver Spring ES
5. Albert Einstein HS
6. Fairland ES
7. William H. Farquhar MS

	Date	Initials
Radon Test Kits Deployed	12/03/2024	BMM
Radon Test Kits Collected	12/06/2024	BMM
Radon Test Kits Shipped to Lab*	12/06/2024	BMM
Radon Test Kits Received by Lab*	12/10/2024	BMM

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

March 17, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892430	KITCHEN OFFICE	2025-03-11 @ 10:00 am	2025-03-14 @ 11:00 am	< 0.3	2025-03-17
11892431	KITCHEN OFFICE	2025-03-11 @ 10:00 am	2025-03-14 @ 11:00 am	< 0.3	2025-03-17
11892432	KITCHEN OFFICE	2025-03-11 @ 10:00 am	2025-03-14 @ 11:00 am	< 0.3	2025-03-17
11892433	KITCHEN OFFICE	2025-03-11 @ 10:00 am	2025-03-14 @ 11:00 am	< 0.3	2025-03-17

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

March 17, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892446	OB	2025-03-11 @ 11:00 am	2025-03-14 @ 11:00 am	< 0.3	2025-03-17
11886599	OB	2025-03-10 @ 11:00 am	2025-03-13 @ 11:00 am	< 0.3	2025-03-17

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March 17, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
TRAVEL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892444	TB	2025-03-11 @ 11:00 am	2025-03-14 @ 11:00 am	< 0.3	2025-03-17
11886600	TB	2025-03-10 @ 11:00 am	2025-03-13 @ 11:00 am	< 0.3	2025-03-17

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 20002919

NOMINAL Conditions: Radon Conc 7.0 pCi/L Rel. Hum 51.4 % Temp. 70.7 F

Date Start: 3/7/25 Date Stop: 3/10/25	Date Start: _____ Date Stop: _____
Time Start: 0832 Time Stop: 0832	Time Start: _____ Time Stop: _____
Device No.'s: (7) CHAR BAGS	Device No.'s: _____
11886401 thru 11886406,	
11886410	
G3 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 µR/h Elevation = 820 ft

March 19, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
QC
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11886401	SK1	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.8 ± 1.1	2025-03-19
11886405	SK2	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.1 ± 1.1	2025-03-19
11886406	SK3	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.7 ± 1.1	2025-03-19
11886403	SK4	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.9 ± 1.2	2025-03-19
11886404	SK5	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.6 ± 1.2	2025-03-19
11886410	SK6	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.0 ± 1.1	2025-03-19
11886402	SK7	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	8.6 ± 1.2	2025-03-19

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Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Re-Testing March 11th – March 14th, 2025

Name of Schools:

1. Albert Einstein HS
2. Argyle MS
3. Belmont ES
4. Benjamin Banneker MS
5. Cannon Road ES
6. Dr. Charles R. Drew ES
7. East Silver Spring ES
8. James Hubert Blake HS
9. William Farquhar MS

	Date	Initials
Radon Test Kits Deployed	3/11/2025	BMM
Radon Test Kits Collected	3/14/2025	BMM
Radon Test Kits Shipped to Lab*	3/14/2025	BMM
Radon Test Kits Received by Lab*	3/16/2025	BMM

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

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MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Cannon Road Elementary School
Date of Test Report	3/2/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	46
# Room Re-tested	2
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.0 pCi/L

Project Status:

1. Initial testing completed;
2. Missing or compromised samples need re-test.
3. Retesting Completed 2/14/23 – 2/17/23.
4. 5-Year Testing Completed.

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March 2, 2023

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

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

Location: Cannon Road Elementary School
901 Cannon Road
Silver Spring, MD 20904

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 Cannon Road Elementary School, located at 901 Cannon Rd. Silver Spring, MD 20904 (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 initially on January 23, 2023 and deployed fifty one (51) 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 returned to the site on January 26, 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.

KCI re-visited the site on February 14, 2023 to deploy four (4) activated charcoal (AC) radon test kits for testing of missed rooms or compromised test kits during initial testing.

KCI returned to the site on February 17, 2023 to retrieve the radon re-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.

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.

Evaluation of Testing Conditions:

These tests represent:

- Follow up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels at the facility.

According to AARST, *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*, ideal testing conditions would be when the building is fully occupied and the heating system is active. For this test, the facility's HVAC system was operating in heating mode; therefore, KCI concludes that this test was conducted during ideal testing conditions.

KCI recorded observations of the following conditions in each room during the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate temperatures ranged from the 31°F to 52°F. Maximum sustained winds ranged from 5-25 miles per hour. Average humidity was around 60% with .32 inches of precipitation (rain) was recorded during testing period.

During the re-testing period, weather records indicate low temperatures were in the mid-20s°F and high temperatures ranged to the 70s°F. Maximum sustained winds ranged from 0-33 miles per hour. Average humidity was around 62% with 1.01 inches of precipitation (rain) was recorded during testing period.

Results:

The sampling locations and analytical results are listed on Table 1 (Attachment B). The quality control sample locations and analytical results are listed on Table 2 (Attachment B). Sampling locations and associated test kit identification numbers and relevant field observations are listed on Table 3 (Attachment B). The laboratory analytical results are included in Attachment C. Laboratory results and exposure data for the spike samples are also included in Attachment C.

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	None	N/A
<4.0 piC/L	See Attachment B	

The results of the radon re-testing analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	None	N/A
<4.0 piC/L	See Attachment B	

Quality Control Samples	
Results of Blank Canisters:	The office blanks, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L.
Adequate Laboratory Precision?	Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved.
Spike Sample Analysis:	The Spike Sample analysis results indicate the laboratory is operating within statistical control limits.

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (410) 891-1769.

