

School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Benjamin Banneker Middle School		
Address:	14800 Perrywood Drive		
	Burtonsville, MD 20866		
Reason for Testing:	Scheduled Re-Testing - <input type="checkbox"/> 2-year or <input checked="" type="checkbox"/> 5-year schedule <input type="checkbox"/> Clearance Testing (Post-Mitigation) <input type="checkbox"/> Building Envelope or HVAC Upgrades <input type="checkbox"/> New Construction – Addition or Facility		
Current Radon Status:	<input type="checkbox"/> Active Mitigation (2-year regular schedule) <input checked="" type="checkbox"/> No Active Mitigation (5-year regular schedule) <input type="checkbox"/> Not Previously Tested (New Facility)		
Round of Testing:	<input 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 checked="" type="checkbox"/> Not Required <input type="checkbox"/> Required (≥ 4.0 -pCi/L) Rooms:	<input checked="" type="checkbox"/> No Change in Status <input type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	49	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥ 4.0 -pCi/L)	0	Highest Value (pCi/L)	0.8

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

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

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

Attachment 2 – Laboratory Report(s)

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

Detector and Deployment

Detector/Device Type:	<input checked="" type="checkbox"/> Passive	<input checked="" type="checkbox"/> Charcoal Absorption (CAD) <input type="checkbox"/> Alpha Track (ATD) <input type="checkbox"/> Other
	<input type="checkbox"/> Continuous	<input type="checkbox"/> Electret ion Chamber (EIC) <input type="checkbox"/> Electronic Integration (EID)
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
Shakia Dawkins		KCI Technologies, Inc.
Shannon King		KCI Technologies, Inc.
<i>If noncertified individuals, the qualified measurement professional providing oversight -</i>		
Tyler McCleaf, CSP – Cert. #111004-RMP		KCI Technologies, Inc.

Testing

<input checked="" type="checkbox"/> Short-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	12/02/24	03/11/25
<input type="checkbox"/> Long-Term				12/05/24	03/14/25
Does the test period include weekends, school breaks or holidays?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<i>If “Yes” please explain/detail in the space below:</i>					
Was HVAC operating under occupied conditions?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If “No” please explain/detail in the space below:</i>					

Testing (continued)

Round of Testing	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Test Locations ¹	42	2	6	0	50
Duplicates ²	5	1	0	0	6
Field Blanks ³	2	1	0	0	3
Grand Total					59

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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"/> Yes <input type="checkbox"/> No
For all Duplicate Samples ¹ , Relative Percent Difference(s) (RPD) ² are less than the Warning Level ³ ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
For all Duplicate Samples ¹ , Relative Percent Difference(s) (RPD) ² are less than the Control Level ³ ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

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

Summary of Test Results¹ and Determination of Valid Measurements²

Round of Testing	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Number of test locations:	42	1	6	0	49
Number of locations ≥ 8.0 -pCi/L:	0	0	0	0	0
Number of locations ≥ 4.0 and ≤ 8 -pCi/L:	0	0	0	0	0
Number of locations ≥ 2.7 and < 4 -pCi/L:	0	0	0	0	0
Number of locations ≥ 2.0 and < 2.7 -pCi/L:	0	0	0	0	0
Number of missing required test locations ³ :	0	0	0	0	0
Number of failed duplicate control locations:	1	0	0	0	1
Percentage of missing test locations for the facility ^{4,5} :	0	0	0	0	0

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

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

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

4 – if all valid measurements are < 4.0 -pCi/L and the total number of test locations are ≥ 18 , there is an allowance of $\leq 33\%$. 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		
Benjamin Banneker Middle School		
Test Period: 12/02/2024 - 12/05/2024		
Kit Number	Room / Area	Result
11903635	116	< 0.3
11903636	117	< 0.3
11903647	118	< 0.3
11903699	118	< 0.3
11903638	119	< 0.3
11903662	120	< 0.3
11903691	121	< 0.3
11903630	122	< 0.3
11903671	123	< 0.3
11903686	125	0.7
11903694	125	< 0.3
11903668	127	< 0.3
11903685	131	< 0.3
11903654	230	< 0.3
11903677	232	< 0.3
11903661	234	< 0.3
11903689	234	< 0.3
11903693	236	0.6
11903660	101A	< 0.3
11903696	101A	< 0.3
11903676	101B	< 0.3
11903673	101C	< 0.3
11903679	107A	< 0.3
11903672	107B	< 0.3
11903695	107B	< 0.3
11903658	107C	< 0.3
11903698	107D	< 0.3
11903675	131/127 OFFICE	< 0.3
11903645	ADMIN SECRETARY	< 0.3
11903651	ART OFFICE	< 0.3
11903670	ASST PRINCIPAL CHANDLER	< 0.3
11903707	ASST PRINCIPAL HAWES	< 0.3
11903616	AUX GYM	0.7
11903674	AUX GYM	0.7
11903688	BOYS LOCKER ROOM	< 0.3
11903687	BOYS LOCKER ROOM OFFICE	< 0.3
11903666	CAFETERIA	< 0.3
11903697	CAFETERIA	< 0.3
11903637	COMMUNITY OFFICE	0.5
11903653	CONFERENCE ROOM	< 0.3
11903700	COUNSELING	< 0.3

