

School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Rock View Elementary School		
Address:	3901 Denfeld Avenue		
	Kensington, MD 20895		
Reason for Testing:	Scheduled Re-Testing - <input checked="" type="checkbox"/> 2-year or <input type="checkbox"/> 5-year schedule <input type="checkbox"/> Clearance Testing (Post-Mitigation) <input type="checkbox"/> Building Envelope or HVAC Upgrades <input type="checkbox"/> New Construction – Addition or Facility		
Current Radon Status:	<input checked="" type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule) <input type="checkbox"/> Not Previously Tested (New Facility)		
Round of Testing:	<input type="checkbox"/> Initial Testing -or- <input checked="" 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 type="checkbox"/> Not Required <input checked="" type="checkbox"/> Consider (≥ 2.0 & < 4.0 -pCi/L) <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	68	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥ 4.0 -pCi/L)	0	Highest Value (pCi/L)	3.7

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)
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
Shannon King		KCI Technologies, Inc.
If noncertified individuals, the qualified measurement professional providing oversight -		
Tyler McCleaf, CSP – Cert. #111004-RMP		KCI Technologies, Inc.

Testing

<input checked="" type="checkbox"/> Short-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	12/16/24	03/18/25
<input type="checkbox"/> Long-Term				12/19/24	03/21/25
Does the test period include weekends, school breaks or holidays?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If “Yes” please explain/detail in the space below:					
Was HVAC operating under occupied conditions?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If “No” please explain/detail in the space below:					

Testing (continued)

Round of Testing	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Test Locations ¹	64	4	2	0	70
Duplicates ²	7	2	0	0	9
Field Blanks ³	3	2	0	0	5
Grand Total					84

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		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 $\pm 25\%$ 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
Round of Testing	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"/> No <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
For all Duplicate Samples ¹ , the higher value is $\leq 2x$ the lower value?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
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"/> No <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
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"/> No <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes

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:	64	2	2	0	68
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:	2	0	0	0	2
Number of missing required test locations ³ :	1	0	0	0	1
Number of failed duplicate control locations:	1	0	0	0	1
Percentage of missing test locations for the facility ^{4,5} :	1.56%	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 $\leq 33\%$. 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Were valid measurements obtained in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<i>If Yes to both above – then Testing Status – ‘No Further Testing Needed’ mark ‘NA’ below and complete Conclusions section</i>		
If No to either above, were all results obtained under 4.0-pCi/L and were sufficient valid measurements obtained?^{1,2} <i>If Yes, then - ‘No Further Testing Needed’ complete Conclusion section on first page.</i> <i>If No, then - ‘Follow-up Testing Required’ continue below.</i>	<input type="checkbox"/> Yes <input checked="" 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		
Rock View Elementary School		
Test Period: 12/16/2024 - 12/19/2024		
Kit Number	Room / Area	Result
11906595	101	0.8
11906588	102	< 0.3
11906596	103	< 0.3
11906599	104	< 0.3
11906597	105	0.7
11906598	105	< 0.3
11906600	107	< 0.3
11906592	109	< 0.3
11919301	111	1.1
11919302	112	< 0.3
11919307	114	< 0.3
11919303	116	< 0.3
11919308	116	< 0.3
11919339	117	< 0.3
11919332	121	< 0.3
11919321	123	< 0.3
11919322	123	< 0.3
11919331	123	< 0.3
11919314	125	0.7
11919320	126	0.6
11919333	127	< 0.3
11919334	128	1.6
11919324	130	0.5
11919323	132	0.6
11919327	138	1.0
11919361	140	1.6
11919360	141	0.7
11919359	142	0.6
11919355	144	1.3
11919354	146	1.1
11919329	148	< 0.3
11919330	148	< 0.3
11919337	148	< 0.3
11919353	149	0.6
11919352	151	0.6
11919348	153	< 0.3
11919349	155	< 0.3

Table 1- Radon Testing Results		
Rock View Elementary School		
Test Period: 12/16/2024 - 12/19/2024		
Kit Number	Room / Area	Result
11919338	158	3.7
11919343	159	0.7
11919345	160	2.0
11919346	160	2.3
11919336	161	0.5
11919341	161	< 0.3
11919351	162	< 0.3
11919335	163	< 0.3
11919350	164	< 0.3
11919328	165	0.6
11919347	166	< 0.3
11919344	168	< 0.3
11919342	170	< 0.3
11919340	172	< 0.3
11919313	181	3.0
11919325	182	1.1
11919326	183	1.1
11919306	184	0.8
11919319	184	1.2
11919312	185	< 0.3
11919305	186	0.8
11919304	187	0.8
11919311	188	0.6
11919317	189	0.9
11919318	190	1.3
11919316	191	1.1
11919363	211	0.6
11906590	100A	0.6
11906591	100B	< 0.3
11906593	100C	< 0.3
11906594	100D	0.6
11906589	102B	< 0.3
11919309	116D	< 0.3
11919310	116D	0.7
11919315	116d	< 0.3
11906587	MAIN OFFICE	< 0.3
11919356	MEDIA CENTER	< 0.3

Table 1- Radon Testing Results		
Rock View Elementary School		
Test Period: 12/16/2024 - 12/19/2024		
Kit Number	Room / Area	Result
11919357	MEDIA CENTER	0.6
11919358	MEDIA CENTER OFFICE	0.6

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Table 3 - QC Radon Testing Results			
Rock View Elementary School			
Test Period: 12/16/2024 - 12/19/2024			
Kit Number	QC Type	Room / Area	Result
11906598	D	105	< 0.3
11919331	D	123	< 0.3
11919322	FB	123	< 0.3
11919330	D	148	< 0.3
11919337	FB	148	< 0.3
11919341	D	161	< 0.3
11919306	D	184	0.8
11919310	D	116d	0.7
11919315	FB	116d	< 0.3
11919357	D	Media Center	0.6
11482799	OB	OFFICE BLANK	< 0.3
11482800	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Rock View 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
11906597	11906598	105	0.7	0.3	✓	0.6	FAIL	0.5	<1-pCi/L	✗
11919309	11919310	116d	0.7	0.3	✓	0.6	FAIL	0.5	<1-pCi/L	✗
11919319	11919306	184	1.2	0.8	✓	1.6	PASS	1.0	<1-pCi/L	✓
11919321	11919331	123	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11919336	11919341	161	0.5	0.3	✓	0.6	PASS	0.4	<1-pCi/L	✓
11919329	11919330	148	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11919356	11919357	Media Center	0.6	0.3	✓	0.6	PASS	0.5	<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

[illegible]

Table 1- Radon Testing Results		
Rock View Elementary School RT		
Test Period: 3/18/2025 - 3/21/2025		
Kit Number	Room / Area	Result
11892474	105	< 0.3
11892477	105	< 0.3
11892478	105	< 0.3
11892479	105	< 0.3
11892470	116D	0.6
11892471	116D	< 0.3
11892472	116D	0.6
11892473	116D	< 0.3

[illegible]

Table 3 - QC Radon Testing Results			
Rock View Elementary School			
Test Period: 3/18/2025 - 3/21/2025			
Kit Number	QC Type	Room / Area	Result
11892478	D	105	< 0.3
11892479	FB	105	< 0.3
11892472	D	116D	0.6
11892473	FB	116D	< 0.3
11892482	OB	OFFICE BLANK	< 0.3
11892483	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Rock View Elementary School RT										
Test Period: 3/18/2025 - 3/21/2025										
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
11892478	11892474 11892477	105	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11892472	11892470 11892471	116D	0.6	0.5	✓	0.9	PASS	0.5	<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

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Attachment 2:

Laboratory Reports

December 23, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
ROCK VIEW ES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11906590	100A	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.6 ± 0.3	2024-12-23
11906591	100B	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11906593	100C	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11906594	100D	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	0.6 ± 0.3	2024-12-23
11906595	101	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.8 ± 0.3	2024-12-23
11906588	102	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11906589	102B	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11906596	103	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11906599	104	2024-12-16 @ 10:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11906598	105	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11906597	105	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.7 ± 0.3	2024-12-23
11906600	107	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11906592	109	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919301	111	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	1.1 ± 0.3	2024-12-23
11919302	112	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919307	114	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919308	116	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11906587	MAIN OFFICE	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23

Radon test result report for:
ROCK VIEW ES9

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11919303	116	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919310	116D	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.7 ± 0.3	2024-12-23
11919309	116D	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919339	117	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919332	121	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919331	123	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919321	123	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919314	125	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	0.7 ± 0.3	2024-12-23
11919320	126	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919333	127	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919334	128	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	1.6 ± 0.4	2024-12-23
11919324	130	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	0.5 ± 0.3	2024-12-23
11919323	132	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919327	138	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	1.0 ± 0.3	2024-12-23
11919361	140	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	1.6 ± 0.4	2024-12-23
11919360	141	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	0.7 ± 0.3	2024-12-23
11919359	142	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919355	144	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	1.3 ± 0.4	2024-12-23
11919354	146	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	1.1 ± 0.4	2024-12-23
11919329	148	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919330	148	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919353	149	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919352	151	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919348	153	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919349	155	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919338	158	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	3.7 ± 0.4	2024-12-23
11919343	159	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	0.7 ± 0.3	2024-12-23
11919346	160 GYM	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	2.3 ± 0.4	2024-12-23
11919345	160 GYM	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	2.0 ± 0.4	2024-12-23
11919341	161	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919336	161	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	0.5 ± 0.3	2024-12-23
11919351	162	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919335	163	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919350	164	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919328	165	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	0.6 ± 0.3	2024-12-23
11919347	166	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919344	168	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23

Radon test result report for:
ROCK VIEW ES9

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11919342	170	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919340	172	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919313	181	2024-12-16 @ 11:00 am	2024-12-19 @ 10:00 am	3.0 ± 0.4	2024-12-23
11919325	182	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	1.1 ± 0.3	2024-12-23
11919326	183	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	1.1 ± 0.3	2024-12-23
11919319	184	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	1.2 ± 0.3	2024-12-23
11919306	184	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	0.8 ± 0.3	2024-12-23
11919312	185	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919305	186	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	0.8 ± 0.3	2024-12-23
11919304	187	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	0.8 ± 0.3	2024-12-23
11919311	188	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	0.6 ± 0.3	2024-12-23
11919317	189	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	0.9 ± 0.3	2024-12-23
11919318	190	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	1.3 ± 0.3	2024-12-23
11919316	191	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	1.1 ± 0.3	2024-12-23
11919363	211	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919337	FIELD BLANK	2024-12-16 @ 12:00 pm	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919315	FIELD BLANK	2024-12-16 @ 10:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919322	FIELD BLANK	2024-12-16 @ 11:00 am	2024-12-19 @ 9:00 am	< 0.3	2024-12-23
11919357	MEDIA CENTER	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919356	MEDIA CENTER	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	< 0.3	2024-12-23
11919358	MEDIA CENTER OFFICE	2024-12-16 @ 12:00 pm	2024-12-19 @ 10:00 am	0.6 ± 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