Sincerely,

Tyler McCleaf

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
QC- Quality Control

Table 1- Radon Testing Results		
Cannon Road ES		
Test Period: 01/23/2023 - 01/26/2023		
Kit Number	Room / Area	Result
11287559	100	< 0.3
11287560	100	0.6
11287558	102	< 0.3
11287580	105	0.6
11287563	107	< 0.3
11287566	107	< 0.3
11287570	107	< 0.3
11287572	111	< 0.3
11287565	112	0.6
11287577	115	< 0.3
11287564	116	< 0.3
11287576	117	< 0.3
11287571	120	< 0.3
11287578	121	< 0.3
11287573	124	0.5
11287574	124	< 0.3
11287561	126	< 0.3
11287575	130	< 0.3
11287589	140	0.6
11287590	140	0.9
11287547	141	0.5
11287554	145	0.6
11287587	146	< 0.3
11287582	150	< 0.3
11287588	151	N/A
11287579	154	0.6
11287581	154	< 0.3
11287586	154	< 0.3
11287583	156	< 0.3
11287592	157	< 0.3
11287585	158	< 0.3
11287597	162	< 0.3
11287595	166	0.5
11287596	170	< 0.3
11287548	179	1.0
11287556	179	< 0.3
11287555	180	0.6
11287599	200	< 0.3
11287600	200	< 0.3
11287594	211	< 0.3
11287593	232	< 0.3
11287591	242	< 0.3

Table 1- Radon Testing Results		
Cannon Road ES		
Test Period: 01/23/2023 - 01/26/2023		
Kit Number	Room / Area	Result
11287598	279	0.5
11287569	100A	< 0.3
11287568	100B	0.6
11287567	100C	0.8
11287562	100H	< 0.3
11287557	102B	< 0.3
11287584	140A	N/A
11287553	179B.1	< 0.3
11287552	182A	0.5
11287549	GYM 182	0.6
11287550	GYM 182	1.0

Table 2- Radon Testing Results			
Cannon Road ES			
Test Period: 01/23/23 - 01/26/23			
Kit Number	QC Type	Room / Area	Result
11287560	D	100	0.6
11287563	FB	107	< 0.3
11287570	D	107	< 0.3
11287574	D	124	< 0.3
11287581	D	154	< 0.3
11287586	FB	154	< 0.3
11287600	D	200	< 0.3
11633990	OB	OFFICE BLANK	< 0.3
11633992	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Cannon Road ES		
Test Period: 01/23/23 - 01/26/23		
Kit Number	Room/Area	Result
	N/A	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Cannon Road ES		
Test Period: 01/23/23 - 01/26/23		
Kit Number	Room/Area	Result
11287584	140A	Missing
11287588	151	Missing

Table Note:

* Missing or Compromised Sample

Table 1- Radon Testing Results		
Cannon Road ES RT		
Test Period: 02/14/2023 - 02/17/2023		
Kit Number	Room / Area	Result
11633989	151	0.6
11634053	151	< 0.3
11634051	140A	0.7
11634052	140A	0.6

Table 2- Radon Testing Results			
Cannon Road ES RT			
Test Period: 02/14/23 - 02/17/23			
Kit Number	QC Type	Room / Area	Result
11634052	D	140a	0.6
11634053	FB	151	< 0.3
11634060	OB	OFFICE BLANK	< 0.3
11634067	TB	TRAVEL BALNK	< 0.3

Summary of Missed Locations		
Cannon Road ES RT		
Test Period: 02/14/23 - 02/17/23		
Kit Number	Room/Area	Result
	N/A	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Cannon Road ES RT		
Test Period: 02/14/23 - 02/17/23		
Kit Number	Room/Area	Result
	N/A	

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 30, 2023

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
CANNON ROAD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287559	100	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287560	100	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.6 ± 0.3	2023-01-30
11287569	100A	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287568	100B	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.6 ± 0.3	2023-01-30
11287567	100C	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.8 ± 0.3	2023-01-30
11287562	100H	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287558	102	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287557	102B	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287580	105	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	0.6 ± 0.3	2023-01-30
11287563	107	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287570	107	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287566	107	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287572	111	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287565	112	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.6 ± 0.3	2023-01-30
11287577	115	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287564	116	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287576	117	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287571	120	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287578	121	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287573	124	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	0.5 ± 0.3	2023-01-30
11287574	124	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287561	126	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287575	130	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287589	140	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	0.6 ± 0.3	2023-01-30
11287590	140	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	0.9 ± 0.3	2023-01-30
11287547	141	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.5 ± 0.3	2023-01-30
11287554	145	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.6 ± 0.3	2023-01-30
11287587	146	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287582	150	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287579	154	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	0.6 ± 0.3	2023-01-30
11287586	154	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287581	154	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287583	156	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287592	157	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287585	158	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287597	162	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287595	166	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	0.5 ± 0.3	2023-01-30

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

January 30, 2023 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
CANNON ROAD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287596	170	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287548	179	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	1.0 ± 0.3	2023-01-30
11287556	179	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287553	179B.1	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	< 0.3	2023-01-30
11287555	180	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.6 ± 0.3	2023-01-30
11287552	182A	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.5 ± 0.3	2023-01-30
11287600	200	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287599	200	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287594	211	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287593	232	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287591	242	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	< 0.3	2023-01-30
11287598	279	2023-01-23 @ 9:00 am	2023-01-26 @ 2:00 pm	0.5 ± 0.3	2023-01-30
11287549	GYM 182	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	0.6 ± 0.3	2023-01-30
11287550	GYM 182	2023-01-23 @ 8:00 am	2023-01-26 @ 1:00 pm	1.0 ± 0.3	2023-01-30

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

February 20, 2023 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
CANNON ROAD ES
1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11634051	140A	2023-02-14 @ 9:00 am	2023-02-17 @ 10:00 am	0.7 ± 0.3	2023-02-20
11634052	140A	2023-02-14 @ 9:00 am	2023-02-17 @ 10:00 am	0.6 ± 0.3	2023-02-20
11633989	151	2023-02-14 @ 9:00 am	2023-02-17 @ 10:00 am	0.6 ± 0.3	2023-02-20
11634053	151	2023-02-14 @ 9:00 am	2023-02-17 @ 10:00 am	< 0.3	2023-02-20

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 208802

NOMINAL Conditions: Radon Conc 24.4 pCi/L Rel. Hum 48.6 % Temp. 79.3 F

Date Start: 1/27/23 Date Stop: 1/30/23	Date Start: _____ Date Stop: _____
Time Start: 0816 Time Stop: 0816	Time Start: _____ Time Stop: _____
Device No.'s: (5) CHAR BAGS -	Device No.'s: _____
11633682, 11633687, 11633688	_____
11633695, 11633696	_____
F3 Cell	
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 µR/h Elevation = 820 ft