Table 1- Radon Testing Results		
Benjamin Banneker Middle School		
Test Period: 12/02/2024 - 12/05/2024		
Kit Number	Room / Area	Result
11903683	FINANCE OFFICE	< 0.3
11903640	GIRLS LOCKER ROOM	< 0.3
11903678	GIRLS LOCKER ROOM OFFICE	< 0.3
11903639	GYM	< 0.3
11903684	GYM	0.6
11903669	HEALTH	< 0.3
11903682	HEALTH OFFICE	< 0.3
11903642	KITCHEN OFFICE	< 0.3
11903692	MAIN OFFICE	< 0.3
11903703	PRINCIPAL	< 0.3
11903667	SECURITY OFFICE 200	0.8
11903680	STAGE	< 0.3
11903690	STAGE	< 0.3
11903681	WORKROOM	< 0.3

[illegible]

Table 3 - QC Radon Testing Results			
Benjamin Banneker Middle School			
Test Period: 12/02/2024 - 12/05/2024			
Kit Number	QC Type	Room / Area	Result
11903647	D	118	< 0.3
11903694	D	125	< 0.3
11903689	D	234	< 0.3
11903696	D	101A	< 0.3
11903672	FB	107B	< 0.3
11903674	D	AUX GYM	0.7
11903680	FB	Stage	< 0.3
11892899	OB	OFFICE BLANK	< 0.3
11892900	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Benjamin Banneker MS										
Test Period: 12/02/2024 - 12/05/2024										
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
11903661	11903689	234	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11903616	11903674	Aux Gym	0.7	0.7	✓	1.4	PASS	0.7	<1-pCi/L	✓
11903696	11903660	101A	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11903686	11903694	125	0.7	0.3	✓	0.6	FAIL	0.5	<1-pCi/L	✗
11903699	11903647	118	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
NOTES: QC Check #1 - Data Entry QC Check #2 - Higher duplicate concentration is < or = to 2x the Lower QC Check #3 - Meets RPD Limits, by average duplicate concentration - enter 2 if RPD is BELOW warning and control levels, AND passes QC Check 1 and 2 - enter 1 if RPD is ABOVE warning and BELOW control levels, AND passes QC Check 1 and 2 - enter 0 if RPD is ABOVE control level, or 'FAILS' QC Check 1 or 2							Average (pCi/L)		Warning Level	Control Level
							< 2.0		1-pCi/L	NA
							Between 2.0 and 3.9		50% RPD	67% RPD
							≥ 4.0		28% RPD	36% RPD

[illegible]

Table 1- Radon Testing Results		
Benjamin Banneker Middle School RT		
Test Period: 3/11/2025 - 3/14/2025		
Kit Number	Room / Area	Result
11892434	125	0.6
11892435	125	< 0.3
11892436	125	0.5
11892437	125	< 0.3

[illegible]

Table 3 - QC Radon Testing Results			
Benjamin Banneker Middle School RT			
Test Period: 3/11/2025 - 3/14/2025			
Kit Number	QC Type	Room / Area	Result
11892437	D	125	< 0.3
11892435	FB	125	< 0.3
11886599	OB	OFFICE BLANK	< 0.3
11886600	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Benjamin Banneker Middle School RT										
Test Period: 3/11/2025 - 3/14/2025										
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
11892437	11892434 11892436	125	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]

Attachment 2:

Laboratory Reports

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11903660	101A	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903696	101A	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903676	101B	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903673	101C	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903679	107A	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903695	107B	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903672	107B	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903658	107C	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903698	107D	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903635	116	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903636	117	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903699	118	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903647	118	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903638	119	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903662	120	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903691	121	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903630	122	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903671	123	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903686	125	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	0.7 ± 0.4	2024-12-09
11903694	125	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903668	127	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903685	131	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903675	131/127 OFFICE	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903654	230	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903677	232	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903661	234	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903689	234	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903693	236	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	0.6 ± 0.3	2024-12-09
11903645	ADMIN SECRETARY	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903651	ART OFFICE	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903670	ASST PRINCIPAL CHANDLER	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903707	ASST PRINCIPAL HAWES	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903616	AUX GYM	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	0.7 ± 0.3	2024-12-09
11903674	AUX GYM	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	0.7 ± 0.3	2024-12-09
11903688	BOYS LOCKER ROOM	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903687	BOYS LOCKER ROOM OFFICE	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903697	CAFETERIA	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09