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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 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	BMY
Radon Test Kits Collected	12/19/2024	BMY
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

March 24, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892474	105	2025-03-18 @ 2:00 pm	2025-03-21 @ 12:00 pm	< 0.3	2025-03-24
11892477	105	2025-03-18 @ 2:00 pm	2025-03-21 @ 12:00 pm	< 0.3	2025-03-24
11892478	105	2025-03-18 @ 2:00 pm	2025-03-21 @ 12:00 pm	< 0.3	2025-03-24
11892479	105	2025-03-18 @ 2:00 pm	2025-03-21 @ 12:00 pm	< 0.3	2025-03-24
11892470	116D	2025-03-18 @ 2:00 pm	2025-03-21 @ 12:00 pm	0.6 ± 0.3	2025-03-24
11892471	116D	2025-03-18 @ 2:00 pm	2025-03-21 @ 12:00 pm	< 0.3	2025-03-24
11892472	116D	2025-03-18 @ 2:00 pm	2025-03-21 @ 12:00 pm	0.6 ± 0.3	2025-03-24
11892473	116D	2025-03-18 @ 2:00 pm	2025-03-21 @ 12:00 pm	< 0.3	2025-03-24

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April 7, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**OFFICE
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892482	OB	2025-03-17 @ 11:00 am	2025-03-21 @ 11:00 am	< 0.3	2025-03-24

April 7, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**TRAVEL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892483	TB	2025-03-17 @ 11:00 am	2025-03-21 @ 11:00 am	< 0.3	2025-03-24

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 μ R/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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Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Re-Testing March 18th – March 21st, 2025

Name of Schools:

1. Bannockburn ES
2. Rock View ES
3. Silver Spring International MS

	Date	Initials
Radon Test Kits Deployed	3/18/2025	BMM
Radon Test Kits Collected	3/21/2025	BMM
Radon Test Kits Shipped to Lab*	3/21/2025	BMM
Radon Test Kits Received by Lab*	3/25/2025	BMM

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



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Rock View 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	69
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.3 pCi/L

Project Status:
Initial testing completed; no further action needed.



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: Rock View Elementary School
3901 Denfeld Ave.
Kensington, MD 20895

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 Rock View ES, located at 3901 Denfeld Ave. Kensington, MD 20895 (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 eighty (80) 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 biennial post-mitigation testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 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	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		
Rock View ES		
Test Period: 03/01/2022 - 03/04/2022		
Kit Number	Room / Area	Result
11133675	101	0.6
11133695	102	0.6
11133673	103	0.5
11133658	104	< 0.3
11133680	105	< 0.3
11133657	107	0.6
11133674	109	< 0.3
11133668	111	< 0.3
11133667	112	< 0.3
11133669	114	< 0.3
11133636	117	0.6
11133638	117	0.7
11133644	117	< 0.3
11133661	121	< 0.3
11133662	123	0.5
11133640	125	0.6
11133645	126	< 0.3
11133685	127	< 0.3
11133635	128	1.0
11133604	129	0.8
11133605	129	< 0.3
11133677	130	< 0.3
11133664	132	0.7
11133672	138	< 0.3
11133637	140	< 0.3
11133643	141	0.6
11133624	142	< 0.3
11133660	144	0.6
11133619	146	< 0.3
11133623	147	0.7
11133639	147	< 0.3
11133642	148	< 0.3
11133621	149	< 0.3
11133633	149	< 0.3
11133634	151	< 0.3
11133622	153	< 0.3
11133654	155	< 0.3
11133655	155	< 0.3
11133656	155	< 0.3
11133659	158	0.9
11133646	159	< 0.3
11133693	160	1.2

Table 1- Radon Testing Results		
Rock View ES		
Test Period: 03/01/2022 - 03/04/2022		
Kit Number	Room / Area	Result
11133694	160	1.3
11133632	161	< 0.3
11133678	162	< 0.3
11133620	163	< 0.3
11133628	164	< 0.3
11133629	165	0.9
11133627	166	< 0.3
11133641	168	< 0.3
11133630	170	< 0.3
11133631	172	< 0.3
11133679	181	0.8
11133651	182	0.8
11133676	183	< 0.3
11133686	183	< 0.3
11133687	184	< 0.3
11133653	185	< 0.3
11133688	186	< 0.3
11133700	187	0.6
11133692	188	< 0.3
11133691	189	0.7
11133699	190	0.6
11133681	191	0.8
11133601	206	< 0.3
11133647	214	0.6
11133684	100A	0.5
11133683	100B	< 0.3
11133682	100C	0.8
11133696	100D	< 0.3
11133690	102B	< 0.3
11133649	116D	0.6
11133665	116D	< 0.3
11133625	147 OFFICE	< 0.3
11133650	CAFETERIA	< 0.3
11133652	CAFETERIA	< 0.3
11133670	KITCHEN	0.8
11133689	MAIN OFFICE	< 0.3
11133697	MAIN OFFICE	< 0.3
11133698	MAIN OFFICE	< 0.3

Table 2- Radon Testing Results			
Rock View ES			
Test Period: 03/01/2022 - 03/04/2022			
Kit Number	QC Type	Room / Area	Result
11133698	D	Main office	< 0.3
11133697	FB	Main office	< 0.3
11133665	D	116d	< 0.3
11133676	D	183	< 0.3
11133638	D	117	0.7
11133644	FB	117	< 0.3
11133633	D	149	< 0.3
11133656	D	155	< 0.3
11133654	FB	155	< 0.3
11133605	D	129	< 0.3
11130861	OB	OFFICE BLANK	< 0.3
11130854	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:
ROCK VIEW ES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11133684	100A	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	0.5 ± 0.3	2022-03-07
11133683	100B	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133682	100C	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	0.8 ± 0.3	2022-03-07
11133696	100D	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133675	101	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	0.6 ± 0.3	2022-03-07
11133695	102	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	0.6 ± 0.3	2022-03-07
11133690	102B	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133673	103	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	0.5 ± 0.3	2022-03-07
11133658	104	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133680	105	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133657	107	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	0.6 ± 0.3	2022-03-07
11133674	109	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133668	111	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133667	112	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133669	114	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133649	116D	2022-03-01 @ 10:00 am	2022-03-04 @ 8:00 am	0.6 ± 0.3	2022-03-07
11133665	116D	2022-03-01 @ 10:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133638	117	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.7 ± 0.3	2022-03-07
11133644	117	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133636	117	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07
11133661	121	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133662	123	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.5 ± 0.3	2022-03-07
11133640	125	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07
11133645	126	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133685	127	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133635	128	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	1.0 ± 0.3	2022-03-07
11133604	129	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	0.8 ± 0.3	2022-03-07
11133605	129	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133677	130	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133664	132	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.7 ± 0.3	2022-03-07
11133672	138	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133637	140	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133643	141	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07
11133624	142	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133660	144	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07
11133619	146	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133639	147	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07

March 8, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
ROCK VIEW ES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11133623	147	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.7 ± 0.3	2022-03-07
11133625	147 OFFICE	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133642	148	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133621	149	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133633	149	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133634	151	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133622	153	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133655	155	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133656	155	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133654	155	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133659	158	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	0.9 ± 0.3	2022-03-07
11133646	159	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133693	160	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	1.2 ± 0.3	2022-03-07
11133694	160	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	1.3 ± 0.3	2022-03-07
11133632	161	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133678	162	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133620	163	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133628	164	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133629	165	2022-03-01 @ 10:00 am	2022-03-04 @ 8:00 am	0.9 ± 0.3	2022-03-07
11133627	166	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133641	168	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133630	170	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133631	172	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133679	181	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.8 ± 0.3	2022-03-07
11133651	182	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.8 ± 0.3	2022-03-07
11133686	183	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133676	183	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133687	184	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133653	185	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133688	186	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133700	187	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07
11133692	188	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133691	189	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.7 ± 0.3	2022-03-07
11133699	190	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07
11133681	191	2022-03-01 @ 9:00 am	2022-03-04 @ 9:00 am	0.8 ± 0.3	2022-03-07
11133601	206	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	< 0.3	2022-03-07
11133647	214	2022-03-01 @ 10:00 am	2022-03-04 @ 9:00 am	0.6 ± 0.3	2022-03-07

March 8, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
ROCK VIEW ES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11133650	CAFETERIA	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133652	CAFETERIA	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133670	KITCHEN	2022-03-01 @ 9:00 am	2022-03-04 @ 8:00 am	0.8 ± 0.3	2022-03-07
11133697	MAIN OFFICE	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133689	MAIN OFFICE	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07
11133698	MAIN OFFICE	2022-03-01 @ 8:00 am	2022-03-04 @ 8:00 am	< 0.3	2022-03-07

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

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

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



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 – 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

Site Name	Rock View Elementary School
Date of Report	2/21/2020
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	64
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	2.6 pCi/L

Project Status

Current Project Status at this time: Testing Complete; no further action.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

2/21/2020

Mr. Richard Cox, MS
Environmental Team Leader
Montgomery County Public Schools
Division of Maintenance
Gaithersburg, Maryland 20879

Re: Radon Testing Services

KCI Job #12146341126

Location: Rock View Elementary School

3901 Denfeld Avenue
Kensington, Maryland 20895

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Rock View Elementary School, located at 3901 Denfeld Avenue in Kensington, Maryland 20895 (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 Provider (certification #111004 RT) 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 1/7/2020 and deployed seventy-nine (79) 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 Appendix 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 sixty (60) 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.

KCI returned to the site on 1/10/2020 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a National Radon Safety Board (NRSB) radon measurement provider and is a 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 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.

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 upper-20s and high temperatures were in the mid-50s. Maximum sustained winds ranged from 10-23 miles per hour. Average humidity was around 64%. 0.32 inches of precipitation (rain) was recorded during the 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	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 410-316-7800.

Sincerely,

Mr. Tyler P. McCleaf
Radon Measurement Provider
111004 RT

KCI Technologies, Inc.