February 3, 2023 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11633696	SK10	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	24.2 ± 1.9	2023-02-03
11633682	SK6	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	26.9 ± 2.1	2023-02-03
11633687	SK7	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	23.8 ± 1.9	2023-02-03
11633688	SK8	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	25.9 ± 2.1	2023-02-03
11633695	SK9	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	27.0 ± 2.2	2023-02-03

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Week 2 Retesting January Schools

Name of Schools:

1. A. Mario Loiederman MS
2. Cannon Road ES
3. Forest Knolls ES
4. Glen Haven ES
5. Goshen ES
6. Highland View ES
7. John F. Kennedy HS
8. Lakelands Park MS
9. Montgomery Village MS
10. Poolesville HS
11. Springbrook HS

	Date	Initials
Radon Test Kits Deployed	02/14/2023	BMM
Radon Test Kits Collected	02/17/2023	BMM
Radon Test Kits Shipped to Lab*	02/17/2023	BMM
Radon Test Kits Received by Lab*	02/20/2023	BMM

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

RADON SCREENING SURVEY – FOLLOW-UP CANNON ROAD ELEMENTARY SCHOOL

901 Cannon Road,

Silver Spring, Maryland 20904

EXECUTIVE SUMMARY

Date of Test Report:	3/20/19
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	1
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	3.0
High Value:	3.0
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 2/13/19	Result (pCi/L) 3/20/19	Average Result (pCi/L)
140A	4.3	3.0	3.7

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
Cannon Road Elementary School

901 Cannon Road,
Silver Spring, MD 20904

Date of Test Report:	3/20/2019
Round of Testing:	Initial **Follow-up** Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested:	1
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	3.0
High Value:	3.0

Project Status

Retesting completed: No further action at this time.

March 20, 2019

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: Radon Testing Services

Location: Cannon Road Elementary School
901 Cannon Road,
Silver Spring, MD 20904

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for Cannon Road Elementary School, located at 901 Cannon Road, Silver Spring, MD 20904 (subject site).

Scope of Services:

PSI 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. PSI 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 Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on February 25, 2019 and deployed one (1) activated charcoal (AC) radon test kit. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on February 28, 2019 to retrieve the radon sampling test kit. A floor plan map of the building with the test location is included as Attachment A of this report.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007).

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65°F.

PSI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

PSI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. PSI recorded observations of the following conditions in each room at 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.

Results:

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	

Notes:
D -Duplicate Sample

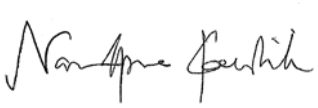
The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C).

Laboratory results and exposure data for the spike samples are also included in Attachment C. 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 (703) 698-9300.

Respectfully Submitted,

INTERTEK - PSI



Nand Kaushik, P.E.
Department Manager, Environmental Services
Nand.Kaushik@intertek.com

Attachments: A – Floor Plan with Test Locations
B – Table 1 – Radon Test Summary Spreadsheet
C – Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Cannon Road Elementary School		
Testing period: 2/25/19 - 2/28/19		
Kit Number	**Room / Area**	**Result (pCi/L)**
3923470	140A (IMC Office)	3.0

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey Cannon Road ES
901 Cannon Road
Silver Spring MD 20904

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3220704	3923470	02/25/2019 12:30 pm	02/28/2019 11:10 am	Floor Main Room 140A (IMC Office)	3.0

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Distributed by: Intertek-PSI (VA)

Date Received: 03/04/2019 Date Logged: 03/04/2019 Date Analyzed: 03/05/2019 Date Reported: 03/05/2019

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
Cannon Road Elementary School

901 Cannon Road,
Silver Spring, MD 20904

Date of Test Report:	2/13/2018
Round of Testing:	Initial Follow-up Post Remediation 2 Year Testing **5 Year Testing** HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested:	44
# of Rooms ≥ 4.0 pCi/L:	1
Low Value:	< 0.4
High Value:	4.3
Rooms with Results ≥ 4.0 pCi/L:	140A

Project Status

Initial testing complete: Re-test needed for results ≥ 4.0 pCi/L.

February 13, 2019

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: Radon Testing Services

Location: Cannon Road Elementary School
901 Cannon Road,
Silver Spring, MD 20904

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for Cannon Road Elementary School, located at 901 Cannon Road, Silver Spring, MD 20904 (subject site).

Scope of Services:

PSI 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. PSI 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 Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on November 13, 2018 and deployed fifty-seven (57) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on November 16, 2018 to retrieve the radon sampling test kits. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, PSI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, PSI submitted ten (10) test kits to Bowser-Morner Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner Inc. prior to being returned to the laboratory for analysis.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007) and 2 Saber Way, Haverhill, Massachusetts (certification # ARL0017).

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65°F.

PSI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

PSI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. PSI recorded observations of the following conditions in each room at 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.

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	140A	4.3
≤ 4.0 pCi/L	See Attachment B	

Notes:
D -Duplicate Sample

The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C).

Laboratory results and exposure data for the spike samples are also included in Attachment C. 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 (703) 698-9300.

Respectfully Submitted,

INTERTEK-PSI

Nand Kaushik, P.E.
Department Manager, Environmental Services
Nand.Kaushik@intertek.com

Attachments:
A – Floor Plan with Test Locations
B – Table 1 – Radon Test Summary Spreadsheet
C – Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Cannon Road Elementary School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3918211	100	0.5
3918210	102	< 0.4
3918206	105	0.7
3918231	107	1.0
3918212	111	2.4
3918204	112	0.4
3918201	115	1.8
3918024	116	0.7
3918228	117	1.6
3918221	120	0.4
3918041	121	0.9
3918025	124	2.3
3918031	126	0.4
3918226	130	0.4
3918233	140	2.1
3918234	140	2.9
3918232	141	< 0.4
3918236	145	0.8
3918238	146	1.3
3918222	149	0.7
3918239	150	< 0.4
3918237	151	< 0.4
3918161	154	0.5
3918162	154	0.5
3918163	156	< 0.4
3918166	157	0.7
3918164	158	1.4
3918165	162	0.4
3918167	166	1.2
3918168	170	0.6
3881191	179	1.1
3881232	179	1.3
3918169	180	0.5
3881240	182	0.4
3881242	182	0.4
3918217	204	0.5
3918218	215	0.6
3918216	244	< 0.4
3918208	100A	< 0.4
3918209	100B	0.9
3918202	100C	2.5
3918227	100G	0.4
3918205	100H	0.9

