

School Year: **24-25**

Facility:	Pine Crest Elementary School		
Address:	201 Woodmoor Drive		
	Silver Spring, MD 20901		
Reason for Testing:	Scheduled Re-Testing - <input type="checkbox"/> 2-year or <input checked="" type="checkbox"/> 5-year schedule <input type="checkbox"/> Clearance Testing (Post-Mitigation) <input checked="" type="checkbox"/> Building Envelope or HVAC Upgrades <input type="checkbox"/> New Construction – Addition or Facility		
Current Radon Status:	<input type="checkbox"/> Active Mitigation (2-year regular schedule) <input checked="" type="checkbox"/> No Active Mitigation (5-year regular schedule) <input type="checkbox"/> Not Previously Tested (New Facility)		
Round of Testing:	<input checked="" type="checkbox"/> Initial Testing -or- <input type="checkbox"/> Follow-up Testing		
Testing Status:	<input checked="" type="checkbox"/> No Further Testing Needed -or- <input type="checkbox"/> Follow-Up Testing Required		

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

Mitigation -	Facility Radon Status:		
<input checked="" type="checkbox"/> Not Required <input type="checkbox"/> Required (≥ 4.0 -pCi/L) Rooms:	<input checked="" type="checkbox"/> No Change in Status <input type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	45	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥ 4.0 -pCi/L)	0	Highest Value (pCi/L)	3.8

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.

Detector and Deployment

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

Testing

<input checked="" type="checkbox"/> Short-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	12/16/2024
<input type="checkbox"/> Long-Term				12/19/2024
Does the test period include weekends, school breaks or holidays?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<i>If “Yes” please explain/detail in the space below:</i>				
Was HVAC operating under occupied conditions?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<i>If “No” please explain/detail in the space below:</i>				

Testing (continued)

Round of Testing	Detectors Deployed				Total
	Ground-Contact		Upper-Level(s)		
	Initial	Follow-Up	Initial	Follow-Up	
Test Locations ¹	42	0	3	0	45
Duplicates ²	4	0	1	0	5
Field Blanks ³	2	0	0	0	2
Grand Total					52

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.

Round of Testing	QA/QC Samples		Total
	Initial	Follow-Up	
Spikes ¹	Not applicable		3
Trip Blanks ²	1	0	1
Office Blanks ^{3, 4}	1	0	1
			5

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 $\pm 25\%$ of the chamber's reference value?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Quality Control measurements comply with QA/QC requirements in the submitted testing organization's/company's QA plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Initial Follow-Up
All Field, Trip and Office Blanks are \leq (less than or equal to) to the Method Detection Limit?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No
For all Duplicate Samples ¹ , the higher value is $\leq 2x$ the lower value?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No
For all Duplicate Samples ¹ , Relative Percent Difference(s) (RPD) ² are less than the Warning Level ³ ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No
For all Duplicate Samples ¹ , Relative Percent Difference(s) (RPD) ² are less than the Control Level ³ ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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

Summary of Test Results¹ and Determination of Valid Measurements²

Round of Testing	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Number of test locations:	42	0	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:	2	0	0	0	2
Number of locations ≥ 2.0 and < 2.7 -pCi/L:	6	0	0	0	6
Number of missing required test locations ³ :	1	0	0	0	1
Number of failed duplicate control locations:	0	0	0	0	0
Percentage of missing test locations for the facility ^{4,5} :	2.38%	0%	0%	0%	2.22%

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

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

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

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

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

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

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

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

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		
Pine Crest Elementary School		
Test Period: 12/16/2024 - 12/19/2024		
Kit Number	Room / Area	Result
11907330	1	1.9
11907335	2	1.2
11907301	3	3.8
11907324	4	2.3
11907336	5	2.5
11907333	6	1.5
11907334	7	1.0
11907341	8	0.9
11907342	8	0.9
11907307	9	1.2
11907337	10	0.9
11907314	11	0.5
11907326	12	0.5
11907315	13	2.2
11907322	14	< 0.3
11907362	20	0.8
11907359	23	0.9
11907361	23	0.6
11907338	121	1.4
11907344	123	0.8
11907332	130	2.6
11907343	132	1.2
11907317	133	2.3
11907345	134	2.8
11907309	135	< 0.3
11907310	135	1.7
11907325	136	2.0
11907318	138	1.8
11907316	140	1.5
11907368	234	0.5
11907323	140A	1.3
11907329	140A	1.1
11907313	ASSISTANT PRINCIPAL	< 0.3
11907306	CONFERENCE	< 0.3
11907308	GYM	1.6
11907331	GYM OFFICE	1.4
11907340	GYM OFFICE	< 0.3

