

School Year: **24-25**

Facility:	North Chevy Chase Elementary School		
Address:	3700 Jones Bridge Rd.		
	Chevy Chase, MD 20815		
Reason for Testing:	Scheduled Re-Testing - <input checked="" type="checkbox"/> 2-year or <input type="checkbox"/> 5-year schedule <input type="checkbox"/> Clearance Testing (Post-Mitigation) <input checked="" type="checkbox"/> Building Envelope or HVAC Upgrades <input type="checkbox"/> New Construction – Addition or Facility		
Current Radon Status:	<input checked="" type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule) <input type="checkbox"/> Not Previously Tested (New Facility)		
Round of Testing:	<input checked="" type="checkbox"/> Initial Testing - <b>or</b> - <input type="checkbox"/> Follow-up Testing		
Testing Status:	<input checked="" type="checkbox"/> No Further Testing Needed - <b>or</b> - <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 ( $\geq 4.0$ -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	52	Lowest Value (pCi/L)	<0.3
Number of Rooms ( $\geq 4.0$ -pCi/L)	0	Highest Value (pCi/L)	2.5

**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  $\geq 2.0$ -pCi/L;  $\geq 2.7$ -pCi/L;  $\geq 4.0$ -pCi/L; and  $\geq 8.0$ -pCi/L;
- QA/QC Results - (field blanks and duplicates) indicating location collected; trip and office blanks; and spike sample results;
- Invalid Measurement Locations – missed locations, missing and or damaged/compromised testing devices.

Attachment 2 – Laboratory Report(s)

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

**Detector and Deployment**

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

**Testing**

<input checked="" type="checkbox"/> Short-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	1/27/2025
<input type="checkbox"/> Long-Term				1/30/2025
Does the test period include weekends, school breaks or holidays?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<i>If “Yes” please explain/detail in the space below:</i>				
Was HVAC operating under occupied conditions?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<i>If “No” please explain/detail in the space below:</i>				

Testing (continued)

Round of Testing	Detectors Deployed				Total
	Ground-Contact		Upper-Level(s)		
	Initial	Follow-Up	Initial	Follow-Up	
Test Locations <sup>1</sup>	51	0	1	0	52
Duplicates <sup>2</sup>	5	0	0	0	5
Field Blanks <sup>3</sup>	2	0	0	0	2
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 <sup>1</sup>	Not applicable		10
Trip Blanks <sup>2</sup>	1	0	1
Office Blanks <sup>3, 4</sup>	1	0	1
			12

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
	<b>Round of Testing</b>
	<b>Initial</b>
	<b>Follow-Up</b>
All Field, Trip and Office Blanks are $\leq$ (less than or equal to) to the Method Detection Limit?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
For all Duplicate Samples <sup>1</sup> , the higher value is $\leq 2x$ the lower value?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
For all Duplicate Samples <sup>1</sup> , Relative Percent Difference(s) (RPD) <sup>2</sup> are less than the Warning Level <sup>3</sup> ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
For all Duplicate Samples <sup>1</sup> , Relative Percent Difference(s) (RPD) <sup>2</sup> are less than the Control Level <sup>3</sup> ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

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

Summary of Test Results<sup>1</sup> and Determination of Valid Measurements<sup>2</sup>

Round of Testing	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Number of test locations:	51	0	1	0	52
Number of locations $\geq 8.0$ -pCi/L:	0	0	0	0	0
Number of locations $\geq 4.0$ and $\leq 8$ -pCi/L:	0	0	0	0	0
Number of locations $\geq 2.7$ and $< 4$ -pCi/L:	0	0	0	0	0
Number of locations $\geq 2.0$ and $< 2.7$ -pCi/L:	2	0	0	0	2
Number of missing required test locations <sup>3</sup> :	0	0	0	0	0
Number of failed duplicate control locations:	0	0	0	0	0
Percentage of missing test locations for the facility <sup>4,5</sup> :	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  $\geq 18$ , 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  $\geq 4.0$ -pCi/L and the total number of test locations are  $\geq 20$ , 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 Results<sup>1</sup> and Determination of Valid Measurements<sup>2</sup> (continued)

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

<b>Table 1- Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Test Period: 1/27/2025 - 1/30/2025</b>		
Kit Number	Room / Area	Result
11930903	10	1.3
11930925	12	1.5
11930912	13	0.6
11930913	14	1.1
11930909	15	1.1
11930907	16	1.3
11930908	16	1.5
11930904	17	0.8
11930926	18	< 0.3
11930941	20	< 0.3
11930951	20	< 0.3
11930945	21	< 0.3
11930938	23	< 0.3
11930946	24	< 0.3
11930922	25	< 0.3
11930930	25	< 0.3
11930943	26	< 0.3
11930937	27	< 0.3
11930964	32	0.7
11930947	33	< 0.3
11930963	33	< 0.3
11930957	34	2.4
11930956	34	2.5
11930966	103	1.5
11930973	104	0.8
11930916	105	1.5
11930960	107	1.2
11930958	107	1.3
11930965	112	1.1
11930940	114	1.4
11930961	202	1.0
11930923	110A	1.4
11930924	118A	1.3
11930931	118B	1.5
11930932	118C	1.1
11930959	118D	1.6
11930939	118E	1.4

<b>Table 1- Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Test Period: 1/27/2025 - 1/30/2025</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
11930935	APR	0.6
11930934	APR	< 0.3
11930921	BUILDING SERVICES	0.6
11930914	CONFERENCE	0.7
11930910	COUNSELOR	0.8
11930949	GYM	< 0.3
11930950	GYM	< 0.3
11930955	GYM OFFICE	1.2
11930954	HEALTH	0.5
11930918	MAIN OFFICE	0.9
11930944	MEDIA	0.5
11930929	MEDIA	< 0.3
11930942	MEDIA	< 0.3
11930952	MEDIA OFFICE	< 0.3
11930953	MEDIA WORK ROOM	0.7
11930906	OFFICE 1	< 0.3
11930905	OFFICE 2	0.7
11930917	PRINCIPAL	1.0
11930919	SPEECH	0.8
11930911	STAFF DEVELOPMENT	1.1
11930936	STAFF LOUNGE	< 0.3
11930920	WORK ROOM	0.8



<b>Table 3 - QC Radon Testing Results</b>			
<b>North Chevy Chase Elementary School</b>			
<b>Test Period: 1/27/2025 - 1/30/2025</b>			
<b>Kit Number</b>	<b>QC Type</b>	<b>Room / Area</b>	<b>Result</b>
11930908	D	16	1.5
11930951	D	20	< 0.3
11930930	D	25	< 0.3
11930947	FB	33	< 0.3
11930956	D	34	2.5
11930960	D	107	1.2
11930929	FB	Media	< 0.3
11906885	OB	OFFICE BLANK	< 0.3
11906899	TB	TRAVEL BLANK	< 0.3