December 9, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11903666	CAFETERIA	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903637	COMMUNITY OFFICE	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	0.5 ± 0.3	2024-12-09
11903653	CONFERENCE ROOM	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903700	COUNSELING	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903683	FINANCE OFFICE	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903640	GIRLS LOCKER ROOM	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903678	GIRLS LOCKER ROOM OFFICE	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903639	GYM	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903684	GYM	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	0.6 ± 0.4	2024-12-09
11903669	HEALTH	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903682	HEALTH OFFICE	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903642	KITCHEN OFFICE	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903692	MAIN OFFICE	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903703	PRINCIPAL	2024-12-02 @ 12:00 pm	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903667	SECURITY OFFICE 200	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	0.8 ± 0.3	2024-12-09
11903690	STAGE	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903680	STAGE	2024-12-02 @ 11:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09
11903681	WORKROOM	2024-12-02 @ 10:00 am	2024-12-05 @ 10:00 am	< 0.3	2024-12-09

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

P4792 / TYLER MCCLEAF

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

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



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 – Testing December 2nd – December 5th, 2024

Name of Schools:

- | | |
|-------------------------|--------------------------|
| 1. Argyle MS | 4. James Hubert Blake HS |
| 2. Benjamin Banneker MS | 5. Briggs Chaney MS |
| 3. Belmont ES | 6. Burtonsville ES |

	Date	Initials
Radon Test Kits Deployed	12/02/2024	BMM
Radon Test Kits Collected	12/05/2024	BMM
Radon Test Kits Shipped to Lab*	12/05/2024	BMM
Radon Test Kits Received by Lab*	12/09/2024	BMM

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

March 17, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892434	125	2025-03-11 @ 10:00 am	2025-03-14 @ 11:00 am	0.6 ± 0.3	2025-03-17
11892435	125	2025-03-11 @ 10:00 am	2025-03-14 @ 11:00 am	< 0.3	2025-03-17
11892436	125	2025-03-11 @ 10:00 am	2025-03-14 @ 11:00 am	0.5 ± 0.3	2025-03-17
11892437	125	2025-03-11 @ 10:00 am	2025-03-14 @ 11:00 am	< 0.3	2025-03-17

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

March 17, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**OFFICE
MAIN**

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

March 17, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**TRAVEL
MAIN**

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

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

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



Radon Test Kit Chain of Custody

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

Name of Schools:

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

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

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Banneker Middle School
Date of Report	2/28/2020
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	3
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1 pCi/L

Project Status

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



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

2/28/2020

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

Re: Radon Testing Services

KCI Job #12146341.126

Location: Banneker Middle School

14800 Perrywood Drive
Burtonsville, Maryland 20866

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 Banneker Middle School, located at 14800 Perrywood Drive in Burtonsville, Maryland 20866 (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 #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 2/11/2020 and deployed four (4) 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 with missing test kits from the December 2019 testing period (i.e. test kit was deployed but not recovered),

-
2. Rooms with invalidated test kits from the December 2019 testing period (e.g. an open window in the room or disturbed test kit),
 3. Rooms which were locked/inaccessible during the December 2019 testing period,
 4. Rooms with elevated December 2019 results (i.e. ≥ 3.5 pCi/L),
 5. Rooms previously tested for radon but not tested in December 2019, and
 6. Additional rooms that require testing (if applicable.)

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 2/14/2020 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 NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

KCI recorded observations of the following conditions in each room 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 mid-20s to the upper-40s; and high temperatures ranged from the lower-40s to the upper-50s. Maximum sustained winds ranged from 14-24 miles per hour. Average humidity was approximately 74%. A total of 1.32 inches of rain were recorded during the testing period. The weather conditions during the testing period may have resulted in atypical radon test results for this facility.

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). Follow-up 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
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

Floor Plan Legend

X-Sample Location (in red)

X- Previous Sample Location

1- Not Samled; No Ground Contact

2- Not Samled; Unoccupied (e.g. Storage, Mechanical)

3- Not Samled; High Humidity/Moisture

4- Not Samled; Bathroom/Hallway

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		
Banneker Middle School		
Test Period: 02/11/20-02/14/20		
Kit Number	Room / Area	Result
9346907	202	1
9346966		< 0.3
9346967	225E	< 0.3
9348502	OFFICE BLANK	< 0.3

Table 2- Radon Testing Results			
Banneker Middle School			
Test Period: 02/11/20-02/14/20			
Kit Number	QC Type	Room / Area	Result
9348522	TRANSIT BLANK	NA	0.7
9341735	TRANSIT BLANK	NA	<0.3

ATTACHMENT C

Laboratory Analytical Results

February 19, 2020

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**BANNEKER MS RT
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9346907	202	2020-02-11 @ 10:00 am	2020-02-14 @ 12:00 pm	1.0 ± 0.4	2020-02-19
9346967	225E	2020-02-11 @ 10:00 am	2020-02-14 @ 12:00 pm	< 0.3	2020-02-19
9346966	AVID OFFICE	2020-02-11 @ 10:00 am	2020-02-14 @ 12:00 pm	< 0.3	2020-02-19