Table 1- Radon Testing Results		
Pine Crest Elementary School		
Test Period: 12/16/2024 - 12/19/2024		
Kit Number	Room / Area	Result
11907311	HEALTH	0.5
11907305	MAILROOM	< 0.3
11907312	MAIN OFFICE	< 0.3
11907354	MEDIA	< 0.3
11907360	MEDIA	< 0.3
11907351	MEDIA OFFICE	< 0.3
11907352	MEDIA OFFICE	< 0.3
11907319	MPR	0.6
11907320	MPR	0.9
11907321	MPR	1.0
11907346	OFFICE1	< 0.3
11907304	PRINCIPAL	1.0
11907327	STAFF LOUNGE	< 0.3
11907353	TV STUDIO	< 0.3
11907328	WORKROOM	0.7

Table 3 - QC Radon Testing Results			
Pine Crest Elementary School			
Test Period: 12/16/2024 - 12/19/2024			
Kit Number	QC Type	Room / Area	Result
11907342	D	8	0.9
11907359	D	23	0.9
11907309	FB	135	< 0.3
11907323	D	140a	1.3
11907340	FB	Gym Office	< 0.3
11907352	D	Media Office	< 0.3
11907319	D	MPR	0.6
11482799	OB	OFFICE BLANK	< 0.3
11482800	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation

Pine Crest Elementary School

Test Period: 12/16/2024 - 12/19/2024

Sample ID			Duplicate Concentrations (pCi/L) and OC 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
11907320	11907319	MPR	0.9	0.6	✓	1.2	PASS	0.8	<1-pCi/L	✓
11907329	11907323	140a	1.3	1.1	✓	2.2	PASS	1.2	<1-pCi/L	✓
11907341	11907342	8	0.9	0.9	✓	1.8	PASS	0.9	<1-pCi/L	✓
11907351	11907352	Media office	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11907361	11907359	23	0.9	0.6	✓	1.2	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

Attachment 2:
Laboratory Reports

Radon test result report for:**PINE CREST ES****MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11907330	1	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.9 ± 0.4	2024-12-23
11907337	10	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	0.9 ± 0.4	2024-12-23
11907314	11	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.5 ± 0.3	2024-12-23
11907326	12	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.5 ± 0.3	2024-12-23
11907338	121	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.4 ± 0.4	2024-12-23
11907344	123	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	0.8 ± 0.4	2024-12-23
11907315	13	2024-12-16 @ 9:00 am	2024-12-19 @ 10:00 am	2.2 ± 0.4	2024-12-23
11907332	130	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	2.6 ± 0.4	2024-12-23
11907343	132	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.2 ± 0.4	2024-12-23
11907317	133	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	2.3 ± 0.4	2024-12-23
11907345	134	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	2.8 ± 0.4	2024-12-23
11907310	135	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	1.7 ± 0.4	2024-12-23
11907309	135	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11907325	136	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	2.0 ± 0.4	2024-12-23
11907318	138	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	1.8 ± 0.4	2024-12-23
11907322	14	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11907316	140	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	1.5 ± 0.4	2024-12-23
11907329	140A	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	1.1 ± 0.3	2024-12-23
11907323	140A	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	1.3 ± 0.4	2024-12-23
11907335	2	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.2 ± 0.3	2024-12-23
11907362	20	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.8 ± 0.4	2024-12-23
11907361	23	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.6 ± 0.4	2024-12-23
11907359	23	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.9 ± 0.4	2024-12-23
11907368	234	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.5 ± 0.3	2024-12-23
11907301	3	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	3.8 ± 0.4	2024-12-23
11907324	4	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	2.3 ± 0.4	2024-12-23
11907336	5	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	2.5 ± 0.4	2024-12-23
11907333	6	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.5 ± 0.3	2024-12-23
11907334	7	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.0 ± 0.3	2024-12-23
11907341	8	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	0.9 ± 0.3	2024-12-23
11907342	8	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	0.9 ± 0.3	2024-12-23
11907307	9	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.2 ± 0.4	2024-12-23
11907313	ASSISTANT PRINCIPAL	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11907306	CONFERENCE	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11907308	GYM	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.6 ± 0.4	2024-12-23
11907331	GYM OFFICE	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	1.4 ± 0.4	2024-12-23
11907340	GYM OFFICE	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23