**Table 3a - Duplicate Worksheet / Data Validation**

**North Chevy Chase Elementary School**

**Test Period: 01/27/2025 - 01/30/2025**

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
11930907	11930908	16	1.5	1.3	✓	2.6	PASS	1.4	<1-pCi/L	✓
11930941	11930951	20	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11930922	11930930	25	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11930957	11930956	34	2.5	2.4	✓	4.8	PASS	2.5	4.1%	✓
11930960	11930960	107	1.3	1.2	✓	2.4	PASS	1.3	<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



**Attachment 2:**  
**Laboratory Reports**

Radon test result report for:  
**NORTH CHEVY CHASE ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11930903	10	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.3 ± 0.5	2025-02-04
11930966	103	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.5 ± 0.5	2025-02-04
11930973	104	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	0.8 ± 0.4	2025-02-04
11930916	105	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.5 ± 0.5	2025-02-04
11930958	107	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.3 ± 0.5	2025-02-04
11930960	107	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.2 ± 0.4	2025-02-04
11930923	110A	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.4 ± 0.5	2025-02-04
11930965	112	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.1 ± 0.4	2025-02-04
11930940	114	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.4 ± 0.4	2025-02-04
11930924	118A	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.3 ± 0.4	2025-02-04
11930931	118B	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.5 ± 0.5	2025-02-04
11930932	118C	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.1 ± 0.4	2025-02-04
11930959	118D	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.6 ± 0.5	2025-02-04
11930939	118E	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.4 ± 0.5	2025-02-04
11930925	12	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.5 ± 0.5	2025-02-04
11930912	13	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.6 ± 0.4	2025-02-04
11930913	14	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.1 ± 0.4	2025-02-04
11930909	15	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.1 ± 0.5	2025-02-04
11930908	16	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.5 ± 0.5	2025-02-04
11930907	16	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.3 ± 0.5	2025-02-04
11930904	17	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.8 ± 0.4	2025-02-04
11930926	18	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930941	20	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930951	20	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930961	202	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	1.0 ± 0.4	2025-02-04
11930945	21	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930938	23	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930946	24	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930922	25	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930930	25	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930943	26	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930937	27	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930964	32	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	0.7 ± 0.5	2025-02-04
11930963	33	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	< 0.3	2025-02-04
11930947	33	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	< 0.3	2025-02-04
11930956	34	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	2.5 ± 0.5	2025-02-04
11930957	34	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	2.4 ± 0.5	2025-02-04

Radon test result report for:  
**NORTH CHEVY CHASE ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11930934	APR	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930935	APR	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.6 ± 0.4	2025-02-04
11930921	BUILDING SERVICES	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.6 ± 0.4	2025-02-04
11930914	CONFERENCE	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.7 ± 0.4	2025-02-04
11930910	COUNSELOR	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.8 ± 0.4	2025-02-04
11930949	GYM	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	< 0.3	2025-02-04
11930950	GYM	2025-01-27 @ 10:00 am	2025-01-30 @ 10:00 am	< 0.3	2025-02-04
11930955	GYM OFFICE	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.2 ± 0.5	2025-02-04
11930954	HEALTH	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.5 ± 0.4	2025-02-04
11930918	MAIN OFFICE	2025-01-27 @ 9:00 am	2025-01-30 @ 9:00 am	0.9 ± 0.4	2025-02-04
11930944	MEDIA	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.5 ± 0.4	2025-02-04
11930929	MEDIA	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930942	MEDIA	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930952	MEDIA OFFICE	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930953	MEDIA WORK ROOM	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.7 ± 0.4	2025-02-04
11930906	OFFICE 1	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930905	OFFICE 2	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.7 ± 0.4	2025-02-04
11930917	PRINCIPAL	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.0 ± 0.4	2025-02-04
11930919	SPEECH	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.8 ± 0.4	2025-02-04
11930911	STAFF DEVELOPMENT	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	1.1 ± 0.4	2025-02-04
11930936	STAFF LOUNGE	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	< 0.3	2025-02-04
11930920	WORK ROOM	2025-01-27 @ 10:00 am	2025-01-30 @ 9:00 am	0.8 ± 0.4	2025-02-04

---

February 4, 2025

**\*\* LABORATORY ANALYSIS REPORT \*\***

---

Radon test result report for:

**OFFICE  
MAIN**

---

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
11906885	O	2025-01-27 @ 11:00 am	2025-01-30 @ 11:00 am	< 0.3	2025-02-04
11906899	O	2025-01-28 @ 11:00 am	2025-01-31 @ 11:00 am	< 0.3	2025-02-04

---

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

---

February 4, 2025

**\*\* LABORATORY ANALYSIS REPORT \*\***

---

Radon test result report for:

**TRAVEL  
MAIN**

---

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
11906900	T	2025-01-27 @ 11:00 am	2025-01-30 @ 11:00 am	< 0.3	2025-02-04
11926699	T	2025-01-28 @ 11:00 am	2025-01-31 @ 11:00 am	< 0.3	2025-02-04

---

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

# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20001560

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

Date Start: 12/14/24 Date Stop: 12/17/24 Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0815 Time Stop: 0815 Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: (3) CHAR BAGS Device No.'s: \_\_\_\_\_

11477880, 11477883, 11477896

B4 Right

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_

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

---

December 23, 2024

**\*\* LABORATORY ANALYSIS REPORT \*\***

---

Radon test result report for:

**SK  
MAIN**

---

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

---

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

# 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  $\mu$ R/h Elevation = 820 ft**

---

March 19, 2025

**\*\* LABORATORY ANALYSIS REPORT \*\***

---

Radon test result report for:

**QC  
MAIN**

---

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
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 – Testing January 27<sup>th</sup> – January 30<sup>th</sup>, 2024

Name of Schools:

1. Robert Frost MS
2. Walter Johnson HS
3. North Chevy Chase ES
4. Somerset ES

---

	Date	Initials
Radon Test Kits Deployed	01/27/2025	DM
Radon Test Kits Collected	01/30/2025	DM
Radon Test Kits Shipped to Lab*	01/31/2025	DM
Radon Test Kits Received by Lab*	02/03/2025	DM

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



**MCPS RADON TESTING – EXECUTIVE SUMMARY**

Site Name	North Chevy Chase Elementary School
Date of Test Report	1/04/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	55
# Rooms $\geq$ 4.0 pCi/L	1
Lowest Value	<0.3 pCi/L
Highest Value	4.3 pCi/L

Project Status:

1. Initial testing completed;
2. Mitigate Room 25



January 4, 2023

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

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

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Rd.  
Chevy Chase, MD 20815

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the North Chevy Chase Elementary School, located at 3700 Jones Bridge Rd. Chevy Chase, MD 20815 (subject site).