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 194523

NOMINAL Conditions: Radon Conc 25.8 pCi/L Rel. Hum 49.8 % Temp. 70.2 F

Date Start: 2/21/20 Date Stop: 2/24/20 Date Start: _____ Date Stop: _____

Time Start: 0745 Time Stop: 0745 Time Start: _____ Time Stop: _____

Device No.'s: (9) Char Bags - Device No.'s: _____

9341725 thru 9341733 _____

52 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

February 28, 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
9341725	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	26.9 \pm 1.6	2020-02-26
9341730	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	26.1 \pm 1.6	2020-02-26
9341728	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	26.9 \pm 1.6	2020-02-26
9341726	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	25.8 \pm 1.5	2020-02-26
9341731	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	25.1 \pm 1.5	2020-02-26
9341729	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	26.2 \pm 1.6	2020-02-26
9341727	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	27.2 \pm 1.6	2020-02-26
9341732	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	27.3 \pm 1.6	2020-02-26

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 2

Name of Schools:

- | | |
|-----------------------|-------------------|
| 1. Argyle M.S. | 6. Fallsmead E.S. |
| 2. Banneker M.S. | 7. Farquhar M.S. |
| 3. Bel Pre E.S. | 8. Kennedy H.S. |
| 4. Blake H.S. | 9. Magruder H.S. |
| 5. Briggs Chaney M.S. | 10. Wheaton H.S. |

	Date	Initials
Radon Test Kits Deployed	2/11/20	JM
Radon Test Kits Collected	2/14/20	JM
Radon Test Kits Shipped to Lab*	2/14/20	JM
Radon Test Kits Received by Lab*	2/17/20	JM

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Banneker Middle School
Date of Report	2/3/2020
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	91
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.3 pCi/L

Project Status

Current Project Status at this time: Testing Complete; missing/compromised tests to be sampled.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

2/3/2020

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: Banneker Middle School

14800 Perrywood Drive
Burtonsville, Maryland 20866

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 Banneker Middle School, located at 14800 Perrywood Drive in Burtonsville, Maryland 20866 (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 <https://www.montgomeryschoolsmd.org/departments/facilities/maintenance/default.aspx?id=458858> or www.epa.gov/radon.

KCI visited the site on 12/16/2019 and deployed one- hundred fourteen (114) 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 12/19/2019 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 lower-20s and high temperatures were in the lower-40s. Maximum sustained winds ranged from 12-26 miles per hour. Average humidity was around 67%. 0.54 inches of precipitation (rain and snow) 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		
Banneker Middle School		
Test Period: 12/16/2019-12/20/2019		
Kit Number	Room / Area	Result
9339401	207D	< 0.3
9339402	207E	< 0.3
9339403	207B	< 0.3
9339404	207A	< 0.3
9339405	207C	< 0.3
9339406	COUSELOR MAIN	< 0.3
9339407	COUSELOR MAIN	< 0.3
9339408	200	< 0.3
9339409	GIRL LOCKER OFFICE	0.7
9339410	BOY LOCKER OFFICE	< 0.3
9339411	MUSIC 230	0.6
9339412	MUSIC OFFICE	< 0.3
9339413	CHORUS 232	0.5
9339414	234	< 0.3
9339415	234	< 0.3
9339416	236	< 0.3
9339417	236	< 0.3
9339418	AUX GYM	1.3
9339419	AUX GYM	1.1
9339420	GYM	< 0.3
9339421	GYM	< 0.3
9339422	GYM	0.6
9339423	201	< 0.3
9339424	CAFETERIA	< 0.3
9339425	CAFETERIA	0.9
9339426	CAFETERIA	< 0.3
9339427	203	< 0.3
9339428	NURSE OFFICE	< 0.3
9339429	HEALTH	0.5
9339430	PRINCIPAL	< 0.3
9339431	ASSISTANT PRINCIPAL	< 0.3
9339432	ASSISTANT PRINCIPAL	< 0.3
9339433	WORK ROOM	< 0.3
9339434	ADMINISTRATIVE SECRETARY	< 0.3
9339435	MAIN OFFICE	< 0.3
9339601	AVID OFFICE	MISSING
9339602	TEAM OFFICE	< 0.3
9339603	GYM	0.5
9339604	235G	< 0.3
9339605	235G	0.5
9339606	235E	0.6
9339607	SPECIAL ED OFFICE	< 0.3
9339608	235E	< 0.3
9339609	235D	< 0.3
9339610	235C	< 0.3
9339611	235B	< 0.3
9339612	229C	< 0.3
9339613	229B	< 0.3
9339614	229A	< 0.3
9339615	229B	< 0.3