Radon test result report for:**PINE CREST ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11907311	HEALTH	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	0.5 ± 0.3	2024-12-23
11907305	MAILROOM	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11907312	MAIN OFFICE	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11907360	MEDIA	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11907354	MEDIA	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11907351	MEDIA OFFICE	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11907352	MEDIA OFFICE	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11907320	MPR	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	0.9 ± 0.4	2024-12-23
11907321	MPR	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	1.0 ± 0.3	2024-12-23
11907319	MPR	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	0.6 ± 0.3	2024-12-23
11907346	OFFICE1	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11907304	PRINCIPAL	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	1.0 ± 0.4	2024-12-23
11907327	STAFF LOUNGE	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11907353	TV STUDIO	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11907328	WORKROOM	2024-12-16 @ 9:00 am	2024-12-19 @ 9:00 am	0.7 ± 0.3	2024-12-23

December 23, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**OFFICE
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11482799	O	2024-12-16 @ 10:00 am	2024-12-19 @ 1:00 pm	< 0.3	2024-12-23
11907208	O	2024-12-17 @ 10:00 am	2024-12-20 @ 1:00 pm	< 0.3	2024-12-23

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

December 23, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

TRAVEL

MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11482800	T	2024-12-16 @ 10:00 am	2024-12-19 @ 1:00 pm	< 0.3	2024-12-23
11907209	T	2024-12-17 @ 10:00 am	2024-12-20 @ 1:00 pm	< 0.3	2024-12-23

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 μ R/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

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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing December 16th – December 19th, 2024

Name of Schools:

1. Roscoe R. Nix ES
2. Pine Crest ES
3. Randolph Maintenance Facility
4. Rock View ES

	Date	Initials
Radon Test Kits Deployed	12/16/2024	BMYK
Radon Test Kits Collected	12/19/2024	BMYK
Radon Test Kits Shipped to Lab*	12/19/2024	BMM
Radon Test Kits Received by Lab*	12/23/2024	BMM

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



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Pine Crest Elementary School
Date of Test Report	6/1/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	1
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.2 pCi/L

Project Status

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



June 1, 2022

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

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

Location: Pine Crest Elementary School
201 Woodmoor Dr.
Silver Spring, MD 20901

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the Pine Crest Elementary School, located at 201 Woodmoor Dr. Silver Spring, MD 20901 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Proficiency Program (NRPP) Radon Measurement Specialist (certification #111004 RT) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from <https://www.montgomeryschoolsmd.org> or www.epa.gov/radon.

KCI visited the site on April 19, 2022 and deployed four (4) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

KCI sampled the following locations during this follow-up test:

1. Rooms with missing test kits from the Radon 2022 testing period (i.e. test kit was deployed but not recovered),
2. Rooms with invalidated test kits from the Radon 2022 testing period (e.g. an open window in the room or disturbed test kit),
3. Rooms which were locked/inaccessible during the Radon 2022 testing period,
4. Rooms with elevated radon results (i.e. ≥ 3.5 pCi/L),
5. Rooms previously tested for radon but not tested in Radon 2022, and
6. Additional rooms that require testing (if applicable.)

A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on April 22, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the low 40°Fs and high temperatures ranged from the low 60°Fs to the mid 80°Fs. Maximum sustained winds ranged from 0-30 miles per hour. Average humidity was around 49% with 0.03 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,



Tyler P. McCleaf
Radon Measurement Provider
#111004 RT
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
 B- Table 1-3, Radon Test Summary Spreadsheets
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Check, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

OC- Quality Control

Table 1- Radon Testing Results		
Pine Crest ES RT		
Test Period: 04/19/2022 - 04/22/2022		
Kit Number	Room / Area	Result
11139392	GYM	< 0.3
11139393	GYM	1.1
11139394	GYM	0.9
11139400	GYM	1.2

Table 2- Radon Testing Results			
Pine Crest ES RT			
Test Period: 04/19/2022 - 04/22/2022			
Kit Number	QC Type	Room / Area	Result
11139393	D	Gym	1.1
11139392	FB	Gym	< 0.3
11139882	OB	OFFICE BLANK	< 0.3
11139881	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