Attachments:

A- Floor Plan with Test Locations

B - Tables 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 Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Rock View Elementary School		
Test Period: 1/7/2020-1/10/2020		
Kit Number	Room / Area	Result
9348501	114	0.7
9348623	100B	0.9
9348624	101	0.8
9348625	102B	0.7
9348626	MAIN OFFICE	1.2
9348627	100A	1.3
9348628	102	0.9
9348629	101	< 0.3
9348630	165	1.5
9348631	100C	1
9348632	100B	0.9
9348633	119	< 0.3
9348634	117	0.5
9348635	112	1
9348636	109	< 0.3
9348637	111	1.6
9348638	107	< 0.3
9348639	107	< 0.3
9348640	104	< 0.3
9348641	105	< 0.3
9348642	103	0.9
9348643	126	< 0.3
9348644	125	0.7
9348645	130	< 0.3
9348646	132	< 0.3
9348647	123	< 0.3
9348648	140	< 0.3
9348649	127	< 0.3
9348650	127	< 0.3
9348651	128	< 0.3
9348652	140	< 0.3
9348653	151	1.1
9348654	149	0.7
9348655	149	0.7
9348656	144	< 0.3
9348657	146	< 0.3
9348658	IMC	0.8
9348659	IMC OFFICE	2.6
9348660	IMC	1.3
9348661	142	< 0.3
9348662	141	2.4
9348663	GYM	2

9348664	GYM	1.6
9348665	148	< 0.3
9348666	164	< 0.3
9348667	153	< 0.3
9348668	164	0.6
9348669	166	< 0.3
9348670	158	1.9
9348671	162	0.6
9348672	158	2.5
9348673	203	1.1
9348674	138	0.8
9348675	172	0.8
9348676	159	0.6
9348677	163	< 0.3
9348678	161	< 0.3
9348679	163	< 0.3
9348680	170	< 0.3
9348681	168	< 0.3
9348682	155	0.8
9348683	188	1.2
9348684	185	0.8
9348685	186	0.9
9348686	184	0.8
9348687	183	1.6
9348688	182	1.3
9348689	183	1.7
9348690	181	2.1
9348691	213	< 0.3
9348692	185	< 0.3
9348693	187	0.9
9348694	190	1.2
9348695	189	0.9
9348696	189	0.7
9348697	191	1.3
9348698	116D	1.1
9348699	CAFE	< 0.3
9348700	CAFE	0.7
9348315	OFFICE BLANK	<0.3

Table 2- Radon Testing Results			
Rock View Elementary School			
Test Period: 1/7/2020-1/10/2020			
Kit Number	QC Type	Room / Area	Result
9348632	D	100B	0.9
9348629	FB	101	<0.3
9348638	D	107	<0.3
9348650	D	127	<0.3
9348652	FB	140	<0.3
9348655	D	149	0.7
9348672	D	158	2.5
9348666	FB	164	<0.3
9348677	D	163	<0.3
9348687	D	183	1.6
9348692	FB	185	<0.3
9348696	D	189	0.7
9348319	TRANSIT BLANK	NA	<0.3
9348320	TRANSIT BLANK	NA	<0.3
9348313	TRANSIT BLANK	NA	<0.3

ATTACHMENT C

Laboratory Analytical Results

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
9340067	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 \pm 2.4 D	2020-01-03
9340035	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	22.5 \pm 2.3 D	2020-01-03
9340003	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 \pm 2.4 D	2020-01-03
9340089	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	23.3 \pm 2.3 D	2020-01-03
9340072	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	18.3 \pm 2.0 D	2020-01-03
9340040	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 \pm 2.6 D	2020-01-03
9340008	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.8 \pm 2.5 D	2020-01-03
9340094	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.7 \pm 2.5 D	2020-01-03
9340099	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.5 \pm 2.6 D	2020-01-03
9340077	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.2 \pm 2.5 D	2020-01-03
9340045	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.7 \pm 2.4 D	2020-01-03
9340013	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.9 \pm 2.6 D	2020-01-03
9340018	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	29.1 \pm 2.8 D	2020-01-03
9341704	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 \pm 2.4 D	2020-01-03
9340050	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.2 \pm 2.6 D	2020-01-03
9340023	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.2 \pm 2.7 D	2020-01-03
9341709	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.5 \pm 2.4 D	2020-01-03
9340055	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.8 \pm 2.6 D	2020-01-03
9340060	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 \pm 2.5 D	2020-01-03
9340028	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.9 \pm 2.3 D	2020-01-03
9341714	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.3 \pm 2.7 D	2020-01-03
9340082	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.4 \pm 2.6 D	2020-01-03
9340065	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.2 \pm 2.4 D	2020-01-03
9340033	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.2 \pm 2.5 D	2020-01-03
9341719	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.7 \pm 2.5 D	2020-01-03
9340001	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.3 \pm 2.5 D	2020-01-03
9340087	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.8 \pm 2.4 D	2020-01-03
9340070	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	19.5 \pm 2.4 D	2020-01-03
9340038	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.7 \pm 2.3 D	2020-01-03
9340006	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 \pm 2.4 D	2020-01-03
9340092	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	31.4 \pm 2.8 D	2020-01-03
9340097	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.7 \pm 2.5 D	2020-01-03
9340075	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	29.6 \pm 2.6 D	2020-01-03
9340043	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.1 \pm 2.6 D	2020-01-03
9340011	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.8 \pm 2.5 D	2020-01-03
9340016	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.2 \pm 2.4 D	2020-01-03
9341702	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 \pm 2.5 D	2020-01-03

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
9340048	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.5 \pm 2.4 D	2020-01-03
9340021	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.7 \pm 2.6 D	2020-01-03
9341707	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.8 \pm 2.4 D	2020-01-03
9340053	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.8 \pm 2.5 D	2020-01-03
9340058	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.5 \pm 2.7 D	2020-01-03
9340026	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.9 \pm 2.4 D	2020-01-03
9341712	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.3 \pm 2.4 D	2020-01-03
9340080	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 \pm 2.4 D	2020-01-03
9340063	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.8 \pm 2.5 D	2020-01-03
9340031	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.9 \pm 2.4 D	2020-01-03
9341717	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.7 \pm 2.4 D	2020-01-03
9340085	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 \pm 2.5 D	2020-01-03
9340068	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.2 \pm 2.5 D	2020-01-03
9340036	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.6 \pm 2.3 D	2020-01-03
9340004	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 \pm 2.6 D	2020-01-03
9340090	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.3 \pm 2.5 D	2020-01-03
9340073	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 \pm 2.5 D	2020-01-03
9340041	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.6 \pm 2.4 D	2020-01-03
9340009	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.1 \pm 2.4 D	2020-01-03
9340095	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.2 \pm 2.5 D	2020-01-03
9340100	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.5 \pm 2.4 D	2020-01-03
9340078	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.0 \pm 2.4 D	2020-01-03
9340046	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.0 \pm 2.6 D	2020-01-03
9340014	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	21.8 \pm 2.8 D	2020-01-03
9340019	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.0 \pm 2.5 D	2020-01-03
9341705	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.8 \pm 2.6 D	2020-01-03
9340051	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.5 \pm 2.4 D	2020-01-03
9340056	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.7 \pm 2.6 D	2020-01-03
9340024	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.3 \pm 2.5 D	2020-01-03
9341710	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.2 \pm 2.3 D	2020-01-03
9340061	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.9 \pm 2.6 D	2020-01-03
9340029	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.0 \pm 2.3 D	2020-01-03
9341715	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.0 \pm 2.5 D	2020-01-03
9340083	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.9 \pm 2.4 D	2020-01-03
9340066	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 \pm 2.4 D	2020-01-03
9340034	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.4 \pm 2.5 D	2020-01-03
9341720	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.3 \pm 2.5 D	2020-01-03

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
9340002	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.7 \pm 2.5 D	2020-01-03
9340088	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.4 \pm 2.5 D	2020-01-03
9340071	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.9 \pm 2.4 D	2020-01-03
9340039	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 \pm 2.5 D	2020-01-03
9340007	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 \pm 2.4 D	2020-01-03
9340093	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 \pm 2.5 D	2020-01-03
9340098	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 \pm 2.5 D	2020-01-03
9340076	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 \pm 2.5 D	2020-01-03
9340044	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 \pm 2.5 D	2020-01-03
9340012	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	22.5 \pm 2.2 D	2020-01-03
9340017	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.3 \pm 2.5 D	2020-01-03
9341703	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.0 \pm 2.5 D	2020-01-03
9340049	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.0 \pm 2.5 D	2020-01-03
9340022	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.6 \pm 2.6 D	2020-01-03
9341708	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.8 \pm 2.8 D	2020-01-03
9340054	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.8 \pm 2.5 D	2020-01-03
9340059	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.5 \pm 2.6 D	2020-01-03
9340027	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.6 \pm 2.5 D	2020-01-03
9341713	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 \pm 2.5 D	2020-01-03
9340081	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	18.4 \pm 2.1 D	2020-01-03
9340064	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 \pm 2.5 D	2020-01-03
9340032	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.1 \pm 2.4 D	2020-01-03
9341718	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	23.7 \pm 2.4 D	2020-01-03
9340086	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 \pm 2.6 D	2020-01-03
9340069	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.6 \pm 2.5 D	2020-01-03
9340037	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.4 \pm 2.6 D	2020-01-03
9340005	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	???? DIF1	2020-01-03
9340091	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 \pm 2.5 D	2020-01-03
9340096	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.2 \pm 2.5 D	2020-01-03
9340074	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.7 \pm 2.5 D	2020-01-03
9340042	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.6 \pm 2.5 D	2020-01-03
9340010	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.5 \pm 2.5 D	2020-01-03
9341701	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	22.9 \pm 2.3 D	2020-01-03
9340047	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.7 \pm 2.5 D	2020-01-03
9340015	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.4 \pm 2.5 D	2020-01-03
9340020	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.1 \pm 2.4 D	2020-01-03
9341706	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	31.0 \pm 2.7 D	2020-01-03

January 3, 2020

**** 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
9340052	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.4 \pm 2.6 D	2020-01-03
9340057	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 \pm 2.5 D	2020-01-03
9340025	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.1 \pm 2.4 D	2020-01-03
9341711	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	22.5 \pm 2.2 D	2020-01-03
9340079	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 \pm 2.5 D	2020-01-03
9340062	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.6 \pm 2.5 D	2020-01-03
9340030	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.0 \pm 2.4 D	2020-01-03
9341716	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 \pm 2.4 D	2020-01-03
9340084	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.5 \pm 2.3 D	2020-01-03