Radon Testing Results		
Cannon Road Elementary School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3918203	102B	< 0.4
3918235	140A	4.3
3918220	179B	0.7
3918214	179B	1.7
3918213	182A	< 0.4

Radon Testing Results		
Cannon Road Elementary School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	**QC Type**	**Result (pCi/L)**
3918224	111 (D)	0.9
3918207	112 (D)	< 0.4
3918215	149 (D)	0.9
3918240	150 (D)	0.6
3918170	180 (D)	0.4
3916033	Field Blank	< 0.4
3916035	Field Blank	< 0.4
3918005	Office Blank	< 0.4
3918006	Trip Blank	< 0.4

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey
Cannon Road Elementary School
MD 20904

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2393808	3918226	11/13/2018 4:12 pm	11/16/2018 12:28 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.4
2393809	3918041	11/13/2018 4:15 pm	11/16/2018 12:28 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.9
2393810	3918228	11/13/2018 4:17 pm	11/16/2018 12:25 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	1.6
2393811	3918201	11/13/2018 4:19 pm	11/16/2018 12:25 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	1.8
2393812	3918212	11/13/2018 4:23 pm	11/16/2018 12:23 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	2.4
2393813	3918224	11/13/2018 4:23 pm	11/16/2018 12:23 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.9
2393814	3918231	11/13/2018 4:26 pm	11/16/2018 12:22 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	1.0
2393815	3918232	11/13/2018 4:29 pm	11/16/2018 12:29 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393816	3918233	11/13/2018 4:32 pm	11/16/2018 12:29 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	2.1
2393817	3918234	11/13/2018 4:32 pm	11/16/2018 12:29 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	2.9
2393818	3918235	11/13/2018 4:37 pm	11/16/2018 12:29 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	4.3

Comment: A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 11/19/2018 Date Logged: 11/19/2018 Date Analyzed: 11/19/2018 Date Reported: 12/21/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey
Cannon Road Elementary School
MD 20904

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2393819	3918236	11/13/2018 4:38 pm	11/16/2018 12:36 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.8
2393820	3918237	11/13/2018 4:39 pm	11/16/2018 12:36 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393821	3918238	11/13/2018 4:43 pm	11/16/2018 12:36 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	1.3
2393822	3918239	11/13/2018 4:45 pm	11/16/2018 12:36 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393823	3918240	11/13/2018 4:45 pm	11/16/2018 12:37 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.6
2393824	3918161	11/13/2018 4:48 pm	11/16/2018 12:37 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.5
2393825	3918162	11/13/2018 4:48 pm	11/16/2018 12:38 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.5
2393826	3918163	11/13/2018 4:51 pm	11/16/2018 12:39 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393827	3918164	11/13/2018 4:53 pm	11/16/2018 12:39 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	1.4
2393828	3918165	11/13/2018 4:56 pm	11/16/2018 12:40 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.4
2393829	3918166	11/13/2018 4:57 pm	11/16/2018 12:40 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.7

Comment: A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 11/19/2018 Date Logged: 11/19/2018 Date Analyzed: 11/19/2018 Date Reported: 12/21/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey
Cannon Road Elementary School
MD 20904

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2393830	3918167	11/13/2018 4:59 pm	11/16/2018 12:41 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	1.2
2393831	3918168	11/13/2018 5:00 pm	11/16/2018 12:44 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.6
2393832	3918169	11/13/2018 5:03 pm	11/16/2018 12:45 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.5
2393833	3918170	11/13/2018 5:03 pm	11/16/2018 12:45 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.4
2393834	3918213	11/13/2018 5:05 pm	11/16/2018 12:48 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393835	3918214	11/13/2018 5:11 pm	11/16/2018 12:50 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	1.7
2393836	3918220	11/13/2018 5:12 pm	11/16/2018 12:51 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.7
2393837	3918222	11/13/2018 5:19 pm	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.7
2393838	3918215	11/13/2018 5:19 pm	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.9
2393839	3918216	11/13/2018 5:21 pm	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School Flr 2 Rm 2	< 0.4
2393840	3918217	11/13/2018 5:22 pm	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School Flr 2 Rm 2	0.5

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Distributed by: Intertek-PSI (VA)

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Report Reviewed By: _____ Report Approved By: _____

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey
Cannon Road Elementary School
MD 20904

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2393841	3918218	11/13/2018 5:23 pm	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School Flr 2 Rm 2	0.6
2393842	3918227	11/13/2018 5:30 pm	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.4
2393843	3916033	11/13/2018 3:41 pm	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School	< 0.4
2393844	3916035	11/13/2018 3:41 pm	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School	< 0.4
2393845	3918005	11/13/2018 6:00 am	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School	< 0.4
2393846	3918006	11/13/2018 6:00 am	11/16/2018 12:53 pm	Bldg Cannon Road Elementary School	< 0.4
2393847	3918211	11/13/2018 3:41 pm	11/16/2018 12:15 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.5
2393848	3918210	11/13/2018 3:43 pm	11/16/2018 12:18 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393849	3918203	11/13/2018 3:47 pm	11/16/2018 12:18 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393850	3918208	11/13/2018 3:49 pm	11/16/2018 12:16 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393851	3918209	11/13/2018 3:50 pm	11/16/2018 12:16 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.9

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Distributed by: Intertek-PSI (VA)

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Report Reviewed By: _____ Report Approved By: _____

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey
Cannon Road Elementary School
MD 20904

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2393852	3918202	11/13/2018 3:51 pm	11/16/2018 12:18 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	2.5
2393853	3918205	11/13/2018 3:54 pm	11/16/2018 12:19 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.9
2393854	3918206	11/13/2018 3:58 pm	11/16/2018 12:20 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.7
2393855	3918204	11/13/2018 3:59 pm	11/16/2018 12:20 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.4
2393856	3918207	11/13/2018 3:59 pm	11/16/2018 12:20 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	< 0.4
2393857	3918024	11/13/2018 4:06 pm	11/16/2018 12:22 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.7
2393858	3918221	11/13/2018 4:09 pm	11/16/2018 12:23 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.4
2393859	3918025	11/13/2018 2:19 pm	11/16/2018 12:25 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	2.3
2393860	3918031	11/13/2018 4:11 pm	11/16/2018 12:28 pm	Bldg Cannon Road Elementary School Flr 1 Rm 1	0.4