April 25, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139392	GYM	2022-04-19 @ 12:00 pm	2022-04-22 @ 9:00 am	< 0.3	2022-04-25
11139393	GYM	2022-04-19 @ 12:00 pm	2022-04-22 @ 9:00 am	1.1 ± 0.3	2022-04-25
11139394	GYM	2022-04-19 @ 12:00 pm	2022-04-22 @ 9:00 am	0.9 ± 0.3	2022-04-25
11139400	GYM	2022-04-19 @ 12:00 pm	2022-04-22 @ 9:00 am	1.2 ± 0.3	2022-04-25

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204620

NOMINAL Conditions: Radon Conc 27.0 pCi/L Rel. Hum 50.1 % Temp. 70.0 F

Date Start: 3/18/22 Date Stop: 3/21/22 Date Start: _____ Date Stop: _____

Time Start: 0705 Time Stop: 0705 Time Start: _____ Time Stop: _____

Device No.'s: (5) Char Bags - Device No.'s: _____

11139367, 11139368, 11139371, _____

11139710, 11139717 _____

E3 Right

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

March 30, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within $\pm 25\%$ of the chamber's reference value (25.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139367	SK1	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	25.9 \pm 2.1	2022-03-30
11139368	SK2	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	23.9 \pm 2.0	2022-03-30
11139371	SK3	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	25.7 \pm 2.1	2022-03-30
11139710	SK4	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	26.4 \pm 2.1	2022-03-30
11139717	SK5	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	24.6 \pm 2.0	2022-03-30

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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon – April 2022 Schools – Retesting

Name of Schools:

1. Pine Crest ES
2. Montgomery Knolls ES
3. Poolesville ES
4. Cloverly ES

	Date	Initials
Radon Test Kits Deployed	04/19/2022	BMM
Radon Test Kits Collected	04/22/2022	BMM
Radon Test Kits Shipped to Lab*	04/22/2022	BMM
Radon Test Kits Received by Lab*	04/25/2022	BMM

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



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Pine Crest Elementary School
Date of Test Report	4/26/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	52
# Rooms \geq 4.0 pCi/L	1
Lowest Value	<0.3 pCi/L
Highest Value	4.5 pCi/L

Project Status:

Initial testing completed; Missing, elevated, or compromised samples need re-sampling



April 26, 2022

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

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

Location: Pine Crest Elementary School
201 Woodmoor Dr.
Silver Spring, MD 20901

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the Pine Crest ES, located at 201 Woodmoor Dr. Silver Spring, MD 20901 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Proficiency Program (NRPP) Radon Measurement Specialist (certification #111004 RT) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from <https://www.montgomeryschoolsmd.org> or www.epa.gov/radon.

KCI visited the site on March 1, 2022 and deployed fifty nine (59) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on March 4, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a

NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels in the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 20s and high temperatures ranged from the high 50s to the low 60s Fahrenheit. Maximum sustained winds ranged from 9-17 miles per hour. Average humidity was around 40% with 0 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 pCi/L	Gym	4.5
<4.0 pCi/L	See Attachment B	

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

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

Sincerely,



Tyler P. McCleaf
Radon Measurement Provider
#111004 RT
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
 B- Table 1-3, Radon Test Summary Spreadsheets
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Check, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

OC- Quality Control

Table 1- Radon Testing Results		
Pine Crest ES		
Test Period: 03/01/2022 - 03/04/2022		
Kit Number	Room / Area	Result
11114181	1	< 0.3
11114192	1	1.3
11114191	2	1.6
11132781	3	1.0
11114196	4	1.0
11132771	6	1.1
11132799	6	1.0
11132780	7	0.9
11132779	8	< 0.3
11114177	9	0.9
11114189	10	0.9
11132787	12	< 0.3
11133728	14	< 0.3
11133721	26	0.8
11132798	30	< 0.3
11132800	121	1.6
11132786	123	2.8
11114175	128	2.0
11133735	130	1.3
11132789	132	1.3
11132790	133	2.1
11132785	134	3.3
11132793	135	1.4
11132783	136	2.2
11132784	136	2.1
11132774	138	< 0.3
11133734	138	1.4
11132777	140	1.5
11132782	142	1.4
11132791	230	0.8
11114185	11 MEDIA	0.7
11132788	13 LINKAGES	1.8
11133741	13 LINKAGES	1.5
11132794	BUILDING SERVICES 140A	0.9
11114179	CALMING ROOM	1.0
11114187	CALMING ROOM	1.2
11114183	CONFERENCE	0.7
11133727	COVID TRIAGE	1.0
11132772	GYM	4.5
11132778	GYM	1.6
11114176	GYM OFFICE	1.5
11114194	HEALTH	0.6