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 193598

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

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0830 Time Stop: 0830

(Group 4)
Device No.'s: (20) Char. Bags -

9340061 thru 9340080

Temp of 70.0
RH % 50.1
Avg pCi/L 25.5

52

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0835 Time Stop: 0835

(Group 5)
Device No.'s: (20) Char. Bags -

9340081 thru 9340100

Temp of 70.0
RH % 50.1
Avg pCi/L 25.5

25

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0840 Time Stop: 0840

(Group 6)
Device No.'s: (20) Char. Bags -

9341701 thru 9341720

Temp of 70.0
RH % 50.1
Avg pCi/L 25.5

25

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

Radon test result report for:**ROCK VIEW ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9348627	100A	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	1.3 ± 0.3	2020-01-13
9348632	100B	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	0.9 ± 0.3	2020-01-13
9348623	100B	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	0.9 ± 0.3	2020-01-13
9348631	100C	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	1.0 ± 0.3	2020-01-13
9348624	101	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	0.8 ± 0.3	2020-01-13
9348629	101	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348628	102	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	0.9 ± 0.3	2020-01-13
9348625	102B	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	0.7 ± 0.3	2020-01-13
9348642	103	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	0.9 ± 0.3	2020-01-13
9348640	104	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348641	105	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348638	107	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348639	107	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348636	109	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348637	111	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	1.6 ± 0.3	2020-01-13
9348635	112	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	1.0 ± 0.3	2020-01-13
9348501	114	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.7 ± 0.3	2020-01-13
9348698	116D	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	1.1 ± 0.3	2020-01-13
9348634	117	2020-01-07 @ 11:00 am	2020-01-10 @ 9:00 am	0.5 ± 0.3	2020-01-13
9348633	119	2020-01-07 @ 11:00 am	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348647	123	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348644	125	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	0.7 ± 0.3	2020-01-13
9348643	126	2020-01-07 @ 11:00 am	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348650	127	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348649	127	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348651	128	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348645	130	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348646	132	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348674	138	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.8 ± 0.3	2020-01-13
9348652	140	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348648	140	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348662	141	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	2.4 ± 0.3	2020-01-13
9348661	142	2020-01-07 @ 12:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348656	144	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348657	146	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348665	148	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348655	149	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	0.7 ± 0.3	2020-01-13

Radon test result report for:**ROCK VIEW ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9348654	149	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	0.7 ± 0.3	2020-01-13
9348653	151	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	1.1 ± 0.3	2020-01-13
9348667	153	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348682	155	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	0.8 ± 0.3	2020-01-13
9348672	158	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	2.5 ± 0.4	2020-01-13
9348670	158	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	1.9 ± 0.3	2020-01-13
9348676	159	2020-01-07 @ 1:00 pm	2020-01-10 @ 8:00 am	0.6 ± 0.3	2020-01-13
9348678	161	2020-01-07 @ 1:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348671	162	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	0.6 ± 0.3	2020-01-13
9348679	163	2020-01-07 @ 1:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348677	163	2020-01-07 @ 1:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348668	164	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	0.6 ± 0.3	2020-01-13
9348666	164	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348630	165	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	1.5 ± 0.3	2020-01-13
9348669	166	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348681	168	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348680	170	2020-01-07 @ 1:00 pm	2020-01-10 @ 8:00 am	< 0.3	2020-01-13
9348675	172	2020-01-07 @ 1:00 pm	2020-01-10 @ 8:00 am	0.8 ± 0.3	2020-01-13
9348690	181	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	2.1 ± 0.3	2020-01-13
9348688	182	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	1.3 ± 0.3	2020-01-13
9348689	183	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	1.7 ± 0.3	2020-01-13
9348687	183	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	1.6 ± 0.3	2020-01-13
9348686	184	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.8 ± 0.3	2020-01-13
9348684	185	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.8 ± 0.3	2020-01-13
9348692	185	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348685	186	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.9 ± 0.3	2020-01-13
9348693	187	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.9 ± 0.3	2020-01-13
9348683	188	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	1.2 ± 0.3	2020-01-13
9348696	189	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.7 ± 0.3	2020-01-13
9348695	189	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.9 ± 0.3	2020-01-13
9348694	190	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	1.2 ± 0.3	2020-01-13
9348697	191	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	1.3 ± 0.3	2020-01-13
9348673	203	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	1.1 ± 0.3	2020-01-13
9348691	213	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348699	CAFE	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	< 0.3	2020-01-13
9348700	CAFE	2020-01-07 @ 1:00 pm	2020-01-10 @ 9:00 am	0.7 ± 0.3	2020-01-13
9348664	GYM	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	1.6 ± 0.3	2020-01-13

January 20, 2020

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**ROCK VIEW ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9348663	GYM	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	2.0 ± 0.3	2020-01-13
9348660	IMC	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	1.3 ± 0.3	2020-01-13
9348658	IMC	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	0.8 ± 0.3	2020-01-13
9348659	IMC OFFICE	2020-01-07 @ 12:00 pm	2020-01-10 @ 8:00 am	2.6 ± 0.3	2020-01-13
9348626	MAIN OFFICE	2020-01-07 @ 11:00 am	2020-01-10 @ 8:00 am	1.2 ± 0.3	2020-01-13

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



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 2019 Week 3

Name of Schools:

- | | |
|------------------------------|----------------------------|
| 1. Bannockburn E.S. | 12. Montgomery Knolls E.S. |
| 2. Bethesda E.S. | 13. Newport Mills M.S. |
| 3. Bethesda-Chevy Chase H.S. | 14. Oak View E.S. |
| 4. Bradley Hill E.S. | 15. Rock View E.S. |
| 5. Burning Tree E.S. | 16. Roscoe Nix E.S. |
| 6. Burnt Mills E.S. | 17. Sligo M.S. |
| 7. East Silver Springs E.S. | 18. Spring Mill Center |
| 8. Einstein H.S. | 19. Springbrook H.S. |
| 9. Flora Singer E.S. | 20. Westland M.S. |
| 10. Key M.S. | 21. Woodlin M.S. |
| 11. Montgomery Blair H.S. | |

	Date	Initials
Radon Test Kits Deployed	1/6/20 to 1/7/20	SM
Radon Test Kits Collected	1/9/20 to 1/10/20	SM
Radon Test Kits Shipped to Lab*	1/10/20	SM
Radon Test Kits Received by Lab*	1/13/202	SM

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Rock View Elementary School
Date of Report	March 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	17
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	3.3 pCi/L

Project Status

Current Project Status at this time: Retesting completed; no further action at this time.



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March 13, 2018

Mr. Richard Cox, MS
Team Leader
Montgomery County Public Schools
Division of Maintenance
Gaithersburg, Maryland 20879

Re: Radon Testing Services

KCI Job #1214634188

Location: Rock View Elementary School

3901 Denfeld Ave.
Kensington, Maryland 20895

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Rock View Elementary School, located at 3901 Denfeld Ave. in Kensington, Maryland 20895 (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 13, 2018 and deployed twenty (20) 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.

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

1. Rooms not successfully tested,
2. Rooms with elevated November 2017 results (i.e. ≥ 3.5 pCi/L).

A floor plan map of the building with the test locations is included as Appendix 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, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on February 16, 2018 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

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

KCI recorded observations of the following conditions in each room 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.

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 ranged from the mid-20s to upper 40s and high temperatures ranged from the high-30s to the high-60s. Maximum sustained winds ranged from 10-18 miles per hour. Average humidity was around 73%. 0.30 Inches of precipitation was recorded during the 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). 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	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 410-316-7800.

Sincerely,



Radon Measurement Specialist
KCI Technologies, Inc.

Attachments:

B - Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

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

Table 1 - Radon Testing Results		
Rock View Elementary School		
Test Period: 02/13/18-02/16/18		
Kit Number	Room / Area	Result
7986976	104	0.5
7986971	116	0.7
7986980	127	0.8
7986975	140	1.4
7986981	147	1.8
7986974	148	1.2
7986958	155	1.4
7986963	159	1.1
7986964	164	1.3
7986970	181	3.0
7986983	100A	3.3
7986957	100D	2.0
7986982	123A	< 0.3
7986977	125A	1.0
7986965	158 GYM OFFICE	2.0
7986969	160 GYM	2.0
7986979	KITCHEN	2.1

Table Note:

* Missing or Compromised Sample

Table 2 - Radon Testing Results		
Rock View Elementary School		
Test Period: 02/13/18-02/16/18		
Kit Number	QC Type	Result
7986978	D (140)	1.2
7986984	* D (147:Tampered)	1.3
7986988	* FB (147:Missing)	-

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 28, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**ROCK VIEW ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7986983	100A	2018-02-13 @ 3:00 pm	2018-02-16 @ 12:00 pm	3.3 ± 0.4	2018-02-20
7986957	100D	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	2.0 ± 0.4	2018-02-20
7986976	104	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	0.5 ± 0.3	2018-02-20
7986971	116	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	0.7 ± 0.3	2018-02-20
7986982	123A	2018-02-13 @ 3:00 pm	2018-02-16 @ 12:00 pm	< 0.3	2018-02-20
7986977	125A	2018-02-13 @ 3:00 pm	2018-02-16 @ 12:00 pm	1.0 ± 0.3	2018-02-20
7986980	127	2018-02-13 @ 3:00 pm	2018-02-16 @ 12:00 pm	0.8 ± 0.3	2018-02-20
7986978	140	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	1.2 ± 0.3	2018-02-20
7986975	140	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	1.4 ± 0.4	2018-02-20
7986988	147	@	@		
7986981	147	2018-02-13 @ 3:00 pm	2018-02-16 @ 12:00 pm	1.8 ± 0.4	2018-02-20
7986984	147	2018-02-13 @ 3:00 pm	2018-02-16 @ 12:00 pm	1.3 ± 0.3	2018-02-20
7986974	148	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	1.2 ± 0.3	2018-02-20
7986958	155	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	1.4 ± 0.4	2018-02-20
7986965	158 GYM OFFICE	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	2.0 ± 0.4	2018-02-20
7986963	159	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	1.1 ± 0.3	2018-02-20
7986969	160 GYM	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	2.0 ± 0.4	2018-02-20
7986964	164	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	1.3 ± 0.3	2018-02-20
7986970	181	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	3.0 ± 0.4	2018-02-20
7986979	KITCHEN	2018-02-13 @ 2:00 pm	2018-02-16 @ 12:00 pm	2.1 ± 0.4	2018-02-20