Comment: A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 11/19/2018 Date Logged: 11/19/2018 Date Analyzed: 11/19/2018 Date Reported: 12/21/2018

Report Reviewed By: _____ Report Approved By: _____

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AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
NRSB Device Code 12193

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey
Cannon Road Elementary School
Cloverly MD 20905

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
2393057	3881191	11/13/2018	5:14 pm	11/16/2018	12:53 pm	Bldg. Cannon Road Elementary School Flr 1 Rm 1	1.1
2393060	3881232	11/13/2018	5:01 pm	11/16/2018	12:51 pm	Bldg. Cannon Road Elementary School Flr 1 Rm 1	1.3
2393061	3881240	11/13/2018	5:07 pm	11/16/2018	12:48 pm	Bldg. Cannon Road Elementary School Flr 1 Rm 1	0.4
2393062	3881242	11/13/2018	5:07 pm	11/16/2018	12:51 pm	Bldg. Cannon Road Elementary School Flr 1 Rm 1	0.4

Comment: A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 11/18/2018 Date Logged: 11/18/2018 Date Analyzed: 11/19/2018 Date Reported: 12/13/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007
Ohio RL41

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested:

MCPS Radon Survey
4514 Taylorsville Road
Dayton OH 45424

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3204125	3926831	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	36.1
3204126	3926832	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.8
3204127	3926833	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	33.7
3204128	3926834	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	35.8
3204129	3926835	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	35.0
3204130	3926836	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.5
3204131	3926837	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.6
3204132	3926838	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.3
3204133	3926839	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	33.2
3204134	3926840	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.0

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Test Performed By: Unknown

Distributed by: Intertek-PSI (VA)

Date Received: 12/12/2018 Date Logged: 12/12/2018 Date Analyzed: 12/12/2018 Date Reported: 12/13/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Intertek - PSI Job Number 187732

NOMINAL Conditions: Radon Conc 32.6 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/7/18 Date Stop: 12/10/18	Date Start: _____ Date Stop: _____
Time Start: 0947 Time Stop: 0947	Time Start: _____ Time Stop: _____
Device No.'s: (10) Char. Cans -	Device No.'s: _____
3926831 thru 3926840	_____
_____	_____
Gx 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 μR/h Elevation = 820 ft

intertek
psi

Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

1. Highland View ES
2. Kemp Mill ES
3. Sligo Creek ES
4. Highland ES
5. Kennedy HS
6. EB Lee MS
7. Forest Knolls ES
8. Galway ES
9. Wheaton HS
10. Briggs Chaney MS
11. Cannon Rd ES
12. Cloverly ES
13. Springbrook HS

	Date	Initials
Radon Test Kits Deployed	11/13/2018	NL
Radon Test Kits Sampled	11/16/2018	NL
Radon Test Kits Shipped to Lab*	11/16/2018	NL
Radon Test Kits Received by Lab*	11/17/2018; 11/18/2018; 11/20/2018	NL

*All samples sent to AccuStar Laboratories, 929 Mount Zion Road, Lebanon, PA 17046 and 2 Saber Way, Haverhill, MA 01835

RADON SCREENING SURVEY – FOLLOW-UP CANNON ROAD ELEMENTARY SCHOOL

901 Cannon Road, Silver Spring, Maryland 20904

EXECUTIVE SUMMARY

Date of Test Report:	3/11/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	16
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	<0.3
High Value:	2.8
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 3/7/16 (Rev 1 Initial)	Result (pCi/L) 3/11/16 Follow-Up	Average Result (pCi/L)
102C	<0.3 Tampered	<0.3	<0.3
105	0.7 Tampered	1.2	1.0
107	--- Missing	<0.3	<0.3
121	0.7 Tampered	<0.3	0.5
124	--- Missing	--- Missing	No result
140	1.0 Tampered	2.3	1.7
140A	1.0 Tampered	2.8	1.9
141	0.6 Tampered	1.3	1.0
146	1.0 Tampered	1.0	1.0
154	0.7 Tampered	1.1	0.9
179	2.0 Tampered	2.6	2.3
182	0.6 Tampered	0.6	0.6
232	<0.3 Tampered	<0.3	<0.3
241	0.6 Tampered	0.8	0.7
279	0.6 Tampered	0.6	0.6
112 (D)	1.0 Tampered	0.5	0.8

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: Cannon Road Elementary School

Date of Test Report:	3/11/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	16
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.8

Project Status:
Retesting completed; missing or compromised samples need re-test.

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 11, 2016

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: **Radon Testing Services**
KCI Job # 12146341.29

Location: Cannon Road Elementary School
901 Cannon Road
Silver Spring, Maryland 20904

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the Cannon Road Elementary School, located at 901 Cannon Road, Silver Spring, Maryland 20904 (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 Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on February 22, 2016 and deployed twenty-one (21) activated charcoal (AC) radon test kits. KCI deployed radon test kits in 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 included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner prior to being returned to the laboratory for analysis.

KCI returned to the site on February 25, 2016 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:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65° F.

KCI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

KCI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. Note that strong storms and heavy rainfall were recorded during the test period. The unusual weather conditions may have resulted in atypical radon test results for this facility.

KCI recorded observations of the following conditions in each room at 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.

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	none	n/a
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

The field blank, office blanks, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C). Laboratory results and exposure data for the spike samples are also included in Attachment C.

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) 316-7800.