9339616	235F	< 0.3
9339617	235A	< 0.3
9339618	204	< 0.3
9339619	MEDIA CENTER	< 0.3
9339620	211	< 0.3
9339621	LIBRARY OFFICE	< 0.3
9339622	MEDIA CENTER	< 0.3
9339623	MEDIA CENTER	< 0.3
9339624	205	< 0.3
9339625	225E	MISSING
9339626	205	< 0.3
9339627	225F	< 0.3
9339628	225F	< 0.3
9339629	225C	< 0.3
9339630	225D	< 0.3
9339631	ENGLISH OFFICE	< 0.3
9339632	225B	< 0.3
9339633	CONSELOR 1	< 0.3
9339634	225A	< 0.3
9339635	COUNSELOR 1	< 0.3
9339636	COUNSELOR 3	< 0.3
9339637		< 0.3
9339638	COUNSELOR 2	< 0.3
9339639	COUNSELOR 4	< 0.3
9339640	KITCHEN OFFICE	0.8
9339641	105	< 0.3
9339642	118	< 0.3
9339643	RECORDING ROOM	< 0.3
9339644	DEVEL. READING	< 0.3
9339645	119	< 0.3
9339646	122	< 0.3
9339647	107C	< 0.3
9339648	RECORDING ROOM	< 0.3
9339649	113	< 0.3
9339650	107B	< 0.3
9339651	117	< 0.3
9339652	118	< 0.3
9339653	BLDG SCVS MGR III	< 0.3
9339654	107D	< 0.3
9339655	PPW OFFICE	0.7
9339656	SDT OFFICE	< 0.3
9339657	101A	0.6
9339658	101C	< 0.3
9339659	116	< 0.3
9339660	107A	< 0.3
9339661	107D	< 0.3
9339662	121	< 0.3
9339663	231	< 0.3
9339664	TAPE ROOM	< 0.3
9339665	101B	< 0.3
9339666	RECORDING ROOM	< 0.3
9339667	SECURITY	0.5
9339668	125	< 0.3
9339669	TEAM 6	0.7
9339670	125 OFFICE	0.6

9339675	131	< 0.3
9339676	CONF ROOM	< 0.3
9339677	127	< 0.3
9339680	123	0.7
9339683	127 OFFICE	< 0.3
9339684	127 OFFICE	< 0.3
9339688	202	MISSING
9339699	120	< 0.3
9339700	107D	< 0.3
9341382	OFFICE BLANK	< 0.3

Table 2- Radon Testing Results			
Banneker Middle School			
Test Period: 12/16/2019-12/19/2019			
Kit Number	QC Type	Room / Area	Result
9339426	D	CAFETERIA	<0.3
9339417	D	236	<0.3
9339415	FB	234	<0.3
9339406	D	COUNSELOR MAIN	<0.3
9339605	D	235G	0.5
9339608	FB	235E	<0.3
9339615	D	229B	<0.3
9339626	D	205	<0.3
9339628	FB	225F	<0.3
9339635	D	COUNSELOR 1	<0.3
9339643	D	RECORDING ROOM	<0.3
9339652	D	118	<0.3
9339661	D	107D	<0.3
9339684	D	127 OFFICE	<0.3
9341377	TRANSIT BLANK	NA	0.5
9341379	TRANSIT BLANK	NA	< 0.3
9341380	TRANSIT BLANK	NA	< 0.3
9341398	TRANSIT BLANK	NA	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9339657	101A	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.6 ± 0.3	2019-12-24
9339665	101B	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339658	101C	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339660	107A	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339650	107B	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339647	107C	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339700	107D	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339661	107D	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339654	107D	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339649	113	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339680	123	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.4	2019-12-24
9339668	125	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339670	125 OFFICE	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.3	2019-12-24
9339677	127	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339683	127 OFFICE	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339684	127 OFFICE	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339675	131	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339676	CONF ROOM	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339655	PPW OFFICE	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.4	2019-12-24
9339656	SDT OFFICE	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9339641	105	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339659	116	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339651	117	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339642	118	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339652	118	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339645	119	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339699	120	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339662	121	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339646	122	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339408	200	2019-12-16 @ 5:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339423	201	2019-12-16 @ 5:00 pm	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339427	203	2019-12-16 @ 5:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339618	204	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339626	205	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339624	205	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339404	207A	2019-12-17 @ 7:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339403	207B	2019-12-17 @ 7:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339405	207C	2019-12-17 @ 7:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339401	207D	2019-12-17 @ 7:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339402	207E	2019-12-17 @ 7:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339620	211	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339634	225A	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339632	225B	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339629	225C	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339630	225D	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339627	225F	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339628	225F	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339614	229A	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339613	229B	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339615	229B	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339612	229C	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339663	231	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339414	234	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339415	234	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339617	235A	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339611	235B	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339610	235C	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9339609	235D	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339608	235E	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339606	235E	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.6 ± 0.4	2019-12-24
9339616	235F	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339604	235G	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339605	235G	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.5 ± 0.3	2019-12-24
9339416	236	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339417	236	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339434	ADMINISTRATIVE SECRETARY	2019-12-16 @ 5:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339431	ASSISTANT PRINCIPAL	2019-12-16 @ 5:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339432	ASSISTANT PRINCIPLE	2019-12-16 @ 5:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339419	AUX GYM	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	1.1 ± 0.3	2019-12-24
9339418	AUX GYM	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	1.3 ± 0.3	2019-12-24
9339601	AVID OFFICE	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	???? IF2	2019-12-24
9339653	BLDG SCVS MGR III	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339410	BOY LOCKER OFFICE	2019-12-16 @ 5:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339426	CAFETERIA	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339424	CAFETERIA	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339425	CAFETERIA	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	0.9 ± 0.4	2019-12-24
9339413	CHORUS 232	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	0.5 ± 0.3	2019-12-24
9339633	CONSELOR 1	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339635	COUNSELOR 1	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339638	COUNSELOR 2	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339636	COUNSELOR 3	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339639	COUNSELOR 4	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339406	COUSELOR MAIN	2019-12-16 @ 5:00 pm	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339407	COUSELOR MAIN	2019-12-16 @ 5:00 pm	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339644	DEVEL. READING	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339631	ENGLISH OFFICE	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339409	GIRL LOCKER OFFICE	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	0.7 ± 0.3	2019-12-24
9339603	GYM	2019-12-17 @ 8:00 am	2019-12-20 @ 7:00 am	0.5 ± 0.4	2019-12-24
9339421	GYM	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339422	GYM	2019-12-16 @ 5:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.3	2019-12-24
9339420	GYM	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339429	HEALTH	2019-12-16 @ 5:00 pm	2019-12-20 @ 9:00 am	0.5 ± 0.3	2019-12-24
9339640	KITCHEN OFFICE	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	0.8 ± 0.4	2019-12-24
9339637	LEE OYEDELE	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9339621	LIBRARY OFFICE	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339435	MAIN OFFICE	2019-12-16 @ 5:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339623	MEDIA CENTER	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339619	MEDIA CENTER	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339622	MEDIA CENTER	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339411	MUSIC 230	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	0.6 ± 0.3	2019-12-24
9339412	MUSIC OFFICE	2019-12-16 @ 5:00 pm	2019-12-20 @ 7:00 am	< 0.3	2019-12-24
9339428	NURSE OFFICE	2019-12-16 @ 5:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339430	PRINCIPLE	2019-12-16 @ 5:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339648	RECORDING ROOM	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339666	RECORDING ROOM	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339643	RECORDING ROOM	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339667	SECURITY	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.5 ± 0.4	2019-12-24
9339607	SPECIAL ED OFFICE	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339664	TAPE ROOM	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339669	TEAM 6	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.4	2019-12-24
9339602	TEAM OFFICE	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9339433	WORK ROOM	2019-12-16 @ 5:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24