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase

Names of Schools:

- | | |
|---------------------------------------|--|
| 1. Westbrook Elementary School | 21. E. Silver Spring Elementary School |
| 2. Westland Middle School | 22. Silver Spring Int. Middle School |
| 3. Walt Whitman High School | 23. Clarksburg High School |
| 4. Cloverly Elementary School | 24. Rosa Parks Middle School |
| 5. Sligo Middle School | 25. Greenwood Elementary School |
| 6. Flora Singer Elementary School | 26. Montgomery Knolls Elem. School |
| 7. Albert Einstein High School | 27. Watkins Mill Elementary School |
| 8. Roscoe Nix Elementary School | 28. Gaithersburg Elementary School |
| 9. Mario Loiederman Middle School | 29. Viers Mill Elementary School |
| 10. Sargent Shriver Elementary School | 30. Rock View Elementary School |
| 11. Whetstone Elementary School | |
| 12. Brooke Grove Elementary School | |
| 13. Clearspring Elementary School | |
| 14. Beall Elementary School | |
| 15. Maryvale Elementary School | |
| 16. Lathrop E. Smith Center | |
| 17. Laytonsville Elementary School | |
| 18. Germantown Elementary School | |
| 19. Spring Mill Center | |
| 20. Northwood High School | |

	Date	Initials
Radon Test Kits Deployed	2/13/18	JM
Radon Test Kits Collected	2/16/18	JM
Radon Test Kits Shipped to Lab*	2/16/18	JM
Radon Test Kits Received by Lab*	2/20/18	JM

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

February 27, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

OFFICE BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7979482	1	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986991	10	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985684	11	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986987	12	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986993	13	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986990	14	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7979485	2	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985686	3	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986995	4	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986989	5	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986998	6	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986986	7	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986985	8	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986997	9	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20

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

February 27, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRANSIT BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7984188	1	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7984044	10	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986582	11	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986999	12	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7987000	13	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7984196	14	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986996	2	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986994	3	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986992	4	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985680	5	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985698	6	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985699	7	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985700	8	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985872	9	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20

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

February 28, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within $\pm 25\%$ of the chamber's reference value (20.9 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7984181	1	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	19.7 ± 0.8	2018-02-21
7986621	2	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	19.4 ± 0.8	2018-02-21
7985683	3	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	19.5 ± 0.8	2018-02-21
7984168	4	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	20.5 ± 0.8	2018-02-21
7986618	5	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	19.9 ± 0.8	2018-02-21
7984169	6	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	20.4 ± 0.8	2018-02-21

Air Chek, Inc. 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 183530

NOMINAL Conditions: Radon Conc 20.9 pCi/L Rel. Hum 49.8 % Temp. 79.1 F

Date Start: 2/16/18 Date Stop: 2/19/18 Date Start: _____ Date Stop: _____

Time Start: 1052 Time Stop: 1052 Time Start: _____ Time Stop: _____

Device No.'s: (6) Char. Bags Device No.'s: _____

7984181, 7986621, 7985683 _____

7984168, 7986618, 7984169 _____

G3 Middle _____

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Rock View Elementary School
Date of Report	January 31, 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	63
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	3.9 pCi/L

Current Project Status at this time: Results satisfactory to date; missed locations and missing/
compromised tests to be sampled.



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January 31, 2018

Mr. Richard Cox, MS
Team Leader
Montgomery County Public Schools
Division of Maintenance
Rockville, Maryland 20855

Re: Radon Testing Services

KCI Job #1214694182

Location: Rock View Elementary School

3901 Denfeld Ave.
Kensington, Maryland 20895

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Rock View Elementary School, located at 3901 Denfeld Ave. in Kensington, Maryland 20895 (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 November 28, 2017 and deployed seventy-nine (79) 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 Appendix 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, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on December 1, 2017 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, 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:

- Post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

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

KCI recorded observations of the following conditions in each room 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.

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 30s and high temperatures ranged from the low-50s to mid-60s. Maximum sustained winds ranged from 8-15 miles per hour. Average humidity was around 65%. 0.02 Inches of precipitation was recorded during the testing period.

A magnitude 4.1 earthquake was reported on Thursday, November 30 near Dover, Delaware approximately 95 miles east of Gaithersburg, Maryland. The earthquake occurred during or just after the radon testing period for this facility. In general, enhanced radon emissions have been observed prior to earthquakes and this has been recorded all over the world, according to the research article entitled *Radon-222: A Potential Short-Term Earthquake Precursor*, published June 30, 2015 in the Journal of Earth Science and Climate

Change. The nearby earthquake, which occurred during or prior to the testing period, may have resulted in higher-than-normal radon test results for this facility.

RESULTS

The sampling locations, field observations, 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). Missing/compromised tests, missed rooms, and locked rooms 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	See Attachment B

Quality Control Samples	
Results of Blank Canisters:	The field blanks, office blank, 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 410-316-7800.

Sincerely,



James Mouldale, CHMM
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments:

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

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		
Rock View Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	Room / Area	Result
7975661	100	2.1
7975672	101	2.4
7975663	102	1.4
7975693	103	1.7
7975688	105	0.6
7975666	107	0.6
7975687	109	< 0.3
7975660	111	2.6
7975668	112	2.0
7975671	114	1.5
7975674	116	0.8
7975517	117	1.0
7975516	119	< 0.3
7975690	121	1.3
7975689	123	0.7
7975697	125	1.5
7975519	126	0.8
7977224	127	1.0
7975685	128	0.8
7975515	130	0.8
7975514	132	1.2
7975681	138	1.1
7975520	140	< 0.3
7975521	141	2.1
7977296	142	0.9
7975522	144	0.9
7975525	146	0.8
7977220	147	2.1
7977292	147	3.1
7975694	149	1.2
7977286	151	1.4
7975529	153	< 0.3
7977300	160	2.9
7975535	161	0.8
7975528	162	< 0.3
7975541	163	1.1
7975536	165	2.4
7975530	166	< 0.3
7975533	168	0.7
7975534	170	0.5
7975537	172	0.8
7975680	182	1.9
7977236	183	2.5
7975676	184	1.3
7975677	185	1.8
7975675	186	1.4

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Rock View Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	Room / Area	Result
7975669	187	0.8
7975679	188	1.2
7975678	189	1.5
7975670	190	1.5
7975700	191	1.6
7977290	203	1.4
7975546	206	1.3
7975547	211	0.9
7977294	213	1.2
7975545	216	0.9
7975544	217	1.3
7975543	219	1.5
7977297	220	1.2
7975692	100A	3.9
7975665	100B	2.5
7975699	100C	2.6
7975664	102B	1.7
7975673	* 116 (Missing)	-
7975526	* 148 (Open Window)	1.1
7977295	* 160 (Tampered)	2.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Rock View Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	QC Type	Result
7975695	D (101)	2.4
7975667	D (112)	2.0
7975518	D (117)	1.1
7975682	D (127)	0.7
7975527	* D (14O:Open Window)	1.4
7975538	D (165)	2.9
7975698	D (188)	1.6
7975548	D (213)	0.7
7975696	FB (101)	< 0.3
7975512	FB (127)	< 0.3
7975542	FB (165)	< 0.3
7977291	FB (213)	< 0.3
7977800	OB (OB)	< 0.3

Table Note:

* Missing or Compromised Sample

Summary of Missed Locations		
Rock View Elementary School		
Test Period: 11/28/17-12/02/17		
Kit Number	Room / Area	Result
-	155 (Missed location)	-
-	158 (Missed location)	-
-	159 (Missed location)	-
-	164 (Missed location)	-
-	181 (Missed location)	-
-	100D (Missed location)	-
-	GYM OFFICE (Missed location)	-
-	100 (Missed location)	-
-	104 (Missed location)	-
-	147 Office (Missed location)	-
-	127A (Missed location)	-
-	125A (Missed location)	-
-	123A (Missed location)	-
-	Kitchen (Missed location)	-

[illegible]

Table Note:

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**ROCK VIEW ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7975661	100	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	2.1 ± 0.4	2017-12-04
7975692	100A	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	3.9 ± 0.4	2017-12-04
7975665	100B	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	2.5 ± 0.4	2017-12-05
7975699	100C	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	2.6 ± 0.4	2017-12-04
7975672	101	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	2.4 ± 0.4	2017-12-04
7975695	101	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	2.4 ± 0.4	2017-12-04
7975696	101	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	< 0.3	2017-12-04
7975663	102	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	1.4 ± 0.4	2017-12-04
7975664	102B	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	1.7 ± 0.4	2017-12-05
7975693	103	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	1.7 ± 0.3	2017-12-04
7975688	105	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	0.6 ± 0.3	2017-12-04
7975666	107	2017-11-28 @ 8:00 am	2017-12-01 @ 9:00 am	0.6 ± 0.3	2017-12-05
7975687	109	2017-11-28 @ 8:00 am	2017-12-01 @ 9:00 am	< 0.3	2017-12-05
7975660	111	2017-11-28 @ 8:00 am	2017-12-01 @ 9:00 am	2.6 ± 0.4	2017-12-05
7975668	112	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	2.0 ± 0.3	2017-12-04
7975667	112	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	2.0 ± 0.4	2017-12-05
7975671	114	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	1.5 ± 0.3	2017-12-04
7975674	116	2017-11-28 @ 8:00 am	2017-12-01 @ 8:00 am	0.8 ± 0.3	2017-12-04
7975517	117	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	1.0 ± 0.3	2017-12-04
7975518	117	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	1.1 ± 0.3	2017-12-04
7975516	119	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	< 0.3	2017-12-05
7975690	121	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	1.3 ± 0.3	2017-12-04
7975689	123	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	0.7 ± 0.3	2017-12-05
7975697	125	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	1.5 ± 0.3	2017-12-04
7975519	126	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	0.8 ± 0.3	2017-12-04
7977224	127	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.0 ± 0.3	2017-12-04
7975512	127	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	< 0.3	2017-12-05
7975682	127	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	0.7 ± 0.3	2017-12-05
7975685	128	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	0.8 ± 0.3	2017-12-04
7975515	130	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	0.8 ± 0.3	2017-12-04
7975514	132	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.2 ± 0.4	2017-12-04
7975681	138	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.1 ± 0.3	2017-12-04
7975520	140	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	< 0.3	2017-12-04
7975521	141	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	2.1 ± 0.4	2017-12-05
7977296	142	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	0.9 ± 0.3	2017-12-04
7975522	144	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	0.9 ± 0.3	2017-12-05
7975525	146	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	0.8 ± 0.3	2017-12-05