**Scope of Services:**

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

KCI visited the site on December 5, 2022 and deployed sixty-four (64) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

KCI returned to the site on December 8, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc.

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

**Evaluation of Testing Conditions:**

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 20s°F and high temperatures ranged to the mid-50s°F. Maximum sustained winds ranged from 0-12 miles per hour. Average humidity was around 75% with .04 inches of precipitation (rain) was recorded during testing period.

**Results:**

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

The results of the radon test analysis indicated the following:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
≥4.0 pCi/L	25	4.3
<4.0 pCi/L	See Attachment B	

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

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

Sincerely,



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

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

# ATTACHMENT A

## Floor Plan With Test Locations

# ATTACHMENT B

## Radon Test Summary Spreadsheet

**Table Notes:**

AC- Activated Charcoal

ACI- Air Check, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

OC- Quality Control

Table 1- Radon Testing Results		
North Chevy Chase ES		
Test Period: 12/05/2022 - 12/08/2022		
Kit Number	Room / Area	Result
11287209	10	0.8
11287202	12	1.0
11287214	13	1.4
11287219	13	1.4
11287213	14	1.4
11287220	15	1.2
11287221	16	1.9
11287218	17	0.8
11287227	18	0.6
11287222	20	< 0.3
11287235	21	3.3
11287230	22	1.2
11287236	23	1.6
11287216	24	1.6
11287223	25	4.3
11287217	26	2.4
11287231	27	2.4
11287237	27	2.6
11287234	31	1.0
11287242	31	1.0
11287245	32	1.6
11287251	32	1.7
11287239	33	1.3
11287240	34	1.7
11287247	103	1.7
11287246	104	1.5
11287253	104	1.0
11287254	105	1.9
11287267	107	1.4
11287255	112	1.4
11287256	112	< 0.3
11287258	114	< 0.3
11287268	114	1.7
11287257	208	< 0.3
11287259	110A	1.8
11287260	118A	1.5
11287248	118B	2.0
11287261	118C	1.8
11287249	118D	1.9
11287262	118E	2.0
11287243	APR	1.2
11287244	APR	1.6

Table 1- Radon Testing Results		
North Chevy Chase ES		
Test Period: 12/05/2022 - 12/08/2022		
Kit Number	Room / Area	Result
11287224	BLDG SERVICE OFFICE	1.2
11287201	CONFERENCE ROOM	2.3
11287210	COUNSELOR	1.2
11287250	GYM	1.1
11287252	GYM	0.9
11287241	GYM OFFICE	1.2
11287204	HEALTH	2.2
11287203	MAIN OFFICE	2.1
11287207	MEDIA	1.0
11287215	MEDIA	1.8
11287208	MEDIA OFFICE	1.5
11287229	MEDIA OFFICE	0.8
11287226	MEDIA WORKROOM	1.2
11287228	MEDIA WORKROOM	1.4
11287211	PRINCIPAL	2.4
11287206	SPEECH	1.6
11287212	STAFF DEVELOPMENT	2.1
11287232	STAFF LOUNGE	1.4
11287225	STAFF OFFICE 1	1.7
11287238	STAFF OFFICE 2	1.3
11287233	STAFF OFFICE 3	1.2
11287205	STAFF ROOM	1.1

Table 2- Radon Testing Results			
North Chevy Chase ES			
Test Period: 12/05/22 - 12/08/22			
Kit Number	QC Type	Room / Area	Result
11287219	D	13	1.4
11287237	D	27	2.6
11287242	FB	31	1.0
11287245	D	32	1.6
11287253	D	104	1.0
11287255	D	112	1.4
11287258	FB	114	< 0.3
11287229	FB	Media office	0.8
11287226	D	Media workroom	1.2
11133716	OB	OFFICE BLANK	< 0.3
11140129	TB	TRAVEL BLANK	< 0.3



# ATTACHMENT C

## Laboratory Analytical Results

Radon test result report for:  
**NORTH CHEVY CHASE ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287209	10	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287247	103	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287246	104	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.5 ± 0.5	2022-12-14
11287253	104	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.5	2022-12-14
11287254	105	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.9 ± 0.5	2022-12-14
11287267	107	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287259	110A	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.8 ± 0.5	2022-12-14
11287255	112	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287256	112	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287258	114	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287268	114	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287260	118A	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.5 ± 0.5	2022-12-14
11287248	118B	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	2.0 ± 0.6	2022-12-14
11287261	118C	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.8 ± 0.5	2022-12-14
11287249	118D	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.9 ± 0.5	2022-12-14
11287262	118E	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	2.0 ± 0.5	2022-12-14
11287202	12	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.0 ± 0.5	2022-12-14
11287219	13	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287214	13	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287213	14	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287220	15	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287221	16	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.9 ± 0.5	2022-12-14
11287218	17	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287227	18	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.6 ± 0.5	2022-12-14
11287222	20	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11287257	208	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287235	21	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	3.3 ± 0.6	2022-12-14
11287230	22	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287236	23	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.6	2022-12-14
11287216	24	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.5	2022-12-14
11287223	25	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	4.3 ± 0.8	2022-12-14
11287217	26	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287237	27	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.6 ± 0.6	2022-12-14
11287231	27	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287234	31	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.6	2022-12-14
11287242	31	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.6	2022-12-14
11287251	32	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14

Radon test result report for:  
**NORTH CHEVY CHASE ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287245	32	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.6 ± 0.5	2022-12-14
11287239	33	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.3 ± 0.5	2022-12-14
11287240	34	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287244	APR	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.6 ± 0.5	2022-12-14
11287243	APR	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287224	BLDG SERVICE OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287201	CONFERENCE ROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.3 ± 0.6	2022-12-14
11287210	COUNSELOR	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287252	GYM	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	0.9 ± 0.5	2022-12-14
11287250	GYM	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.1 ± 0.5	2022-12-14
11287241	GYM OFFICE	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287204	HEALTH	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.2 ± 0.5	2022-12-14
11287203	MAIN OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.1 ± 0.5	2022-12-14
11287215	MEDIA	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.8 ± 0.5	2022-12-14
11287207	MEDIA	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.0 ± 0.5	2022-12-14
11287208	MEDIA OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.5 ± 0.5	2022-12-14
11287229	MEDIA OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287226	MEDIA WORKROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287228	MEDIA WORKROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287211	PRINCIPAL	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287206	SPEECH	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.6	2022-12-14
11287212	STAFF DEVELOPMENT	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.1 ± 0.6	2022-12-14
11287232	STAFF LOUNGE	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287225	STAFF OFFICE 1	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287238	STAFF OFFICE 2	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.3 ± 0.5	2022-12-14
11287233	STAFF OFFICE 3	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287205	STAFF ROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.1 ± 0.5	2022-12-14

# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KC1 TECHNOLOGIES, INC Job Number 208343

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

Date Start: 12/24/22 Date Stop: 12/27/22 Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0810 Time Stop: 0810 Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

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

11285109, 11285110, 11285101

THRU 11285103

BY LEFT

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_

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

December 29, 2022

**\*\* LABORATORY ANALYSIS REPORT \*\***

Radon test result report for:

**OFFICE**

**MA** MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within  $\pm 25\%$  of the chamber's reference value (34.7 pCi/L).