Sincerely,

James M. Moulsdale
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
B- Table 1-Radon Test Summary Spreadsheet
C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 9 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
Cannon Rd Elementary School		
Test Period: 02/22/16-02/25/16		
Kit Number	**Room / Area**	**Result**
7731423	105	1.2
7731401	107	< 0.3
7731428	112	0.5
7731424	121	< 0.3
7731433	140	2.3
7731420	141	1.3
7731431	146	1.0
7731432	154	1.1
7731427	179	2.6
7731429	179	2.2
7731416	182	0.6
7731408	182	0.6
7731421	232	< 0.3
7731422	241	0.8
7731430	279	< 0.3
7731402	102C	< 0.3
7731434	* 124 (Missing)	-
7731441	140A	2.8

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Cannon Rd Elementary School		
Test Period: 02/22/16-02/25/16		
Kit Number	**QC Type**	**Result**
7731407	D (107)	< 0.3
7731403	D (279)	0.6
7731415	FB (102C)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 8, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

CANNON RD ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7731402	102C	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	< 0.3	2016-02-29
7731415	102C	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	< 0.3	2016-02-29
7731423	105	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	1.2 ± 0.3	2016-02-29
7731401	107	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	< 0.3	2016-02-29
7731407	107	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	< 0.3	2016-02-29
7731428	112	2016-02-22 @ 10:00 am	2016-02-25 @ 8:00 am	0.5 ± 0.3	2016-02-29
7731424	121	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	< 0.3	2016-02-29
7731434	124	@	@		
7731433	140	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	2.3 ± 0.4	2016-02-29
7731441	140A	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	2.8 ± 0.4	2016-02-29
7731420	141	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	1.3 ± 0.3	2016-02-29
7731431	146	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	1.0 ± 0.3	2016-02-29
7731432	154	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	1.1 ± 0.3	2016-02-29
7731427	179	2016-02-22 @ 10:00 am	2016-02-25 @ 8:00 am	2.6 ± 0.4	2016-02-29
7731429	179	2016-02-22 @ 10:00 am	2016-02-25 @ 8:00 am	2.2 ± 0.4	2016-02-29
7731408	182	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	0.6 ± 0.3	2016-02-29
7731416	182	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	0.6 ± 0.3	2016-02-29
7731421	232	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	< 0.3	2016-02-29
7731422	241	2016-02-22 @ 9:00 am	2016-02-25 @ 8:00 am	0.8 ± 0.3	2016-02-29
7731403	279	2016-02-22 @ 10:00 am	2016-02-25 @ 8:00 am	0.6 ± 0.3	2016-02-29
7731430	279	2016-02-22 @ 10:00 am	2016-02-25 @ 8:00 am	< 0.3	2016-02-29

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

March 9, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS
Phase 9 Office Blanks

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712568	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7712584	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7719460	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7719481	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7719497	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7719498	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29

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

March 9, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS
Phase 9 Office Blanks

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7731626	0	2016-02-23 @ 2:00 pm	2016-02-26 @ 3:00 pm	< 0.3	2016-03-01
7731633	0	2016-02-23 @ 2:00 pm	2016-02-26 @ 3:00 pm	< 0.3	2016-03-01
7735204	0	2016-02-23 @ 2:00 pm	2016-02-26 @ 3:00 pm	< 0.3	2016-03-01

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

February 23, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT- PHASE 7, 8, 9
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7734937	1	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734946	10	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734955	11	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734956	12	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734959	13	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734930	14	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734953	15	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734954	16	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734940	17	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734949	18	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734948	19	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734939	2	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734942	20	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734929	21	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734933	22	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734934	23	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734936	24	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734943	25	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734944	26	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734935	27	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734928	28	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734952	29	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734947	3	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734931	30	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734932	31	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718520	32	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718523	33	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718522	34	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718521	35	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734945	4	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734960	5	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734958	6	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734951	7	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734957	8	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734938	9	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23

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

February 15, 2016

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7718273	101A	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04
7718281	102B	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.4 ± 0.6	2016-02-04
7718282	103C	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.3 ± 0.6	2016-02-04
7718288	104D	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.7 ± 0.6	2016-02-04
7718289	105E	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.6 ± 0.6	2016-02-04
7718291	106F	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04

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Note: Spike samples are test canisters that are deliberately exposed to a controlled high level of radon in a laboratory. They provide a quality control measure in the testing process and do NOT reflect radon levels in the building being tested.

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

NOMINAL Conditions: Radon Conc 5.9 pCi/L Rel. Hum 45.9 % Temp. 79.0 F

Date Start: 1/30/16 Date Stop: 2/1/16	Date Start: _____ Date Stop: _____
Time Start: 0926 Time Stop: 0926	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags -	Device No.'s: _____
7718281, 7718282, 7718291,	_____
7718288, 7718289, 7718273	_____
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 μR/h Elevation = 820 ft

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 9

Name of Schools:

1. Rocking Horse Road ES
2. Rockwell ES
3. Oakland Terrace ES
4. Rosemont ES
5. Beall ES
6. Cresthaven ES
7. Quince Orchard HS
8. Smith Center
9. Ashburton ES
10. Bannockburn ES
11. Bradley Hills ES
12. Cannon Road ES
13. Flora M. Singer ES
14. Clarksburg HS
15. Briggs Chaney MS
16. Broad Acres ES
17. Belmont ES
18. Emory Grove Center
19. Forest Knolls ES
20. Baker MS
21. MLK MS
22. Richard Montgomery HS
23. Sherwood HS
24. Walter Johnson HS
25. Diamond ES
26. Newport Mill MS
27. Drew ES
28. Monocacy ES
29. Potomac ES
30. Rock Terrace School
31. Rosa Parks MS
32. Rosemary Hills ES
33. Sequoyah ES
34. Damascus HS
35. Einstein ES
36. Forest Oak MS
37. Hoover MS
38. Julius West MS
39. John F. Kennedy HS
40. Travilah ES
41. Watkins Mill HS
42. Northwood HS
43. Lincoln Center

	Date	Initials
Radon Test Kits Deployed	2/22/16	JM
Radon Test Kits Collected	2/25/16	JM
Radon Test Kits Shipped to Lab*	2/25/16	JM
Radon Test Kits Received by Lab*	2/29/16	JM

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

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Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 9

Name of Schools:

1. Banneker MS
2. Bethesda-Chevy Chase HS
3. Burtonsville ES
4. Chevy Chase ES
5. Clopper Mill ES
6. Edison HS
7. Flower Hill ES
8. Flower Valley ES
9. Greencastle ES
10. Maryvale ES
11. Montgomery Blair HS
12. Poolesville HS
13. Rachel Carson ES
14. Stedwick ES
15. Watkins Mill ES
16. Laytonsville ES
17. Lincoln Center

	Date	Initials
Radon Test Kits Deployed	2/23/16	JM
Radon Test Kits Collected	2/26/16	JM
Radon Test Kits Shipped to Lab*	2/26/16	JM
Radon Test Kits Received by Lab*	3/01/16	JM

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

February 15, 2016

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7718273	101A	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04
7718281	102B	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.4 ± 0.6	2016-02-04
7718282	103C	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.3 ± 0.6	2016-02-04
7718288	104D	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.7 ± 0.6	2016-02-04
7718289	105E	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.6 ± 0.6	2016-02-04
7718291	106F	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04

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

Note: Spike samples are test canisters that are deliberately exposed to a controlled high level of radon in a laboratory. They provide a quality control measure in the testing process and do NOT reflect radon levels in the building being tested.