Radon test result report for:**ROCK VIEW ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7977220	147	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	2.1 ± 0.4	2017-12-04
7977292	147	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	3.1 ± 0.4	2017-12-04
7975526	148	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.1 ± 0.3	2017-12-04
7975694	149	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.2 ± 0.3	2017-12-04
7975527	140	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.4 ± 0.3	2017-12-04
7977286	151	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.4 ± 0.4	2017-12-04
7975529	153	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	< 0.3	2017-12-04
7977295	160	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	2.3 ± 0.4	2017-12-04
7977300	160	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	2.9 ± 0.4	2017-12-05
7975535	161	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	0.8 ± 0.3	2017-12-05
7975528	162	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	< 0.3	2017-12-04
7975541	163	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.1 ± 0.4	2017-12-05
7975536	165	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	2.4 ± 0.4	2017-12-05
7975538	165	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	2.9 ± 0.4	2017-12-05
7975542	165	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	< 0.3	2017-12-05
7975530	166	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	< 0.3	2017-12-04
7975533	168	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	0.7 ± 0.3	2017-12-04
7975534	170	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	0.5 ± 0.3	2017-12-04
7975537	172	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	0.8 ± 0.3	2017-12-05
7975680	182	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.9 ± 0.3	2017-12-04
7977236	183	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	2.5 ± 0.4	2017-12-05
7975676	184	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.3 ± 0.3	2017-12-04
7975677	185	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.8 ± 0.4	2017-12-04
7975675	186	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.4 ± 0.3	2017-12-05
7975669	187	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	0.8 ± 0.3	2017-12-05
7975698	188	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.6 ± 0.4	2017-12-04
7975679	188	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.2 ± 0.3	2017-12-04
7975678	189	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.5 ± 0.3	2017-12-04
7975670	190	2017-11-28 @ 9:00 am	2017-12-01 @ 8:00 am	1.5 ± 0.3	2017-12-04
7975700	191	2017-11-28 @ 9:00 am	2017-12-01 @ 9:00 am	1.6 ± 0.3	2017-12-05
7977290	203	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.4 ± 0.4	2017-12-05
7975546	206	2017-11-28 @ 11:00 am	2017-12-01 @ 9:00 am	1.3 ± 0.4	2017-12-05
7975547	211	2017-11-28 @ 11:00 am	2017-12-01 @ 9:00 am	0.9 ± 0.3	2017-12-04
7977294	213	2017-11-28 @ 11:00 am	2017-12-01 @ 9:00 am	1.2 ± 0.3	2017-12-04
7977291	213	2017-11-28 @ 11:00 am	2017-12-01 @ 9:00 am	< 0.3	2017-12-04
7975548	213	2017-11-28 @ 11:00 am	2017-12-01 @ 9:00 am	0.7 ± 0.3	2017-12-05
7975545	216	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	0.9 ± 0.3	2017-12-04

December 19, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**ROCK VIEW ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7975544	217	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.3 ± 0.3	2017-12-04
7975543	219	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.5 ± 0.3	2017-12-04
7977297	220	2017-11-28 @ 10:00 am	2017-12-01 @ 9:00 am	1.2 ± 0.3	2017-12-04
7977800	OB	2017-11-28 @ 12:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05

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

December 21, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**ROCK VIEW ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7975673	116	@	@		

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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

Names of Schools:

- | | |
|------------------------------------|-----------------------------------|
| 1. Chevy Chase Elementary School | 15. Viers Mill Elementary School |
| 2. Greencastle Elementary School | 16. Albert Einstein High School |
| 3. English Manor | 17. Wayside Elementary School |
| 4. Rock View Elementary School | 18. Thomas S. Wootton High School |
| 5. Wheaton Woods Elementary School | 19. Highland Elementary School |
| 6. Sequoyah Elementary School | 20. Bethesda Transportation Depot |
| 7. Fallsmead Elementary School | 21. Bethesda Maintenance Depot |
| 8. Beall Elementary School | 22. Travilah Elementary School |
| 9. Stephen Knolls School | 23. Lathrop E. Smith Center |
| 10. Maryvale Elementary School | |
| 11. Redland Middle School | |
| 12. Walt Whitman High School | |
| 13. Springbrook High School | |
| 14. Blair G. Ewing Center | |

	Date	Initials
Radon Test Kits Deployed	11/28/17	JM
Radon Test Kits Collected	12/01/17	JM
Radon Test Kits Shipped to Lab*	12/01/17	JM
Radon Test Kits Received by Lab*	12/05/17	JM

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

Radon test result report for:**TRANSIT 1****NONE**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978062	TRANSIT 1	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975804	TRANSIT 10	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7977990	TRANSIT 11	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978201	TRANSIT 12	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978203	TRANSIT 13	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978206	TRANSIT 14	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978246	TRANSIT 15	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978239	TRANSIT 16	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978226	TRANSIT 17	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975078	TRANSIT 18	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975077	TRANSIT 19	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978074	TRANSIT 2	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975076	TRANSIT 20	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975684	TRANSIT 21	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975683	TRANSIT 22	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975601	TRANSIT 23	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978011	TRANSIT 24	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978012	TRANSIT 25	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978094	TRANSIT 26	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975624	TRANSIT 27	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7834562	TRANSIT 28	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7977995	TRANSIT 29	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978098	TRANSIT 3	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7977992	TRANSIT 30	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978719	TRANSIT 4	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978732	TRANSIT 5	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978731	TRANSIT 6	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975806	TRANSIT 7	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975815	TRANSIT 8	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975805	TRANSIT 9	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04

December 19, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within $\pm 25\%$ of the chamber's reference value (27.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7975075	S1	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	25.6 \pm 0.7	2017-12-07
7975064	S2	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	27.4 \pm 0.8	2017-12-07
7975063	S3	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	26.3 \pm 0.7	2017-12-07
7975065	S4	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	23.0 \pm 0.7	2017-12-07
7975069	S5	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	25.6 \pm 0.7	2017-12-07
7975070	S6	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	23.0 \pm 0.7	2017-12-07

Air Chek, Inc. 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 182393

NOMINAL Conditions: Radon Conc 27.7 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/1/17 Date Stop: 12/4/17 Date Start: _____ Date Stop: _____

Time Start: 1049 Time Stop: 1049 Time Start: _____ Time Stop: _____

Device No.'s: (6) Chan. Bags. Device No.'s: _____

7975075, 7975064, 7975063, _____

7975065, 7975069, 7975070 _____

F4 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



MCPS RADON TESTING

Executive Summary: Rock View Elementary School

Date of Test Report:	10/20/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	7
# Rooms \geq 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.5

Project Status:

Post remediation testing completed; no further action at this time.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

October 20, 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 # 12146341.54

Location: Rock View Elementary School
3901 Denfeld Avenue
Kensington, MD 20895

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 Rock View Elementary School, located at 3901 Denfeld Avenue in Kensington, Maryland 20895 (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 September 26, 2016 and deployed nine (9) 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 September 29, 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:

These tests represent:

- Post-mitigation testing for radon mitigation systems installed recently.

To expedite the testing, tests were conducted in September as soon as students and staff returned to:

- Confirm the success of the mitigation system(s).

Future periodic testing should be conducted during the heating season in ideal conditions as described below. 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 cooling mode; therefore, KCI concludes that this test was not conducted during ideal testing conditions.

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.

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 50s and high temperatures in the mid-60s to mid-70s. Maximum sustained winds ranged from 3-15 miles per hour. Average humidity ranged from 71 to 89 percent. Rain (1.83 inches in Gaithersburg, MD) was recorded on 9/29/16. The weather conditions during the testing period may have resulted in atypical radon test results for this facility.

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 blank, lab transit blanks, and office 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. Moulds
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

Radon Testing Results		
Rock View Elementary School		
Test Period: 09/26/16-09/29/16		
Kit Number	Room / Area	Result
7802266	149	1.5
7802259	151	1.2
7802269	153	0.7
7802272	161	0.6
7802264	162	0.7
7802268	163	1.0
7802270	165	1.0

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Rock View Elementary School		
Test Period: 09/26/16-09/29/16		
Kit Number	QC Type	Result
7802263	D (161)	1.1
7802271	FB (161)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

October 7, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**ROCK VIEW ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802266	149	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	1.5 ± 0.3	2016-10-03
7802259	151	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	1.2 ± 0.3	2016-10-03
7802269	153	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	0.7 ± 0.3	2016-10-03
7802263	161	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	1.1 ± 0.3	2016-10-03
7802271	161	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	< 0.3	2016-10-03
7802272	161	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	0.6 ± 0.3	2016-10-03
7802264	162	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	0.7 ± 0.3	2016-10-03
7802268	163	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	1.0 ± 0.3	2016-10-03
7802270	165	2016-09-26 @ 5:00 pm	2016-09-29 @ 1:00 pm	1.0 ± 0.3	2016-10-03

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

October 7, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS Radon

Phase 18 Office Blanks

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802697	1	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7801899	10	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802932	11	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802935	12	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802915	13	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802941	2	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802942	3	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802919	4	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802918	5	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802917	6	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802916	7	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802952	8	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03
7802928	9	2016-09-26 @ 11:00 am	2016-09-29 @ 11:00 am	< 0.3	2016-10-03

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

October 7, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS Radon

Phase 18 Transit Blanks

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7714274	1	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7802962	10	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7714295	11	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7714299	12	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7714273	13	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7714270	14	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7802965	2	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7802696	3	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7802690	4	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7714275	5	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7714298	6	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7802990	7	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7802974	8	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03
7802694	9	2016-09-26 @ 10:00 am	2016-09-29 @ 10:00 am	< 0.3	2016-10-03

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

October 12, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
MCPS Radon
Spike Sample Results

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7769880	101	2016-09-24 @ 8:00 am	2016-09-26 @ 8:00 am	22.9 ± 1.0	2016-09-28
7769884	102	2016-09-24 @ 8:00 am	2016-09-26 @ 8:00 am	22.4 ± 1.0	2016-09-28
7769885	103	2016-09-24 @ 8:00 am	2016-09-26 @ 8:00 am	23.0 ± 1.0	2016-09-28
7769890	104	2016-09-24 @ 8:00 am	2016-09-26 @ 8:00 am	22.3 ± 1.0	2016-09-28
7769891	105	2016-09-24 @ 8:00 am	2016-09-26 @ 8:00 am	26.8 ± 1.2	2016-09-28
7769899	106	2016-09-24 @ 8:00 am	2016-09-26 @ 8:00 am	24.1 ± 1.1	2016-09-28