Table 1- Radon Testing Results		
Pine Crest ES		
Test Period: 03/01/2022 - 03/04/2022		
Kit Number	Room / Area	Result
11114198	HEALTH	0.8
11114186	IT SPEC OFFICE	< 0.3
11132795	KITCHEN OFFICE	1.0
11114200	LOUNGE	0.9
11114178	MAIN OFFICE	1.2
11114195	MEDIA BOOK ROOM	0.8
11114188	MEDIA CENTER	< 0.3
11114199	MEDIA CENTER	< 0.3
11133729	MULTIPURPOSE ROOM	0.6
11133733	MULTIPURPOSE ROOM	0.7
11114184	OPEN OFFICE	0.7
11114193	PCC	0.6
11114180	PRINCIPAL	0.5
11114190	PRINT ROOM	< 0.3
11132797	STAGE	< 0.3
11114197	TELEPHONE	1.1
11114182	WORKROOM	0.6

Table 2- Radon Testing Results			
Pine Crest ES			
Test Period: 03/01/2022 - 03/04/2022			
Kit Number	QC Type	Room / Area	Result
11114198	D	Health	0.8
11114179	D	Calming Room	1.0
11114181	FB	1	< 0.3
11132799	D	6	1.0
11132784	D	136	2.1
11132774	FB	138	< 0.3
11133741	D	13 Linkages	1.5
11130861	OB	OFFICE BLANK	< 0.3
11130854	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11114192	1	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	1.3 ± 0.3	2022-03-07
11114181	1	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11114189	10	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	0.9 ± 0.3	2022-03-07
11114185	11 MEDIA	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.7 ± 0.3	2022-03-07
11132787	12	2022-03-01 @ 10:00 am	2022-03-04 @ 10:00 am	< 0.3	2022-03-07
11132800	121	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.6 ± 0.3	2022-03-07
11132786	123	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	2.8 ± 0.3	2022-03-07
11114175	128	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	2.0 ± 0.3	2022-03-07
11132788	13 LINKAGES	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	1.8 ± 0.3	2022-03-07
11133741	13 LINKAGES	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	1.5 ± 0.3	2022-03-07
11133735	130	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.3 ± 0.3	2022-03-07
11132789	132	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.3 ± 0.3	2022-03-07
11132790	133	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	2.1 ± 0.3	2022-03-07
11132785	134	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	3.3 ± 0.3	2022-03-07
11132793	135	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.4 ± 0.3	2022-03-07
11132784	136	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	2.1 ± 0.3	2022-03-07
11132783	136	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	2.2 ± 0.3	2022-03-07
11132774	138	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	< 0.3	2022-03-07
11133734	138	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.4 ± 0.3	2022-03-07
11133728	14	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11132777	140	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.5 ± 0.3	2022-03-07
11132782	142	2022-03-01 @ 10:00 am	2022-03-04 @ 10:00 am	1.4 ± 0.3	2022-03-07
11114191	2	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	1.6 ± 0.3	2022-03-07
11132791	230	2022-03-01 @ 10:00 am	2022-03-04 @ 10:00 am	0.8 ± 0.3	2022-03-07
11133721	26	2022-03-01 @ 10:00 am	2022-03-04 @ 10:00 am	0.8 ± 0.3	2022-03-07
11132781	3	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.0 ± 0.3	2022-03-07
11132798	30	2022-03-01 @ 10:00 am	2022-03-04 @ 10:00 am	< 0.3	2022-03-07
11114196	4	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	1.0 ± 0.3	2022-03-07
11132799	6	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.0 ± 0.3	2022-03-07
11132771	6	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	1.1 ± 0.3	2022-03-07
11132780	7	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	0.9 ± 0.3	2022-03-07
11132779	8	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	< 0.3	2022-03-07
11114177	9	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	0.9 ± 0.3	2022-03-07
11132794	BUILDING SERVICES 140A	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	0.9 ± 0.3	2022-03-07
11114179	CALMING ROOM	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	1.0 ± 0.3	2022-03-07
11114187	CALMING ROOM	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	1.2 ± 0.3	2022-03-07
11114183	CONFERENCE	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	0.7 ± 0.3	2022-03-07