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

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



## Radon Test Kit Chain of Custody

Project Name: MCPS Radon – April 2022 Schools – Retesting

Name of Schools:

1. Lynnbrook Center
2. Chevy Chase ES
3. North Chevy Chase ES
4. Wood Acres ES
5. Ashburton ES
6. Carderock Springs ES
7. North Bethesda MS
8. Brooke Grove ES

---

	Date	Initials
Radon Test Kits Deployed	12/05/2022	BMLY
Radon Test Kits Collected	12/08/2022	BMLY
Radon Test Kits Shipped to Lab*	12/08/2022	BMLY
Radon Test Kits Received by Lab*	12/14/2022	BMLY

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

**RADON SCREENING SURVEY – FOLLOW-UP NORTH CHEVY CHASE ELEMENTARY  
SCHOOL**

3700 Jones Bridge Road, Chevy Chase, Maryland 20815

**EXECUTIVE SUMMARY**

Date of Test Report:	3/7/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	4
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7
Confirmed Rooms $\geq$ 4.0 pCi/L US EPA Action Level	0

**Summary of Sampling Events  $\geq$  4.0 pCi/L**

Room	Result (pCi/L) 3/3/16 (Rev 1) Initial	Result (pCi/L) 3/7/16 Follow-Up	Average Result (pCi/L)
32	5.0	1.7	3.4
MAIN OFFICE	1.6 (tampered)	0.8	1.2
Principal's Office	missing	0.6	0.6
MPR	missing	1.4 (tampered)	1.4



### MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/7/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	4
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7

Project Status:

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

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



March 7, 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 # 12146341.28

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Road  
Chevy Chase, MD 20815

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 North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (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](http://www.montgomerycountymd.gov/dep/air/radon) or [www.epa.gov/radon](http://www.epa.gov/radon).

KCI visited the site on February 8, 2016 and deployed six (6) 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 11, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

**Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}$  F.

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

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

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

**Results:**

The results of the radon test analysis indicated the following:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
$\geq 4.0$ pCi/L	none	n/a
$< 4.0$ pCi/L	See Attachment B	

Notes:  
D- Duplicate sample

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

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

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

Sincerely,



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

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

# ATTACHMENT A

## Floor Plan With Test Locations

# ATTACHMENT B

## Radon Test Summary Spreadsheet

**Table Notes:**

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank\*

PM- Project Manager

QC- Quality Control

\*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 8 testing. Office blanks were not submitted under each school individually.

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Test Period: 02/08/16-02/11/16</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7730299	32	1.7
7730295	MAIN OFFICE	0.8
7730297	* MPR (tampered)	1.4
7730296	PRINC OFF	0.6

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Test Period: 02/08/16-02/11/16</b>		
<b>Kit Number</b>	<b>QC Type</b>	<b>Result</b>
7730298	* D (MPR:tampered)	1.3
7730300	FB (32)	< 0.3

Table Note:

\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

---

February 25, 2016  
**LABORATORY ANALYSIS  
REPORT \*\***

---

Radon test result report for:  
**NORTH CHEVY CHASE ELEMENTARY SCHOOL  
MAIN**

---

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
7730299	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.7 ± 0.4	2016-02-15
7730300	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	< 0.3	2016-02-15
7730295	MAIN OFFICE	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.8 ± 0.3	2016-02-15
7730297	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.4 ± 0.4	2016-02-15
7730298	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.3 ± 0.3	2016-02-15
7730296	PRINC OFF	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.6 ± 0.3	2016-02-15

---

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

---

February 25, 2016 **\*\* LABORATORY ANALYSIS REPORT \*\***

---

Radon test result report for:

**MCPS RADON  
PHASE 8  
OFFICE BLANKS**

---

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
7729754	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729757	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729758	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15

---

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**

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

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

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

**EXPOSURE IN BOWSER-MORNER RADON CHAMBER**

CLIENT KCF Technologies Inc. Job Number 173704

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

Date Start: 1/30/16 Date Stop: 2/1/16 Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0926 Time Stop: 0926 Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

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

7718281, 7718282, 7718291, \_\_\_\_\_

7718288, 7718289, 7718273 \_\_\_\_\_

ε3 Left

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_

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



## Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 8

Name of Schools:

- |                          |                          |
|--------------------------|--------------------------|
| 1. Blair G. Ewing Center | 12. Jackson Road ES      |
| 2. Cedar Grove ES        | 13. Jones Lane ES        |
| 3. Clarksburg ES         | 14. Lake Seneca ES       |
| 4. Cloverly ES           | 15. Laytonsville ES      |
| 5. Cold Spring ES        | 16. Montgomery Knolls ES |
| 6. Damascus ES           | 17. North Chevy Chase ES |
| 7. Dufief ES             | 18. Oakview ES           |
| 8. East Silver Spring    | 19. Randolph Maint       |
| 9. Georgian Forest ES    | 20. Robert Frost MS      |
| 10. Germantown ES        | 21. Shady Grove Maint    |
| 11. Glenallen ES         | 22. Viers Mill ES        |

---

	Date	Initials
Radon Test Kits Deployed	2/8/16	JM
Radon Test Kits Collected	2/11/16	JM
Radon Test Kits Shipped to Lab*	12/11/16	JM
Radon Test Kits Received by Lab*	12/15/16	JM

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



### MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/3/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	50
# Rooms $\geq$ 4.0 pCi/L:	1
Low Value:	< 0.3
High Value:	5.0

Rooms with results  $\geq$  4.0 pCi/L:  
Room CR32 (5.0 pCi/L)

Project Status:

Initial testing completed; re-test needed for results  $\geq$  4.0 pCi/L.  
Initial testing completed; missing or compromised samples need re-test.



March 3, 2016 (Rev 1)

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

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

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Road  
Chevy Chase, MD 20815

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 North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (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](http://www.montgomerycountymd.gov/dep/air/radon) or [www.epa.gov/radon](http://www.epa.gov/radon).