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 176788

NOMINAL Conditions: Radon Conc 26.1 pCi/L Rel. Hum 49.6 % Temp. 70.0 F

Date Start: 9/24/16 Date Stop: 9/26/16 Date Start: _____ Date Stop: _____

Time Start: 0758 Time Stop: 0758 Time Start: _____ Time Stop: _____

Device No.'s: (6) Char. Bags - Device No.'s: _____

7769899, 7769884, 7769885, _____

7769889, 7769890, 7769891 _____

F3 Left

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

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

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

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

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

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

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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 18

Name of Schools:

- | | |
|-------------------------------------|--|
| 1. Wood Acres Elementary School | 14. Lourie Center |
| 2. Walt Whitman High School | 15. Shriver Elementary School |
| 3. Burning Tree Elementary School | 16. Viers Mill Elementary School |
| 4. Ashburton Elementary School | 17. Highland Elementary School |
| 5. Bethesda Maintenance | 18. Newport Middle School |
| 6. Bethesda Transportation | 19. Albert Einstein High School |
| 7. Herbert Hoover Middle School | 20. Sligo Middle School |
| 8. Cold Spring Elementary School | 21. East Silver Spring Elementary School |
| 9. Garret Park Elementary School | 22. Oak View Elementary School |
| 10. Rock View Elementary School | 23. Roscoe Nix Elementary School |
| 11. Francis Scott Key Middle School | 24. Northwood High School |
| 12. Montgomery Blair High School | 25. Springbrook High School |
| 13. Stephen Knolls School | 26. John F. Kennedy High School |

	Date	Initials
Radon Test Kits Deployed	9/26/16	JM
Radon Test Kits Collected	9/29/16	JM
Radon Test Kits Shipped to Lab*	9/30/16	JM
Radon Test Kits Received by Lab*	10/03/16	JM

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



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 18

Name of Schools:

- | | |
|--|-----------------------------------|
| 1. Damascus High School | 17. Watkins Mills High School |
| 2. Cedar Grove Elementary School | 18. Forest Oak Middle School |
| 3. Hallie Wells Middle School | 19. Gaithersburg Middle School |
| 4. Clarksburg Elementary School | 20. Emory Grove |
| 5. Clarksburg High School | 21. Fields Road Elementary School |
| 6. Woodlin Elementary School | 22. Beall Elementary School |
| 7. Flora Singer Elementary School | 23. Julius West Middle School |
| 8. Spring Mill Center | 24. Thomas Wootton High School |
| 9. Dr. Charles Drew Elementary School | 25. Robert Frost High School |
| 10. William Farquah Middle School | 26. Travilah Elementary School |
| 11. Rosa Parks Middle School | 27. Jones Lane Elementary School |
| 12. Blair Ewing Center | 28. Longview School |
| 13. Lathrop Smith Environmental Center | 29. Rock Terrace High School |
| 14. Sequoyah Elementary School | 30. Germantown Elementary School |
| 15. Shady Grove Middle School | 31. Lake Seneca Elementary School |
| 16. Captain James Daly Elementary School | |

	Date	Initials
Radon Test Kits Deployed	9/27/16	JM
Radon Test Kits Collected	9/30/16	JM
Radon Test Kits Shipped to Lab*	9/30/16	JM
Radon Test Kits Received by Lab*	10/03/16	JM

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

RADON SCREENING SURVEY – FOLLOW-UP ROCK VIEW ELEMENTARY SCHOOL

3901 Denfeld Avenue, Kensington, Maryland 20895

EXECUTIVE SUMMARY

Date of Test Report:	3/24/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	15
# Rooms \geq 4.0 pCi/L:	2
Low Value:	<0.3
High Value:	5.4
Confirmed Rooms \geq 4.0 pCi/L US EPA Action Level	2

Summary of Sampling Events \geq 4.0 pCi/L

Room	Result (pCi/L) 2/9/16 Initial	Result (pCi/L) 3/24/16 Follow-Up	Average Result (pCi/L)
151	4.4	5.4	4.9
116	--- Missing	0.7	0.7
116D	--- Missing	Not sampled	n/a
168	0.8 Tampered	0.7	0.8
203	0.8 Temperature	<0.3	0.6
206	2.2 Temperature	1.2	1.7
207	0.8 Temperature	<0.3	0.6
211	0.7 Temperature	0.7	0.7
213	1.1 Temperature	<0.3	0.7
216	1.3 Temperature	0.6	1.0
217	1.4 Temperature	0.7	1.1
219	1.3 Temperature	0.8	1.1
220	1.1 Temperature	<0.3	0.7
149	3.4	2.6	3.0
165	3.3	4.7	4.0



MCPS RADON TESTING

Executive Summary: Rock View Elementary

Date of Test Report	School	3/24/2016
Round of Testing:	Initial	
	Follow-up	
	Post Remediation	
# Rooms Tested:		15
# Rooms ≥ 4.0 pCi/L:		2
Low Value:		< 0.3
High Value:		5.4

Rooms with results ≥ 4.0 pCi/L:
151 (5.4 pCi/L), 165 (4.7 pCi/L)

Project Status:

Retesting completed; use the average of the initial and re-test results in a room to determine if remediation is necessary.



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

March 24, 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 # 12146341.30

Location: Rock View Elementary School
3901 Denfeld Avenue
Kensington, MD 20895

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 Rock View Elementary School, located at 3901 Denfeld Avenue in Kensington, Maryland 20895 (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 29, 2016 and deployed nineteen (19) 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 March 3, 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	151	5.4
	165	4.7
< 4.0 pCi/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. Moulds
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 10 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
Rock View Elementary School		
Test Period: 02/29/16-03/03/16		
Kit Number	Room / Area	Result
7729765	116	0.7
7730198	116	0.6
7730687	149	2.6
7729778	151	5.4
7729782	165	3.8
7729788	166	0.6
7729764	168	0.7
7729770	203	< 0.3
7730197	206	1.2
7729772	207	< 0.3
7730695	211	0.7
7729779	213	< 0.3
7729773	216	0.6
7729777	217	0.7
7729781	219	0.8
7729760	220	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Rock View Elementary School		
Test Period: 02/29/16-03/03/16		
Kit Number	QC Type	Result
7729780	D (165)	4.7
7729767	D (219)	0.7
7729762	FB (216)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 16, 2016** **LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

**ROCK VIEW ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7729765	116	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.7 ± 0.3	2016-03-07
7730198	116	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.6 ± 0.3	2016-03-07
7730687	149	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	2.6 ± 0.4	2016-03-07
7729778	151	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	5.4 ± 0.6	2016-03-07
7729780	165	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	4.7 ± 0.6	2016-03-07
7729782	165	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	3.8 ± 0.5	2016-03-07
7729788	166	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.6 ± 0.3	2016-03-07
7729764	168	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.7 ± 0.3	2016-03-07
7729770	203	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	< 0.3	2016-03-07
7730197	206	2016-02-29 @ 3:00 pm	2016-03-03 @ 10:00 am	1.2 ± 0.4	2016-03-07
7729772	207	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	< 0.3	2016-03-07
7730695	211	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.7 ± 0.3	2016-03-07
7729779	213	2016-02-29 @ 2:00 pm	2016-03-03 @ 11:00 am	< 0.3	2016-03-07
7729762	216	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	< 0.3	2016-03-07
7729773	216	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.6 ± 0.3	2016-03-07
7729777	217	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.7 ± 0.3	2016-03-07
7729767	219	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.7 ± 0.3	2016-03-07
7729781	219	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	0.8 ± 0.3	2016-03-07
7729760	220	2016-02-29 @ 2:00 pm	2016-03-03 @ 10:00 am	< 0.3	2016-03-07

March 16, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**MCPS Radon
Phase 10 Office Blanks**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7726881	0	2016-02-29 @ 12:00 pm	2016-03-03 @ 12:00 pm	< 0.3	2016-03-07
7735197	0	2016-02-29 @ 12:00 pm	2016-03-03 @ 12:00 pm	< 0.3	2016-03-07

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

March 22, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**TRANSIT - PHASE 10 & 11
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7735300	1	2016-03-18 @ 4:00 pm	2016-03-21 @ 4:00 pm	< 0.3	2016-03-22
7735296	2	2016-03-18 @ 4:00 pm	2016-03-21 @ 4:00 pm	< 0.3	2016-03-22
7735294	3	2016-03-18 @ 4:00 pm	2016-03-21 @ 4:00 pm	< 0.3	2016-03-22

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

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: 11/30/16 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

3 Left

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

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



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 10

Name of Schools:

1. Clarksburg Annex
2. Gaithersburg HS
3. Garrett Park Annex
4. Fields Road ES
5. Whitman HS
6. Rockview ES
7. Whittier Woods
8. Roscoe Nix ES
9. Clearspring ES
10. Key MS

	Date	Initials
Radon Test Kits Deployed	2/29/16	JM
Radon Test Kits Collected	3/3/16	JM
Radon Test Kits Shipped to Lab*	3/3/16	JM
Radon Test Kits Received by Lab*	3/7/16	JM

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



MCPS RADON TESTING

Executive Summary: Rock View Elementary School

Date of Test Report:	2/9/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	75
# Rooms ≥ 4.0 pCi/L:	1
Low Value:	<0.3
High Value:	4.4

Rooms with results ≥ 4.0 pCi/L:
Room: 151 (4.4 pCi/L)

Project Status:
Initial testing completed; re-test needed for results ≥ 4.0 pCi/L.



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

February 9, 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 # 12146341.24

Location: Rock View Elementary School
3901 Denfeld Avenue
Kensington, MD 20895

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 Rock View Elementary School, located at 3901 Denfeld Avenue in Kensington, Maryland 20895 (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 11, 2016 and deployed ninety-four (94) 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 14, 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 $\leq 65^{\circ}\text{F}$.