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

NOMINAL Conditions: Radon Conc 5.9 pCi/L Rel. Hum 45.9 % Temp. 79.0 F

Date Start: 1/30/16 Date Stop: 2/1/16	Date Start: _____ Date Stop: _____
Time Start: 0926 Time Stop: 0926	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags -	Device No.'s: _____
7718281, 7718282, 7718291,	_____
7718288, 7718289, 7718273	_____
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 μR/h Elevation = 820 ft

KCI TECHNOLOGIES

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Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 9

Name of Schools:

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20. Baker MS
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25. Diamond ES
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28. Monocacy ES
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41. Watkins Mill HS
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43. Lincoln Center

	Date	Initials
Radon Test Kits Deployed	2/22/16	JM
Radon Test Kits Collected	2/25/16	JM
Radon Test Kits Shipped to Lab*	2/25/16	JM
Radon Test Kits Received by Lab*	2/29/16	JM

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

KCI TECHNOLOGIES

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Radon Test Kit Chain of Custody

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17. Lincoln Center

	Date	Initials
Radon Test Kits Deployed	2/23/16	JM
Radon Test Kits Collected	2/26/16	JM
Radon Test Kits Shipped to Lab*	2/26/16	JM
Radon Test Kits Received by Lab*	3/01/16	JM

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

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

MCPS RADON TESTING

Executive Summary: Cannon Road Elementary School

Date of Test Report:	3/7/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	45
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.3

Project Status:
Initial testing completed; missing or compromised samples need re-test

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March 7, 2016 (Rev 1)

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: **Radon Testing Services**
KCI Job # 12146341.20

Location: Cannon Road Elementary School
901 Cannon Road
Silver Spring, MD 20904

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the the Cannon Road Elementary School, located at 901 Cannon Road in Silver Spring, Maryland 20904 (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 Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on December 21, 2015 and deployed fifty-eight (58) activated charcoal (AC) radon test kits. KCI deployed radon test kits in 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 included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. Prior to sampling, KCI returned 1% of the test batch to the laboratory for analysis as lab transit blanks. In addition, KCI submitted six (6) 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 24, 2015 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:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65° F.

KCI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

KCI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. KCI recorded observations of the following conditions in each room at 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.

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	None	n/a
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

All field blanks, office blank, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C). Laboratory results and exposure data for the spike samples are also included in Attachment C.

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) 316-7800.

Sincerely,

James M. Moulsdale
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
B- Table 1-Radon Test Summary Spreadsheet
C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Cannon Road ES		
Test Period: 12/21/15-12/24/15		
Kit Number	**Room / Area**	**Result**
7713958	100	0.6
7713927	102	< 0.3
7713921	111	0.6
7713972	112	0.6
7713956	115	1.1
7713974	116	< 0.3
7713955	117	0.7
7713967	120	< 0.3
7713969	126	0.6
7713922	130	0.8
7713957	140	1.6
7713933	145	1.7
7713936	150	0.7
7713934	151	0.7
7713968	156	< 0.3
7713971	157	0.8
7713961	158	< 0.3
7713944	162	< 0.3
7713945	166	< 0.3
7713943	170	0.8
7713946	179	2.3
7713970	180	< 0.3
7713903	182	0.6
7713954	205	< 0.3
7713902	211	< 0.3
7713965	242	< 0.3
7713926	100A	< 0.3
7713929	100B	0.6
7713925	100C	0.9
7713928	102B	< 0.3
7713962	* 102C (tampered)	< 0.3
7713932	* 105 (tampered)	0.7
7713920	* 107 (missing)	-
7713919	* 121 (tampered)	0.7
7713966	* 124 (missing)	-
7713931	* 140 (tampered)	1.0
7713937	* 140A (tampered)	1.0
7713930	* 141 (tampered)	0.6
7713935	* 146 (tampered)	1.0
7713940	* 154 (tampered)	0.7
7713938	* 179 (tampered)	2.0
7713942	179B	1.8
7713939	179B.1	1.3
7713951	* 182 (tampered)	0.6
7713822	182A	0.8
7713963	* 232 (tampered)	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results			
Cannon Road ES			
Test Period: 12/21/15-12/24/15			
Kit Number		**Room / Area**	**Result**
7713964	*	241 (tampered)	0.6
7713950	*	279 (tampered)	0.6

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Cannon Road ES		
Test Period: 12/21/15-12/24/15		
Kit Number	**QC Type**	**Result**
7713923	D (100C)	< 0.3
7713918	* D (112:tampered)	1.0
7713941	D (146)	1.3
7713947	D (179)	2.0
7713949	D (279)	< 0.3
7713924	FB (100C)	< 0.3
7713952	FB (154)	< 0.3
7713948	FB (179)	< 0.3
7713953	FB (279)	< 0.3
7713901	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 12, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

CANNON ROAD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7713901	0	2015-12-21 @ 3:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7713958	100	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.6 ± 0.3	2015-12-29
7713926	100A	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	< 0.3	2015-12-29
7713929	100B	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.6 ± 0.3	2015-12-29
7713923	100C	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	< 0.3	2015-12-29
7713924	100C	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	< 0.3	2015-12-29
7713925	100C	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.9 ± 0.3	2015-12-29
7713927	102	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	< 0.3	2015-12-28
7713928	102B	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	< 0.3	2015-12-28
7713962	102C	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	< 0.3	2015-12-29
7713932	105	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7713920	107	@	@		
7713921	111	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.6 ± 0.3	2015-12-28
7713918	112	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	1.0 ± 0.3	2015-12-28
7713972	112	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.6 ± 0.3	2015-12-28
7713956	115	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	1.1 ± 0.3	2015-12-28
7713974	116	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	< 0.3	2015-12-28
7713955	117	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.7 ± 0.3	2015-12-28
7713967	120	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	< 0.3	2015-12-28
7713919	121	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.7 ± 0.3	2015-12-29
7713966	124	@	@		
7713969	126	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.6 ± 0.4	2015-12-29
7713922	130	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.8 ± 0.3	2015-12-28
7713957	140	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.6 ± 0.4	2015-12-29
7713931	140	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.0 ± 0.4	2015-12-29
7713937	140A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.0 ± 0.4	2015-12-29
7713930	141	2015-12-21 @ 12:00 pm	2015-12-24 @ 8:00 am	0.6 ± 0.3	2015-12-29
7713933	145	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.7 ± 0.4	2015-12-29
7713935	146	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.0 ± 0.3	2015-12-28
7713941	146	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7713936	150	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7713934	151	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7713952	154	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713940	154	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7713968	156	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713971	157	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7713961	158	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29