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: 0815 Time Stop: 0815

(Group 1)

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

9340001 thru 9340020

55

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

Time Start: 0829 Time Stop: 0820

(Group 2)

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

9340021 thru 9340040

54

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

Time Start: 0825 Time Stop: 0825

(Group 3)

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

9340041 thru 9340060

53

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:

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:**S****N/A**

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

Radon test result report for:**S****N/A**

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

January 3, 2020

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

S

N/A

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







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 2

Name of Schools:

- | | |
|-------------------------------|---------------------|
| 1. Argyle M.S. | 13. Candelwood E.S. |
| 2. Banneker M.S. | 14. Drew E.S. |
| 3. Bel Pre E.S. | 15. Fallsmead E.S. |
| 4. Bells Mill E.S. | 16. Farquhar M.S. |
| 5. Bethesda Maintenance Depot | 17. Kennedy H.S. |
| 6. Beverly Farms E.S. | 18. Luxmanor E.S. |
| 7. Blake H.S. | 19. Magruder H.S. |
| 8. Dufief E.S. | 20. Redland M.S. |
| 9. Briggs Chaney M.S. | 21. Shriver E.S. |
| 10. Brookhaven E.S. | 22. Smith Center |
| 11. Burtonsville E.S. | 23. Viers Mill E.S. |
| 12. Cabin John M.S. | 24. Wheaton H.S. |

	Date	Initials
Radon Test Kits Deployed	12/16/19 to 12/17/19	
Radon Test Kits Collected	12/19/19 to 12/20/19	
Radon Test Kits Shipped to Lab*	12/20/19	
Radon Test Kits Received by Lab*	12/23/19	

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

RADON SCREENING SURVEY – FOLLOW-UP BANNEKER MIDDLE SCHOOL

14800 Perrywood Drive, Silver Spring, Maryland 20866

EXECUTIVE SUMMARY

Date of Test Report:	3/10/16
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	1
# Rooms \geq 4.0 pCi/L:	0
Low Value:	<0.3
High Value:	<0.3
Confirmed Rooms \geq 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events ≥ 4.0 pCi/L

[illegible]



MCPS RADON TESTING

Executive Summary: Benjamin Banneker Middle School

Date of Test Report:	3/10/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	1
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	< 0.3

Project Status:

Retesting 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

March 10, 2016

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

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

Location: Benjamin Banneker Middle School
14800 Perrywood Drive
Burtonsville, MD 20866

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 Benjamin Banneker Middle School, located at 14800 Perrywood Drive in Burtonsville, Maryland 20866 (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 23, 2016 and deployed three (3) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner prior to being returned to the laboratory for analysis.