KCI visited the site on December 21, 2015 and deployed sixty (60) 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 December 24, 2015 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

**Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}$  F.

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

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

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

**Results:**

The results of the radon test analysis indicated the following:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
$\geq 4.0$ pCi/L	CR32	5.0
$< 4.0$ pCi/L	See Attachment B	

Notes:

D- Duplicate sample

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

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

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

Sincerely,



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

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

# ATTACHMENT A

## Floor Plan With Test Locations

# ATTACHMENT B

## Radon Test Summary Spreadsheet

**Table Notes:**

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
North Chevy Chase E.S		
Test Period: 12/21/15-12/24/15		
Kit Number	Room / Area	Result
7712046	112	1.8
7712042	114	2.0
7712058	205	1.8
7712052	110A	2.0
7712038	118A	2.3
7712041	118B	2.5
7712049	118C	3.0
7712055	118D	2.7
7712039	BLDG SER	1.5
7712032	CF21	1.7
7712002	CONF RM	1.8
7712012	COUNSELOR RM	1.2
7712013	CR10	1.4
7712043	CR103	2.2
7712047	CR104	1.2
7712051	CR105	2.5
7712037	CR107	2.5
7712016	CR12	1.4
7712017	CR13	1.2
7712001	CR14	1.4
7712019	CR15	1.1
7712015	CR16	1.9
7712020	CR17	0.8
7712024	CR18	0.7
7712021	CR20	1.1
7712028	CR22	1.2
7712031	CR23	2.1
7712025	CR24	1.9
7712029	CR25	1.6
7712027	CR26	1.8
7712026	CR27	1.3
7712050	CR31	< 0.3
7712045	CR32	5.0
7712054	CR33	1.0
7712059	CR34	2.0
7712009	DEVEL TEACH OFF	2.9
7712053	GYM	< 0.3
7712070	GYM	0.6
7712057	GYM OFF	1.4
7712008	HEALTH RM	1.8
7712004	* MAIN OFF (tampered)	1.6
7712018	MEDIA CTR	1.3
7712022	MEDIA CTR	1.2
7712011	MEDIA CTR OFF	1.3
7712033	* MPR (missing)	-
7712014	PHONE ROOM	1.8

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>North Chevy Chase E.S</b>		
<b>Test Period: 12/21/15-12/24/15</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7712003	* PRINC OFF (missing)	-
7712034	SLOUNGE	0.9
7712036	SOFF1	0.8
7712030	SOFF2	1.2
7712005	SPEECH OFF	2.1
7712007	STAFF WORK	1.8

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>North Chevy Chase E.S</b>		
<b>Test Period: 12/21/15-12/24/15</b>		
<b>Kit Number</b>	<b>QC Type</b>	<b>Result</b>
7712056	D (118C)	2.5
7712035	D (BLDG SER)	1.4
7712006	D (CONF RM)	2.1
7712023	D (MEDIA CTR)	1.7
7712044	* D (MPR:missing)	-
7712010	FB (PHONE RM)	< 0.3
7712040	FB (SOFF2)	< 0.3
7712192	OB (0)	< 0.3

Table Note:

\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

January 14, 2016 **LABORATORY ANALYSIS REPORT \*\***

Radon test result report for:  
**NORTH CHEVY CHASE E.S  
 MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712192	00	2015-12-21 @ 6:00 pm	2015-12-24 @ 2:00 pm	< 0.3	2015-12-29
7712052	110A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712046	112	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712042	114	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712038	118A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.3 ± 0.4	2015-12-29
7712041	118B	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712049	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	3.0 ± 0.5	2015-12-29
7712056	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712055	118D	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.7 ± 0.4	2015-12-29
7712058	205	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712035	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712039	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.5 ± 0.4	2015-12-29
7712032	CF21	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.7 ± 0.4	2015-12-29
7712002	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712006	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	2.1 ± 0.4	2015-12-29
7712012	COUNSELOR RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712013	CR10	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712043	CR103	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.2 ± 0.4	2015-12-29
7712047	CR104	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712051	CR105	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712037	CR107	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712016	CR12	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712017	CR13	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712001	CR14	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712019	CR15	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.4	2015-12-29
7712015	CR16	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712020	CR17	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712024	CR18	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7712021	CR20	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.3	2015-12-29
7712028	CR22	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712031	CR23	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712025	CR24	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712029	CR25	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.6 ± 0.4	2015-12-29
7712027	CR26	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712026	CR27	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712050	CR31	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712045	CR32	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	5.0 ± 0.6	2015-12-29

January 14, 2016 **LABORATORY ANALYSIS REPORT \*\***

Radon test result report for:  
**NORTH CHEVY CHASE E.S  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712054	CR33	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.0 ± 0.3	2015-12-29
7712059	CR34	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	2.0 ± 0.4	2015-12-29
7712009	DEVEL TEACH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.9 ± 0.5	2015-12-29
7712053	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712070	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	0.6 ± 0.3	2015-12-29
7712057	GYM OFF	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.4 ± 0.4	2015-12-29
7712008	HEALTH RM	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712004	MAIN OFF	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.6 ± 0.4	2015-12-29
7712022	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.2 ± 0.4	2015-12-29
7712023	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.7 ± 0.4	2015-12-29
7712018	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.3 ± 0.4	2015-12-29
7712011	MEDIA CTR OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712033	MPR	@	@		
7712044	MPR	@	@		
7712010	PHONE RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712014	PHONE ROOM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712003	PRINC OFF	@	@		
7712034	SLOUNGE	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.9 ± 0.4	2015-12-29
7712036	SOFF1	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712030	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712040	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712005	SPEECH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712007	STAFF WORK	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29

December  
29,  
2015

**\*\*LABORATORY ANALYSIS  
REPORT\*\***

Radon test result report for:  
**TRANSIT DEC 14 2015**  
**NONE**

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

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 µR/h Elevation = 820 ft**



### Chain of Custody

Project Name: MCPS Radon Phase II

School Names:

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

-----

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

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



**MONTGOMERY COUNTY PUBLIC SCHOOLS  
RADON TESTING**

**Executive Summary:**  
**North Chevy Chase Elementary School**  
3700 Jones Bridge Road,  
Chevy Chase, MD 20815

Date of Test Report:	3/29/2019
Round of Testing:	Initial <b>Follow-up</b> Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested:	1
# of Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0
High Value:	0

**Project Status**  
**Missing: APR**



March 29, 2019

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

Re: Radon Testing Services

Location: Northlake Center  
15101 Bauer Drive  
Rockville, MD 20853

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for North Chevy Chase Elementary School, located at 370 Jones Bridge Road, Chevy Chase, MD 20815 (subject site).