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11133727	COVID TRIAGE	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	1.0 ± 0.3	2022-03-07
11132772	GYM	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	4.5 ± 0.4	2022-03-07
11132778	GYM	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	1.6 ± 0.3	2022-03-07
11114176	GYM OFFICE	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	1.5 ± 0.3	2022-03-07
11114198	HEALTH	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	0.8 ± 0.3	2022-03-07
11114194	HEALTH	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07
11114186	IT SPEC OFFICE	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11132795	KITCHEN OFFICE	2022-03-01 @ 10:00 am	2022-03-04 @ 10:00 am	1.0 ± 0.3	2022-03-07
11114200	LOUNGE	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	0.9 ± 0.3	2022-03-07
11114178	MAIN OFFICE	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	1.2 ± 0.3	2022-03-07
11114195	MEDIA BOOK ROOM	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.8 ± 0.3	2022-03-07
11114199	MEDIA CENTER	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11114188	MEDIA CENTER	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133729	MULTIPURPOSE ROOM	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07
11133733	MULTIPURPOSE ROOM	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	0.7 ± 0.3	2022-03-07
11114184	OPEN OFFICE	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	0.7 ± 0.3	2022-03-07
11114193	PCC	2022-03-01 @ 9:00 am	2022-03-04 @ 10:00 am	0.6 ± 0.3	2022-03-07
11114180	PRINCIPAL	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	0.5 ± 0.3	2022-03-07
11114190	PRINT ROOM	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11132797	STAGE	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11114197	TELEPHONE	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	1.1 ± 0.3	2022-03-07
11114182	WORKROOM	2022-03-01 @ 8:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204620

NOMINAL Conditions: Radon Conc 27.0 pCi/L Rel. Hum 50.1 % Temp. 70.0 F

Date Start: 3/18/22 Date Stop: 3/21/22 Date Start: _____ Date Stop: _____

Time Start: 0705 Time Stop: 0705 Time Start: _____ Time Stop: _____

Device No.'s: (5) Char Bags - Device No.'s: _____

11139367, 11139368, 11139371, _____

11139710, 11139717 _____

E3 light

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

March 30, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within $\pm 25\%$ of the chamber's reference value (25.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139367	SK1	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	25.9 \pm 2.1	2022-03-30
11139368	SK2	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	23.9 \pm 2.0	2022-03-30
11139371	SK3	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	25.7 \pm 2.1	2022-03-30
11139710	SK4	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	26.4 \pm 2.1	2022-03-30
11139717	SK5	2022-03-18 @ 7:00 am	2022-03-21 @ 7:00 am	24.6 \pm 2.0	2022-03-30

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

March 30, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

RSH
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139726	BASEMENT	2022-03-20 @ 8:00 am	2022-03-23 @ 7:00 am	0.9 ± 0.5	2022-03-30
11139725	DINING	2022-03-20 @ 8:00 am	2022-03-23 @ 7:00 am	< 0.3	2022-03-30

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Radon Test Kit Chain of Custody

Project Name: MCPS Radon – March 2022 Schools

Name of Schools:

1. Newport Mill MS
2. Rock View ES
3. Eastern MS
4. Blair, Montgomery HS
5. Montgomery Knolls ES
6. Northwood HS
7. Oakview ES
8. Pine Crest ES
9. Arcola ES
10. Glenallen ES

	Date	Initials
Radon Test Kits Deployed	03/01/2022	PM
Radon Test Kits Collected	03/04/2022	PM
Radon Test Kits Shipped to Lab*	03/04/2022	PM
Radon Test Kits Received by Lab*	03/07/2022	PM

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



MCPS RADON TESTING

Executive Summary: Pine Crest Elementary School

Date of Test Report:	2/18/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	37
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.8

Project Status:

Initial testing completed; no further action at this time.