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

January 12, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

CANNON ROAD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7713944	162	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713945	166	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713943	170	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-28
7713938	179	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.3	2015-12-28
7713947	179	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.3	2015-12-28
7713948	179	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713946	179	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	2.3 ± 0.4	2015-12-29
7713942	179B	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7713939	179B.1	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	1.3 ± 0.3	2015-12-28
7713970	180	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-28
7713951	182	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	0.6 ± 0.3	2015-12-28
7713903	182	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	0.6 ± 0.3	2015-12-29
7713822	182A	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-28
7713954	205	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713902	211	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713963	232	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-28
7713964	241	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	0.6 ± 0.3	2015-12-29
7713965	242	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713949	279	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7713950	279	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	0.6 ± 0.3	2015-12-29
7713953	279	2015-12-21 @ 1:00 pm	2015-12-24 @ 9:00 am	< 0.3	2015-12-29

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

December 29, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT DEC 14 2015
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7704395	TRANSIT 1	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706508	TRANSIT 10	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706510	TRANSIT 11	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706511	TRANSIT 12	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706505	TRANSIT 13	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704371	TRANSIT 14	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706506	TRANSIT 15	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704381	TRANSIT 16	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704399	TRANSIT 17	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704390	TRANSIT 18	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704396	TRANSIT 2	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704364	TRANSIT 3	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704370	TRANSIT 4	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704368	TRANSIT 5	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706524	TRANSIT 6	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706526	TRANSIT 7	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706518	TRANSIT 8	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706516	TRANSIT 9	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16

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

December 23, 2015

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7706380	101	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	25.2	2015-12-23
7706381	102	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.5	2015-12-23
7706208	103	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	27.7	2015-12-23
7705132	104	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	28.6	2015-12-23
7706366	105	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.5	2015-12-23
7706211	106	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.1	2015-12-23

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

Note: Spike samples are test canisters that are deliberately exposed to a controlled high level of radon in a laboratory. They provide a quality control measure in the testing process and do NOT reflect radon levels in the building being tested.

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173224

NOMINAL Conditions: Radon Conc 26.9 pCi/L Rel. Hum 49.6 % Temp. 69.9 F

Date Start: 12/18/15 Date Stop: 12/21/15	Date Start: _____ Date Stop: _____
Time Start: 0929 Time Stop: 0929	Time Start: _____ Time Stop: _____
Device No.'s: 7705132, 7706208, 7706211, 7706366, 7706380, 7706381 F3 Left	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: _____
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 µR/h Elevation = 820 ft

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Chain of Custody

Project Name: MCPS Radon Phase II

School Names:

1. Bannonckburn ES
2. Walt Whitman HS
3. Walter Johnson HS
4. North Chevy Chase ES
5. Piney Branch ES
6. Forest Knolls ES
7. Newport Mill MS
8. Broad Acres ES
9. Briggs Chaney MS
10. Blair G. Ewing Center
11. Sherwood HS
12. Hadley Farms
13. S. Christa McAuliffe ES
14. Ronald A. McNair ES
15. MLK MS
16. Ashburton ES
17. Bradley Hills ES
18. Flora M. Singer ES
19. Woodlin ES
20. Montgomery Knolls ES
21. Fairland ES
22. Cannon Road ES
23. Richard Montgomery HS
24. Brooke Grove ES
25. Belmont ES
26. Emory Grove
27. Clarksburg HS
28. Clarksburg ES
29. John T. Baker MS

	Date	Initials
Radon Test Kits Deployed	12/21/2015	
Radon Test Kits Collected	12/24/2015	
Radon Test Kits Shipped to Lab*	12/24/2015	
Radon Test Kits Received by Lab*	12/28/2015	

*All samples sent to Air Check, Inc., 1936 Butler Bridge Road, Mills River, NC 28758

M. A. CECIL & ASSOCIATES, INC.
4475 Shannon Way, Port Republic, Maryland 20676 (301) 855-7710
INDUSTRIAL HYGIENE AND ENVIRONMENTAL HEALTH

August 8, 2012

Mr. Sean Yarup
Montgomery County Public Schools
16651 Crabbs Branch Way
Rockville, Maryland 20855

Re: Radon Evaluation- Cannon Road Elementary School

Dear Mr. Yarup:

Environmental radon testing has been completed at Cannon Road Elementary School.

Twenty two charcoal canisters were placed in various rooms throughout the school. The canisters were placed on July 20, 2012 and retrieved on July 23, 2012.

The detected radon concentrations were below the EPA recommended level of 4.0 pico curies per liter (pCi/l) of air with the exception of the MPR which had a concentration of 28.3 pCi/l. Remedial action to reduce the radon concentration is not recommended at this time. This room should be retested within two to three months. The test locations and results are summarized in the attached table.

Should you have any questions concerning this report please do not hesitate to contact us.

Sincerely,

Michael A. Cecil, CIH

Cannon Road Elementary School
Environmental Radon Results
July 20-23, 2012

Location	Detected Radon Concentration (pCi/l)
MPR	28.3
Room 145	0.8
Room 121	< 0.5
Gym	< 0.5
Room 151	0.9
Room 170	0.6
IMC	1.4
Room 124	1.5
Room 117	1.3
Staff Lounge	1.3
Room 115	1.6
Room 107	3.2
Room 111	0.9
Computer Lab	1.3
Room 116	1.3
Room 166	1.2
Room 126	1.1
Main Office	0.9
Room 162	1.8
Room 130	1.2
Room 120	0.8
Room 158	1.9