### **Scope of Services:**

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from [www.montgomerycountymd.gov/dep/air/radon](http://www.montgomerycountymd.gov/dep/air/radon) or [www.epa.gov/radon](http://www.epa.gov/radon).

PSI visited the site on February 26, 2019 and deployed one (1) activated charcoal (AC) radon test kit. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on March 01, 2019 to retrieve the radon sampling test kit but sample was missing. A floor plan map of the building with the test location is included as Attachment A of this report.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARLO007).

### **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  $\leq 65^{\circ}\text{F}$ .

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



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

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

**Results:**

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	None	NA
≤ 4.0 pCi/L	See Attachment B	

Notes:  
D -Duplicate Sample

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

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

Laboratory results and exposure data for the spike samples are also included in Attachment C. Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (703) 698-9300.



# **ATTACHMENT B**

Radon Test Summary Spreadsheet

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Testing period: 2/26/19 - 3/01/19</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result (pCi/L)</b>
--	APR	--

**Table Notes:**

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control



**MONTGOMERY COUNTY PUBLIC SCHOOLS  
RADON TESTING**

**Executive Summary:**  
**North Chevy Chase Elementary School**  
3700 Jones Bridge Road,  
Chevy Chase, MD 20815

Date of Test Report:	02/05/2019
Round of Testing:	Initial Follow-up Post Remediation 2 Year Testing <b>5 Year Testing</b> HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested:	57
# of Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	1.3

**Project Status**

**Initial testing complete:** Missing or compromised samples need re-test.



February 5, 2019

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

Re: Radon Testing Services

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Road,  
Chevy Chase, MD 20815

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for North Chevy Chase Elementary School, located at 370 Jones Bridge Road, Chevy Chase, MD 20815 (subject site).

**Scope of Services:**

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from [www.montgomerycountymd.gov/dep/air/radon](http://www.montgomerycountymd.gov/dep/air/radon) or [www.epa.gov/radon](http://www.epa.gov/radon).

PSI visited the site on December 3, 2018 and deployed seventy-three (73) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on December 6, 2018 to retrieve the radon sampling test kits. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

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



### **Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}\text{F}$ .

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

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

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

### **Results:**

The results of the radon test analysis indicated the following:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
$\geq 4.0$ pCi/L	None	NA
$\leq 4.0$ pCi/L	See Attachment B	

Notes:

D -Duplicate Sample

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

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

Laboratory results and exposure data for the spike samples are also included in Attachment C. Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (703) 698-9300.



Respectfully Submitted,

**INTERTEK-PSI**

A handwritten signature in black ink that reads "Nand Kaushik". The signature is written in a cursive, flowing style.

Nand Kaushik, P.E.  
Department Manager, Environmental Services  
[Nand.Kaushik@intertek.com](mailto:Nand.Kaushik@intertek.com)

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

# **ATTACHMENT B**

Radon Test Summary Spreadsheet

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Testing period: 12/3/18 - 12/6/18</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result (pCi/L)</b>
3927906	112	<0.4
3927905	114	<0.4
3927908	110A	<0.4
3927909	118A	<0.4
3927902	118B	<0.4
3927901	118C	<0.4
3927900	118D	<0.4
3927898	118D	<0.4
3927899	118E	<0.4
3927894	AR200	<0.4
3927895	AR205	<0.4
3927897	AR208	<0.4
3927944	CR10	<0.4
3927910	CR103	<0.4
3927872	CR104	<0.4
3927904	CR105	<0.4
3927907	CR107	<0.4
3927903	CR107	<0.4
3927970	CR12	<0.4
3927962	CR13	<0.4
3927968	CR14	0.5
3927965	CR15	<0.4
3927961	CR16	0.5
3927966	CR17	<0.4
3927963	CR18	<0.4
3927951	CR21	1.0
3927918	CR23	0.7
3927920	CR25	0.7
3927917	CR26	1.0
3927919	CR27	1.3
3927878	CR31	0.6
3927880	CR32	0.7
3927876	CR33	1.3
3927875	CR34	0.9
3927956	Room 20	0.6
3927953	Room 22	<0.4
3927952	Room 24	0.8
3881190	APR	0.4
3881166	APR (MISSING)	--
3927916	Building Services	<0.4
3927942	Conference	<0.4
3927967	Counselor	0.6
3927914	ESOL	0.4

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Testing period: 12/3/18 - 12/6/18</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result (pCi/L)</b>
3927871	Gym	0.8
3927873	Gym	0.9
3927874	Gym Office	0.9
3927950	Health	0.8
3927947	Health Office	0.7
3927912	Kitchen	0.9
3927948	Main Office	0.6
3927957	Media Center	0.6
3927954	Media Center	0.8
3927959	Media Office #1	0.6
3927958	Media Office #2	0.8
3927945	Principal	0.6
3927969	Speech	0.6
3927943	Staff Development	0.7
3927911	Staff Lounge	0.6
3927913	Staff Office 1	<0.4
3927960	Studio	0.4
3927946	Workroom	<0.4

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Testing period: 12/3/18 - 12/6/18</b>		
<b>Kit Number</b>	<b>QC Type</b>	<b>Result (pCi/L)</b>
3927941	CR10 (D)	<0.4
3927964	CR18 (D)	<0.4
3927915	CR25 (D)	0.6
3927877	CR32 (D)	1.0
3927949	Main Office (D)	0.5
3927955	Room 22 (D)	<0.4
3927879	Staff Lounge (D)	0.6
3928060	Field Blank	<0.4
3928051	Field Blank	<0.4
3926362	Field Blank	<0.4
3926370	Office Blank	<0.4
3926367	Transit Blank	Invalid

**Table Notes:**

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

# **ATTACHMENT C**

Laboratory Analytical Results

NELAC NY 11769  
NRPP 103216 AL  
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey  
North Chevy Chase ES  
3700 Jones Bridge Road  
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2404240	3927948	12/03/2018 9:30 am - 12/06/2018 8:14 am	Bldg North Chevy Chase ES Flr First Rm Main Of	0.6
2404241	3927949	12/03/2018 9:30 am - 12/06/2018 8:14 am	Bldg North Chevy Chase ES Flr First Rm Main off	0.5
2404242	3927950	12/03/2018 9:31 am - 12/06/2018 8:15 am	Bldg North Chevy Chase ES Flr First Rm Health	0.8
2404243	3927947	12/03/2018 9:32 am - 12/06/2018 8:15 am	Bldg North Chevy Chase ES Flr First Rm Nurses	0.7
2404244	3927945	12/03/2018 9:33 am - 12/06/2018 8:16 am	Bldg North Chevy Chase ES Flr First Rm Principa	0.6
2404245	3927946	12/03/2018 9:34 am - 12/06/2018 8:17 am	Bldg North Chevy Chase ES Flr First Rm Work R	< 0.4
2404246	3927942	12/03/2018 9:36 am - 12/06/2018 8:17 am	Bldg North Chevy Chase ES Flr First Rm Conf R	< 0.4
2404247	3927943	12/03/2018 9:38 am - 12/06/2018 8:18 am	Bldg North Chevy Chase ES Flr First Rm Staff De	0.7
2404248	3927944	12/03/2018 9:39 am - 12/06/2018 8:20 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404249	3927941	12/03/2018 9:39 am - 12/06/2018 8:20 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404250	3927970	12/03/2018 9:40 am - 12/06/2018 8:21 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018    Date Logged:    Date Analyzed: 12/09/2018    Date Reported: 12/21/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