February 18, 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 # 12146341.25

Location: Pine Crest Elementary School
201 Woodmoor Drive
Silver Spring, MD 20901

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 Pine Crest Elementary School, located at 201 Woodmoor Drive in Silver Spring, Maryland 20901 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon 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 January 19, 2016 and deployed forty-nine (49) 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 January 22, 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 $\leq 65^{\circ}$ 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 pCi/L	none	n/a
< 4.0 pCi/L	See Attachment B	

Notes:
D- Duplicate sample

The 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. Mouldale
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		
Pine Crest Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	Room / Area	Result
7727015	1	0.8
7727016	2	2.4
7727020	3	0.7
7727021	4	1.2
7727023	5	0.7
7727024	6	< 0.3
7727025	7	< 0.3
7727026	8	< 0.3
7727027	9	< 0.3
7727011	10	0.8
7727028	10	0.9
7727029	11	1.9
7727030	12	1.7
7727033	13	2.8
7727037	14	0.8
7727045	22	< 0.3
7727047	26	0.5
7727038	BUILDING SERV.	2
7727032	CAFE	0.6
7727035	CAFE	0.9
7727007	COPY ROOM	1.1
7727017	GYM	1.7
7727018	GYM	0.9
7727022	GYM OFFICE	1
7727010	HEALTH ROOM	1.3
7727008	LOUNGE	1
7727001	MAIN OFFICE	0.8
7727014	MATERIALS PREP	1.3
7727012	MEDIA CENTER	0.6
7727013	MEDIA CENTER	1
7727041	PORT 1	< 0.3
7727040	PORT 2	< 0.3
7727042	PORT 3	< 0.3
7727043	PORT 4	< 0.3
7727044	PORT 5	< 0.3
7727003	PRINCIPAL	1.2
7727004	STAFF DEV.	0.7
7727039	TECH OFFICE	1.4
7727009	TELEPHONE	0.7
7727006	VISITING PRINC.	1.1
7727005	WORK ROOM	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Pine Crest Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	QC Type	Result
7727031	D (12)	1.7
7727046	D (22)	< 0.3
7727036	D (CAFE)	1.1
7727019	D (GYM)	1.7
7727002	D (MAIN OFFICE)	0.8
7727048	FB (26)	< 0.3
7727034	FB (CAFE)	< 0.3
7719455	OB (0)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 11, 2016
LABORATORY ANALYSIS REPORT **

Radon test result report for:
**PINE CREST ELEMENTARY SCHOOL
 MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719455		2016-01-19 @ 4:00 pm	2016-01-22 @ 11:00 am	< 0.3	2016-01-27
7727015	1	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	0.8 ± 0.3	2016-01-27
7727011	10	2016-01-19 @ 10:00 am	2016-01-22 @ 9:00 am	0.8 ± 0.3	2016-01-27
7727028	10	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	0.9 ± 0.3	2016-01-27
7727029	11	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	1.9 ± 0.4	2016-01-27
7727031	12	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	1.7 ± 0.4	2016-01-27
7727030	12	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	1.7 ± 0.4	2016-01-27
7727033	13	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	2.8 ± 0.4	2016-01-27
7727037	14	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	0.8 ± 0.3	2016-01-27
7727016	2	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	2.4 ± 0.4	2016-01-27
7727045	22	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-27
7727046	22	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-27
7727047	26	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	0.5 ± 0.3	2016-01-27
7727048	26	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-27
7727020	3	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	0.7 ± 0.3	2016-01-26
7727021	4	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	1.2 ± 0.3	2016-01-27
7727023	5	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	0.7 ± 0.3	2016-01-26
7727024	6	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	< 0.3	2016-01-27
7727025	7	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	< 0.3	2016-01-27
7727026	8	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	< 0.3	2016-01-27
7727027	9	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	< 0.3	2016-01-27
7727038	BUILDING SERV.	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	2.0 ± 0.4	2016-01-27
7727032	CAFE	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	0.6 ± 0.3	2016-01-26
7727034	CAFE	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	< 0.3	2016-01-27
7727035	CAFE	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	0.9 ± 0.3	2016-01-27
7727036	CAFE	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	1.1 ± 0.4	2016-01-27
7727007	COPY ROOM	2016-01-19 @ 10:00 am	2016-01-22 @ 9:00 am	1.1 ± 0.3	2016-01-27
7727017	GYM	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	1.7 ± 0.4	2016-01-27
7727018	GYM	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	0.9 ± 0.3	2016-01-27
7727019	GYM	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	1.7 ± 0.4	2016-01-27
7727022	GYM OFFICE	2016-01-19 @ 11:00 am	2016-01-22 @ 9:00 am	1.0 ± 0.4	2016-01-27
7727010	HEALTH ROOM	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	1.3 ± 0.4	2016-01-27
7727008	LOUNGE	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	1.0 ± 0.4	2016-01-27
7727001	MAIN OFFICE	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	0.8 ± 0.3	2016-01-27
7727002	MAIN OFFICE	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	0.8 ± 0.3	2016-01-27
7727014	MATERIALS PREP	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	1.3 ± 0.4	2016-01-27
7727012	MEDIA CENTER	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	0.6 ± 0.3	2016-01-27