KCI returned to the site on February 26, 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. Note that strong storms and heavy rainfall were recorded during the test period. The unusual weather conditions may have resulted in atypical radon test results for this facility.

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:

D- Duplicate sample

The 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,



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 9 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
Benjamin Banneker Middle School		
Test Period: 02/23/16-02/26/16		
Kit Number	Room / Area	Result
7729919	127	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Benjamin Banneker Middle School		
Test Period: 02/23/16-02/26/16		
Kit Number	QC Type	Result
7719499	D (127)	< 0.3
7732194	FB (127)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 8, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**BANNEKER MIDDLE SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719499	127	2016-02-23 @ 1:00 pm	2016-02-26 @ 12:00 pm	< 0.3	2016-03-01
7729919	127	2016-02-23 @ 1:00 pm	2016-02-26 @ 12:00 pm	< 0.3	2016-03-01
7732194	127	2016-02-23 @ 1:00 pm	2016-02-26 @ 12:00 pm	< 0.3	2016-03-01

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

March 9, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

MCPS

Phase 9 Office Blanks

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

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

March 9, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

MCPS

Phase 9 Office Blanks

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

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

February 23, 2016
****LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
TRANSIT- PHASE 7, 8, 9
NONE

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

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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 9

Name of Schools:

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

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

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



E N G I N E E R S • P L A N N E R S • S C I E N T I S T S • C O N S T R U C T I O N M A N A G E R S
Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 9

Name of Schools:

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

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

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



MCPS RADON TESTING

Executive Summary: Benjamin Banneker Middle School

Date of Test Report:	3/15/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	39
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.1

Project Status:

Initial testing completed; missing or compromised samples need re-test.



March 15, 2016 (Rev 1)

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

Re: **Radon Testing Services**
KCI Job # 12146341.23

Location: Benjamin Banneker Middle School
14800 Perrywood Drive
Burtonsville, MD 20866

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 Benjamin Banneker Middle School, located at 14800 Perrywood Drive in Silver Spring, Maryland 20866 (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 4, 2016 and deployed forty-seven (47) 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 7, 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
≥ 4.0 pCi/L	none	n/a
< 4.0 pCi/L	See Attachment B	

Notes:

D- Duplicate sample

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

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

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (410) 316-7800.

Sincerely,



James M. 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

Radon Testing Results		
Benjamin Banneker Middle School		
Test Period: 01/04/16-01/07/16		
Kit Number	Room / Area	Result
7714800	116	< 0.3
7715271	117	0.6
7714796	118	< 0.3
7714957	119	< 0.3
7713491	120	0.7
7714793	121	0.6
7714785	122	< 0.3
7713498	123	< 0.3
7713493	125	< 0.3
7706676	131	< 0.3
7715266	200	1.1
7715268	230	0.7
7715273	232	0.8
7715267	234	< 0.3
7714786	236	< 0.3
7707317	101A	0.6
7714972	101B	0.7
7713495	101C	< 0.3
7714962	107A	< 0.3
7714797	107B	< 0.3
7714961	107C	< 0.3
7714958	107D	< 0.3
7714792	* 127 (Open Window)	< 0.3
7714953	207B	0.6
7707338	207E	< 0.3
7714798	235D	0.5
7714791	ASST PRIN A	< 0.3
7714950	ASST PRIN B	< 0.3
7714789	BLDG SERVICES	0.9
7714776	CAFE	< 0.3
7714780	CAFE	< 0.3
7714956	FS	< 0.3
7714799	GYM	0.9
7714954	GYM	1.0
7714955	HEALTH ROOM	< 0.3
7715275	MAIN OFFICE	< 0.3
7714969	NURSES OFFICE	< 0.3
7714951	PRINCIPLE	0.6
7714971	RN	< 0.3
7715274	TEAM 3 OFFICE	< 0.3
7714970	WORK ROOM	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Benjamin Banneker Middle School		
Test Period: 01/04/16-01/07/16		
Kit Number	QC Type	Result
7714963	D (107B)	< 0.3
7713499	D (122)	< 0.3
7713500	D (PRINCIPLE)	< 0.3
7713497	FB (125)	< 0.3
7714952	FB (PRINCIPLE)	< 0.3
7707275	OB (0)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