**Disclaimer:**

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

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

NELAC NY 11769  
NRPP 103216 AL  
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey  
North Chevy Chase ES  
3700 Jones Bridge Road  
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2404251	3927969	12/03/2018 9:41 am - 12/06/2018 8:22 am	Bldg North Chevy Chase ES Flr First Rm Speech	0.6
2404252	3927967	12/03/2018 9:42 am - 12/06/2018 8:22 am	Bldg North Chevy Chase ES Flr First Rm Counsel	0.6
2404253	3927968	12/03/2018 9:44 am - 12/06/2018 8:23 am	Bldg North Chevy Chase ES Floor First Room CR	0.5
2404254	3927962	12/03/2018 9:45 am - 12/06/2018 8:24 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404255	3927965	12/03/2018 9:46 am - 12/06/2018 8:25 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404256	3927961	12/03/2018 9:47 am - 12/06/2018 8:26 am	Bldg North Chevy Chase ES Floor First Room CR	0.5
2404257	3927966	12/03/2018 9:48 am - 12/06/2018 8:27 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404258	3927963	12/03/2018 9:50 am - 12/06/2018 8:30 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404259	3927964	12/03/2018 9:50 am - 12/06/2018 8:30 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404260	3927960	12/03/2018 9:51 am - 12/06/2018 8:31 am	Bldg North Chevy Chase ES Flr First Rm Studio	0.4
2404261	3927959	12/03/2018 9:52 am - 12/06/2018 8:32 am	Bldg North Chevy Chase ES Flr First Rm Media O	0.6

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018    Date Logged:    Date Analyzed: 12/09/2018    Date Reported: 12/21/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

**Disclaimer:**

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

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

NELAC NY 11769  
NRPP 103216 AL  
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey  
North Chevy Chase ES  
3700 Jones Bridge Road  
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2404262	3927958	12/03/2018 9:53 am - 12/06/2018 8:32 am	Bldg North Chevy Chase ES Flr First Rm Media O	0.8
2404263	3927954	12/03/2018 9:54 am - 12/06/2018 8:33 am	Bldg North Chevy Chase ES Flr First Rm Media C	0.8
2404264	3927957	12/03/2018 9:54 am - 12/06/2018 8:33 am	Bldg North Chevy Chase ES Flr First Rm Media C	0.6
2404265	3927956	12/03/2018 9:55 am - 12/06/2018 8:34 am	Bldg North Chevy Chase ES Flr First Rm Rm 20	0.6
2404266	3927953	12/03/2018 9:56 am - 12/06/2018 8:35 am	Bldg North Chevy Chase ES Flr First Rm Rm 22	< 0.4
2404267	3927955	12/03/2018 9:57 am - 12/06/2018 8:35 am	Bldg North Chevy Chase ES Floor First Room Rm	< 0.4
2404268	3927952	12/03/2018 9:58 am - 12/06/2018 8:36 am	Bldg North Chevy Chase ES Floor First Room Rm	0.8
2404269	3927951	12/03/2018 10:00 am - 12/06/2018 8:37 am	Bldg North Chevy Chase ES Floor First Room CR	1.0
2404270	3927917	12/03/2018 10:02 am - 12/06/2018 8:38 am	Bldg North Chevy Chase ES Floor First Room CR	1.0
2404271	3927918	12/03/2018 10:04 am - 12/06/2018 8:39 am	Bldg North Chevy Chase ES Floor First Room CR	0.7
2404272	3927919	12/03/2018 10:06 am - 12/06/2018 8:40 am	Bldg North Chevy Chase ES Floor First Room CR	1.3

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018    Date Logged:    Date Analyzed: 12/09/2018    Date Reported: 12/21/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

**Disclaimer:**

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

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

NELAC NY 11769  
NRPP 103216 AL  
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey  
North Chevy Chase ES  
3700 Jones Bridge Road  
Chevy Chase MD 20815 USA

Log Number	Device Number	Test	Exposure	Duration:	Area Tested	Result pCi/L
2404273	3927920	12/03/2018	10:08 am	12/06/2018 8:42 am	Bldg North Chevy Chase ES Floor First Room CR	0.7
2404274	3927915	12/03/2018	10:08 am	12/06/2018 8:42 am	Bldg North Chevy Chase ES Floor First Room CR	0.6
2404275	3927916	12/03/2018	10:10 am	12/06/2018 8:45 am	Bldg North Chevy Chase ES Flr First Rm Bldg Sv	< 0.4
2404276	3927913	12/03/2018	10:12 am	12/06/2018 8:46 am	Bldg North Chevy Chase ES Flr First Rm Staff Off	< 0.4
2404277	3927914	12/03/2018	10:14 am	12/06/2018 8:46 am	Bldg North Chevy Chase ES Floor First Room ES	0.4
2404278	3927912	12/03/2018	10:16 am	12/06/2018 8:47 am	Bldg North Chevy Chase ES Flr First Rm Kitchen	0.9
2404279	3927911	12/03/2018	10:18 am	12/06/2018 8:48 am	Bldg North Chevy Chase ES Flr First Rm Staff Lo	0.6
2404280	3927879	12/03/2018	10:18 am	12/06/2018 8:48 am	Bldg North Chevy Chase ES Flr First Rm Staff Lo	0.6
2404281	3927880	12/03/2018	10:26 am	12/06/2018 8:51 am	Bldg North Chevy Chase ES Floor First Room CR	0.7
2404282	3927877	12/03/2018	10:26 am	12/06/2018 8:51 am	Bldg North Chevy Chase ES Floor First Room CR	1.0
2404283	3927878	12/03/2018	10:28 am	12/06/2018 8:52 am	Bldg North Chevy Chase ES Floor First Room CR	0.6

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018    Date Logged:    Date Analyzed: 12/09/2018    Date Reported: 12/21/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