February 11, 2016
****LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**PINE CREST ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7727013	MEDIA CENTER	2016-01-19 @ 11:00 am	2016-01-22 @ 8:00 am	1.0 ± 0.3	2016-01-27
7727003	PRINCIPAL	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	1.2 ± 0.4	2016-01-27
7727004	STAFF DEV.	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	0.7 ± 0.3	2016-01-27
7727039	TECH OFFICE	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	1.4 ± 0.4	2016-01-27
7727009	TELEPHONE	2016-01-19 @ 10:00 am	2016-01-22 @ 8:00 am	0.7 ± 0.3	2016-01-27
7727006	VISITING PRINC.	2016-01-19 @ 10:00 am	2016-01-22 @ 9:00 am	1.1 ± 0.3	2016-01-27
7727005	WORK ROOM	2016-01-19 @ 10:00 am	2016-01-22 @ 9:00 am	< 0.3	2016-01-27

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

February 11, 2016
**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**PINE CREST ELEMENTARY SCHOOL
PORTABLE 1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7727041	PORT 1	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-27

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February 11, 2016
**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**PINE CREST ELEMENTARY SCHOOL
PORTABLE 2**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7727040	PORT 2	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-27

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February 11, 2016
**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**PINE CREST ELEMENTARY SCHOOL
PORTABLE 3**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7727042	PORT 3	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-26

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

February 11, 2016
**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**PINE CREST ELEMENTARY SCHOOL
PORTABLE 4**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7727043	PORT 4	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-26

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February 11, 2016
**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**PINE CREST ELEMENTARY SCHOOL
PORTABLE 5**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7727044	PORT 5	2016-01-19 @ 12:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-27

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

February
2,
2016

**LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**MCPS PHASE 5 & 6
TRANSIT BLANKS**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7722194	1	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718494	10	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718475	11	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718495	12	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718496	13	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718497	14	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718498	15	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718499	16	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718500	17	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718296	18	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718295	19	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722195	2	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716789	20	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716785	21	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-26
7716791	22	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716786	23	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716793	24	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718274	25	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716792	26	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718294	27	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718293	28	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718292	29	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722197	3	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718290	30	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722198	4	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722199	5	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722211	6	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718491	7	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718476	8	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-26
7718479	9	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27

February
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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 _____
ε3 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**



Chain of Custody

Project Name: MCPS Radon Phase VI

Name of Schools:

- | | | |
|--------------------------|------------------------------|---------------------------|
| 1. Francis Scott Key MS | 12. Little Bennett ES | 23. Rolling Terrace ES |
| 2. Gaithersburg ES | 13. Loiderman MS | 24. Roscoe Nix ES |
| 3. Gaithersburg MS | 14. Longview ES | 25. Sally K. Ride ES |
| 4. Galway ES | 15. Meadow Hall ES | 26. Spark Matsunaga ES |
| 5. Great Seneca Creek ES | 16. Neelsville MS | 27. Tacoma Park ES |
| 6. Harmony Hills ES | 17. New Hampshire Estates ES | 28. Thomas Pyle MS |
| 7. John Poole MS | 18. North Bethesda MS | 29. Wayside ES |
| 8. Judith A. Resnik ES | 19. Northwest HS | 30. Westbrook ES (retest) |
| 9. Kemp Mill ES | 20. Pine Crest ES | 31. Westland MS (retest) |
| 10. Kingsview MS | 21. Radnor Center | 32. William B. Gibbs ES |
| 11. Lakelands Park MS | 22. Ritchie Park ES | 33. William Tyler Page ES |

	Date	Initials
Radon Test Kits Deployed	1/19/16	JM
Radon Test Kits Sampled	1/22/16	JM
Radon Test Kits Shipped to Lab*	1/22/16	JM
Radon Test Kits Received by Lab*	1/26/16	JM

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