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 (pCi/L)
≥ 4.0 pCi/L	151	4.4
< 4.0 pCi/L	See Attachment B	

Notes:

D- Duplicate sample

All field blanks, 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,



H. Allen Bennett
Certified Industrial Hygienist
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		
Rock View Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	Room / Area	Result
7718033	100	2.2
7714034	101	2.8
7718031	102	1.9
7714038	103	2.8
7714049	104	< 0.3
7714035	105	1
7718029	107	< 0.3
7714043	109	0.8
7714070	111	2.4
7714003	112	1.1
7714010	114	1.2
7714012	116	0.7
7714015	116	1
7714017	116	0.6
7714053	117	< 0.3
7714964	119	< 0.3
7714022	121	< 0.3
7714044	123	< 0.3
7714037	125	0.9
7714094	126	< 0.3
7718009	127	0.6
7714069	128	0.7
7714027	130	< 0.3
7714045	132	0.9
7711553	138	0.6
7711693	140	0.8
7718032	141	3.1
7714008	142	< 0.3
7714007	144	< 0.3
7718030	146	< 0.3
7718011	147	1.5
7718012	147	1.4
7714405	148	0.7
7711608	149	3.4
7711619	151	4.4
7714454	153	< 0.3
7715013	155	< 0.3
7711609	158	1.5
7718027	159	1.1
7718014	160	2.5
7718024	160	2.7
7718035	160	2.8
7718034	160	1.1
7714018	161	< 0.3
7714452	162	0.9
7714048	163	1.5

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Rock View Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	Room / Area	Result
7714966	164	1.2
7714006	165	3.3
7714406	166	0.5
7714016	170	0.6
7714019	172	1.4
7718025	181	2.6
7718026	182	1.8
7714455	183	2.4
7718022	184	1.4
7718040	185	1
7718021	186	1
7718039	187	1.1
7718020	188	1.1
7718037	189	1.1
7718015	190	1.5
7718036	191	2.1
7714004	100A	3.2
7714001	100B	2.8
7714005	100C	3.1
7714967	100D	1.5
7714965	102B	1.9
7714014	* 116 (Missing)	0
7714020	116C	1.3
7718017	* 116D (Temperature)	1.1
7714036	125A	1.2
7714011	* 168 (Tampered)	0.8
7718002	* 203 (Temperature)	0.8
7718023	* 206 (Temperature)	2.2
7718005	* 207 (Temperature)	0.8
7718016	* 211 (Temperature)	0.7
7718019	* 213 (Temperature)	1.1
7718001	* 216 (Temperature)	1.3
7718007	* 217 (Temperature)	1.4
7718006	* 219 (Temperature)	1.3
7718004	* 220 (Temperature)	1.1
7718013	LO	2.2

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Rock View Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	QC Type	Result
7714009	* D (116:Missing)	0
7714029	D (127)	< 0.3
7711601	D (142)	< 0.3
7718010	D (147)	1.5
7714050	D (163)	1.4
7707923	D (166)	< 0.3
7718018	D (185)	1.2
7714046	* D (206:Temperature)	1.9
7718028	FB (161)	< 0.3
7718038	FB (187)	< 0.3
7718008	* FB (219:Temperature)	< 0.3
7714047	* OB (0:Temperature)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

**ROCK VIEW ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7714047	0	2016-01-11 @ 1:00 pm	2016-01-14 @ 2:00 pm	< 0.3	2016-01-18
7718033	100	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	2.2 ± 0.4	2016-01-18
7714004	100A	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	3.2 ± 0.5	2016-01-18
7714001	100B	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	2.8 ± 0.4	2016-01-18
7714005	100C	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	3.1 ± 0.5	2016-01-18
7714967	100D	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.5 ± 0.4	2016-01-18
7714034	101	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	2.8 ± 0.5	2016-01-18
7718031	102	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.9 ± 0.4	2016-01-18
7714965	102B	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.9 ± 0.4	2016-01-18
7714038	103	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	2.8 ± 0.5	2016-01-19
7714049	104	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7714035	105	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.0 ± 0.3	2016-01-18
7718029	107	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7714043	109	2016-01-11 @ 12:00 pm	2016-01-14 @ 9:00 am	0.8 ± 0.3	2016-01-18
7714070	111	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	2.4 ± 0.4	2016-01-18
7714003	112	2016-01-11 @ 12:00 pm	2016-01-14 @ 9:00 am	1.1 ± 0.3	2016-01-18
7714010	114	2016-01-11 @ 12:00 pm	2016-01-14 @ 9:00 am	1.2 ± 0.3	2016-01-18
7714009	116	@	@		
7714014	116	@	@		
7714015	116	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.0 ± 0.3	2016-01-18
7714017	116	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.6 ± 0.3	2016-01-18
7714012	116	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.7 ± 0.4	2016-01-19
7714020	116C	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.3 ± 0.3	2016-01-18
7718017	116D	2016-01-11 @ 1:00 pm	2016-01-14 @ 9:00 am	1.1 ± 0.5	2016-01-19
7714053	117	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	< 0.3	2016-01-19
7714964	119	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7714022	121	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7714044	123	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7714037	125	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	0.9 ± 0.3	2016-01-18
7714036	125A	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	1.2 ± 0.3	2016-01-18
7714094	126	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7718009	127	2016-01-11 @ 9:00 am	2016-01-14 @ 8:00 am	0.6 ± 0.3	2016-01-18
7714029	127	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714069	128	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	0.7 ± 0.3	2016-01-18
7714027	130	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7714045	132	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	0.9 ± 0.3	2016-01-19
7711553	138	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	0.6 ± 0.3	2016-01-18

Radon test result report for:

**ROCK VIEW ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7711693	140	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	0.8 ± 0.3	2016-01-18
7718032	141	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	3.1 ± 0.5	2016-01-19
7711601	142	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7714008	142	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7714007	144	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7718030	146	2016-01-11 @ 9:00 am	2016-01-14 @ 8:00 am	< 0.3	2016-01-19
7718010	147	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	1.5 ± 0.3	2016-01-18
7718011	147	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	1.5 ± 0.3	2016-01-18
7718012	147	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	1.4 ± 0.3	2016-01-18
7714405	148	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.7 ± 0.3	2016-01-18
7711608	149	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	3.4 ± 0.5	2016-01-18
7711619	151	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	4.4 ± 0.6	2016-01-19
7714454	153	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7715013	155	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7711609	158	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.5 ± 0.4	2016-01-18
7718027	159	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.1 ± 0.3	2016-01-18
7718014	160	2016-01-11 @ 9:00 am	2016-01-14 @ 8:00 am	2.5 ± 0.4	2016-01-18
7718034	160	2016-01-11 @ 9:00 am	2016-01-14 @ 8:00 am	1.1 ± 0.3	2016-01-18
7718035	160	2016-01-11 @ 9:00 am	2016-01-14 @ 8:00 am	2.8 ± 0.4	2016-01-18
7718024	160	2016-01-11 @ 9:00 am	2016-01-14 @ 8:00 am	2.7 ± 0.5	2016-01-19
7718028	161	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7714018	161	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7714452	162	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.9 ± 0.3	2016-01-18
7714050	163	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.4 ± 0.3	2016-01-18
7714048	163	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.5 ± 0.4	2016-01-19
7714966	164	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.2 ± 0.3	2016-01-18
7714006	165	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	3.3 ± 0.5	2016-01-18
7707923	166	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7714406	166	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.5 ± 0.3	2016-01-18
7714011	168	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.8 ± 0.4	2016-01-19
7714016	170	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.6 ± 0.3	2016-01-18
7714019	172	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.4 ± 0.3	2016-01-18
7718025	181	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	2.6 ± 0.4	2016-01-18
7718026	182	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.8 ± 0.4	2016-01-18
7714455	183	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	2.4 ± 0.4	2016-01-18
7718022	184	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.4 ± 0.4	2016-01-18
7718018	185	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	1.2 ± 0.3	2016-01-18

February 4, 2016
****LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

**ROCK VIEW ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7718040	185	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	1.0 ± 0.3	2016-01-18
7718021	186	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	1.0 ± 0.4	2016-01-19
7718038	187	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7718039	187	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	1.1 ± 0.3	2016-01-18
7718020	188	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	1.1 ± 0.3	2016-01-18
7718037	189	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	1.1 ± 0.3	2016-01-18
7718015	190	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	1.5 ± 0.3	2016-01-18
7718036	191	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	2.1 ± 0.4	2016-01-18
7718002	203	2016-01-11 @ 1:00 pm	2016-01-14 @ 10:00 am	0.8 ± 0.4	2016-01-18
7718023	206	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	2.2 ± 0.5	2016-01-18
7714046	206	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	1.9 ± 0.5	2016-01-19
7718005	207	2016-01-11 @ 1:00 pm	2016-01-14 @ 10:00 am	0.8 ± 0.4	2016-01-18
7718016	211	2016-01-11 @ 1:00 pm	2016-01-14 @ 10:00 am	0.7 ± 0.4	2016-01-18
7718019	213	2016-01-11 @ 1:00 pm	2016-01-14 @ 10:00 am	1.1 ± 0.4	2016-01-19
7718001	216	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	1.3 ± 0.4	2016-01-18
7718007	217	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	1.4 ± 0.4	2016-01-18
7718006	219	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	1.3 ± 0.4	2016-01-18
7718008	219	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7718004	220	2016-01-11 @ 12:00 pm	2016-01-14 @ 10:00 am	1.1 ± 0.5	2016-01-19
7718013	LO	2016-01-11 @ 9:00 am	2016-01-14 @ 10:00 am	2.2 ± 0.4	2016-01-18

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

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, Device No.'s: _____

7706211, 7706366, _____

7706380, 7706381 _____

F3 Left

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

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

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

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

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

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

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



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 V

Name of Schools:

- | | | |
|-------------------------|---------------------------|-------------------------|
| 1. Arcola ES | 11. Clopper Mill ES | 21. Parkland Magnet MS |
| 2. Argyle ES | 12. College Gardens ES | 22. Rachel Carson ES |
| 3. Bells Mill ES | 13. Eastern MS | 23. Roberto Clemente MS |
| 4. Bethesda ES | 14. Fallsmead ES | 24. Rock Creek ES |
| 5. Brookhaven ES | 15. Fields Road ES | 25. Rockview ES |
| 6. Burning Tree ES | 16. Flower Hill ES | 26. Rockville HS |
| 7. Capt. James Daly ES | 17. Flower Valley ES | 27. Rocky Hill MS |
| 8. Carderock Springs ES | 18. Fox Chapel ES | 28. Seneca Valley HS |
| 9. Cashell ES | 19. Glen Haven ES | 29. Westover ES |
| 10. Clearspring ES | 20. James Hubert Blake HS | 30. William Farquar MS |

	Date	Initials
Radon Test Kits Deployed	1/11/16	JM
Radon Test Kits Sampled	1/14/16	JM
Radon Test Kits Shipped to Lab*	1/15/16	JM
Radon Test Kits Received by Lab*	1/18/16	JM

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