**BENJAMIN BANNEKER MIDDLE SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7707275	0	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11
7707317	101A	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	0.6 ± 0.4	2016-01-12
7714972	101B	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	0.7 ± 0.3	2016-01-12
7713495	101C	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714962	107A	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714797	107B	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714963	107B	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714961	107C	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714958	107D	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714800	116	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7715271	117	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	0.6 ± 0.3	2016-01-12
7714796	118	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714957	119	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7713491	120	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	0.7 ± 0.3	2016-01-12
7714793	121	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	0.6 ± 0.3	2016-01-12
7713499	122	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714785	122	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7713498	123	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7713493	125	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7713497	125	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714792	127	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7706676	131	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7715266	200	2016-01-04 @ 2:00 pm	2016-01-07 @ 11:00 am	1.1 ± 0.4	2016-01-12
7714953	207B	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	0.6 ± 0.3	2016-01-12
7707338	207E	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7715268	230	2016-01-04 @ 2:00 pm	2016-01-07 @ 11:00 am	0.7 ± 0.3	2016-01-12
7715273	232	2016-01-04 @ 2:00 pm	2016-01-07 @ 11:00 am	0.8 ± 0.4	2016-01-12
7715267	234	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714798	235D	2016-01-04 @ 2:00 pm	2016-01-07 @ 11:00 am	0.5 ± 0.3	2016-01-12
7714786	236	2016-01-04 @ 2:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714791	ASST PRIN A	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714950	ASST PRIN B	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714789	BLDG SERVICES	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	0.9 ± 0.3	2016-01-12
7714776	CAFE	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714780	CAFE	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714956	FS	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714799	GYM	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	0.9 ± 0.4	2016-01-12

January 25, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

**BENJAMIN BANNEKER MIDDLE SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7714954	GYM	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	1.0 ± 0.4	2016-01-12
7714955	HEALTH ROOM	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7715275	MAIN OFFICE	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714969	NURSES OFFICE	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714951	PRINCIPLE	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	0.6 ± 0.3	2016-01-11
7714952	PRINCIPLE	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-11
7714971	RN	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-11
7715274	TEAM 3 OFFICE	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7714970	WORK ROOM	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12

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

January 25, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
BENJAMIN BANNEKER
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7713500	PRINCIPLE	2016-01-04 @ 1:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11

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

Radon test result report for:
**MCPS PHASE 3 & 4
TRANSIT BLANKS**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7708218	TRANSIT 4	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708200	TRANSIT 1	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708190	TRANSIT 10	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708189	TRANSIT 11	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708191	TRANSIT 12	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708188	TRANSIT 13	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708197	TRANSIT 14	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708186	TRANSIT 15	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708185	TRANSIT 16	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708184	TRANSIT 17	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708182	TRANSIT 18	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708187	TRANSIT 18	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708199	TRANSIT 2	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708181	TRANSIT 20	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708180	TRANSIT 21	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708183	TRANSIT 22	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708178	TRANSIT 23	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708179	TRANSIT 24	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708177	TRANSIT 25	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708176	TRANSIT 26	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708174	TRANSIT 27	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708173	TRANSIT 28	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708175	TRANSIT 29	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708198	TRANSIT 3	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708172	TRANSIT 30	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708194	TRANSIT 5	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708196	TRANSIT 6	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708193	TRANSIT 7	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708192	TRANSIT 8	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708195	TRANSIT 9	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23

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



E N G I N E E R S • P L A N N E R S • S C I E N T I S T S • C O N S T R U C T I O N M A N A G E R S

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

Chain of Custody

Project Name: MCPS Radon Phase IV

Name of Schools:

- | | | |
|----------------------------|----------------------------|---------------------------|
| 1. Albert Einstein HS | 12. Herbert Hoover MS | 23. Stephen Knolls School |
| 2. Bel Pre ES | 13. Kohn F. Kennedy HS | 24. Strathmore ES |
| 3. Benjamin Banneker MS | 14. Julius West MS | 25. Summit Hall ES |
| 4. Bethesda Chevy Chase HS | 15. Kensington Parkwood ES | 26. Travilah ES |
| 5. Beverly Farms ES | 16. Lakewood ES | 27. Twinbrook ES |
| 6. Cabin John MS | 17. Mill Creek ES | 28. Waters Landing ES |
| 7. Chevy Chase ES | 18. Montgomery Blair HS | 29. Watkins Mill HAS |
| 8. Farmland ES | 19. Montgomery Village MS | 30. Weller Road ES |
| 9. Forest Oak MS | 20. Northwood HS | 31. White Oak MS |
| 10. Gaithersburg HS | 21. Paint Branch ES | 32. Winston Churchill HS |
| 11. Garrett Park ES | 22. Rock Creek Forest ES | |
-

	Date	Initials
Radon Test Kits Deployed	1/4/16	JM
Radon Test Kits Sampled	1/7/16	JM
Radon Test Kits Shipped to Lab*	1/8/16	JM
Radon Test Kits Received by Lab*	1/11/16	JM

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

Note: tests kits deployed at Montgomery Blair HS 1/4/16 and 1/5/16, test kits sampled at Montgomery Blair HS 1/7/16 and 1/8/16