**Disclaimer:**

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

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

NELAC NY 11769  
NRPP 103216 AL  
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey  
North Chevy Chase ES  
3700 Jones Bridge Road  
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2404284	3927875	12/03/2018 10:29 am	12/06/2018 8:53 am	Bldg North Chevy Chase ES Floor First Room CR	0.9
2404285	3927876	12/03/2018 10:30 am	12/06/2018 8:54 am	Bldg North Chevy Chase ES Floor First Room CR	1.3
2404286	3927874	12/03/2018 10:31 am	12/06/2018 8:55 am	Bldg North Chevy Chase ES Flr First Rm PE Off	0.9
2404287	3927871	12/03/2018 10:32 am	12/06/2018 8:57 am	Bldg North Chevy Chase ES Floor First Room Gy	0.8
2404288	3927873	12/03/2018 10:34 am	12/06/2018 8:57 am	Bldg North Chevy Chase ES Floor First Room Gy	0.9
2404289	3927872	12/03/2018 10:35 am	12/06/2018 8:58 am	Bldg North Chevy Chase ES Flr First Rm CR104	< 0.4
2404290	3927908	12/03/2018 10:37 am	12/06/2018 9:00 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404291	3927909	12/03/2018 10:39 am	12/06/2018 9:01 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404292	3927910	12/03/2018 10:41 am	12/06/2018 9:01 am	Bldg North Chevy Chase ES Flr First Rm CR103	< 0.4
2404293	3927904	12/03/2018 10:42 am	12/06/2018 9:02 am	Bldg North Chevy Chase ES Flr First Rm CR105	< 0.4
2404294	3927906	12/03/2018 10:43 am	12/06/2018 9:02 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018    Date Logged:    Date Analyzed: 12/09/2018    Date Reported: 12/21/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

**Disclaimer:**

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

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

NELAC NY 11769  
NRPP 103216 AL  
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey  
North Chevy Chase ES  
3700 Jones Bridge Road  
Chevy Chase MD 20815 USA

Log Number	Device Number	Test	Exposure	Duration:	Area Tested	Result pCi/L
2404295	3927905	12/03/2018	10:43 am	12/06/2018 9:03 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404296	3927907	12/03/2018	10:44 am	12/06/2018 9:04 am	Bldg North Chevy Chase ES Flr First Rm CR107	< 0.4
2404297	3927903	12/03/2018	10:44 am	12/06/2018 9:04 am	Bldg North Chevy Chase ES Flr First Rm CR107	< 0.4
2404298	3927902	12/03/2018	10:45 am	12/06/2018 9:05 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404299	3927901	12/03/2018	10:46 am	12/06/2018 9:05 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404300	3927900	12/03/2018	10:48 am	12/06/2018 9:06 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404301	3927898	12/03/2018	10:48 am	12/06/2018 9:06 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404302	3927899	12/03/2018	10:50 am	12/06/2018 9:07 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404303	3927897	12/03/2018	10:51 am	12/06/2018 9:10 am	Bldg North Chevy Chase ES Flr Second Rm AR2	< 0.4
2404304	3927895	12/03/2018	10:52 am	12/06/2018 9:11 am	Bldg North Chevy Chase ES Flr Second Rm AR2	< 0.4
2404305	3927894	12/03/2018	10:54 am	12/06/2018 9:12 am	Bldg North Chevy Chase ES Flr Second Rm AR2	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018    Date Logged:    Date Analyzed: 12/09/2018    Date Reported: 12/21/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

**Disclaimer:**

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

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

NELAC NY 11769  
NRPP 103216 AL  
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey  
North Chevy Chase ES  
3700 Jones Bridge Road  
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2404306	3928060	12/03/2018 9:30 am - 12/06/2018 9:12 am	Bldg North Chevy Chase ES Flr NA Rm Field Bla	< 0.4
2404307	3928051	12/03/2018 9:30 am - 12/06/2018 9:12 am	Bldg North Chevy Chase ES Flr NA Rm Field Bla	< 0.4
2404308	3926362	12/03/2018 9:30 am - 12/06/2018 9:12 am	Bldg North Chevy Chase ES Flr NA Rm Field Bla	< 0.4
2404309	3926367	12/03/2018 9:30 am - 12/06/2018 9:12 am	Bldg North Chevy Chase ES Flr NA Rm Transit Bl	Invalid
2404310	3926370	12/03/2018 6:00 am - 12/06/2018 6:00 pm	Bldg North Chevy Chase ES Flr NA Rm Office Bla	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018    Date Logged:    Date Analyzed: 12/09/2018    Date Reported: 12/21/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

**Disclaimer:**

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

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

NELAC NY 11769  
NRPP 101193 AL  
NRSB ARL0017

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1  
MCPS Radon Survey  
North Chevy Chase ES  
3700 Jones Bridge Road  
Bethesda MD 20815

Log Number	Device Number	Area Tested	Result pCi/L
2403709	3881190	Bldg North Chevy Chase ES Floor First Room APR	0.4

Radon test results are below the EPA action level of 4 pCi/L. The EPA suggests that you may want to test again in the future to ensure that radon levels remain below the action level. If the property tested uses water from a private well, you may wish to consider testing for radon in water.

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

Distributed by: Intertek-PSI (VA)

Test Began: 12/03/2018 10:20 am Date Received: 12/10/2018 Date Analyzed: 12/08/2018  
Test Ended: 12/06/2018 8:49 am Date Logged: 12/10/2018 Date Reported: 12/21/2018  
Test Exposure Duration: 70.5 Hours

Report Reviewed By:  Report Approved By: 

**Disclaimer:**

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

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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

NRPP 105011 AL  
NRSB ARL0007  
Ohio RL41

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

Laboratory Report for:

Property Tested:

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

MCPS Radon Survey  
4514 Taylorsville Road  
Dayton OH 45424

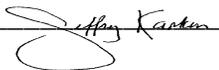
Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
3204125	3926831	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	36.1
3204126	3926832	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.8
3204127	3926833	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	33.7
3204128	3926834	12/07/2018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

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

Test Performed By: Unknown

Distributed by: Intertek-PSI (VA)

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

Report Reviewed By: 

Report Approved By: 

**Disclaimer:**

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

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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

# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Intertek - PSI

Job Number 187732

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

Date Start: 12/7/18 Date Stop: 12/10/18

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0947 Time Stop: 0947

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: (10) Char. Cans-

Device No.'s: \_\_\_\_\_

3926831 thru 3926840

G2 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  $\mu$ R/h Elevation = 820 ft



## Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

- |  |                                |
|--|--------------------------------|
| 1. Ewing Center                            | 13. Garrett Park ES Annex      |
| 2. Department of Food & Nutrition Services | 14. Goshen ES                  |
| 3. Damascus HS                             | 15. Kingsley Wilderness Center |
| 4. Edison HS                               | 16. Kensington Parkwood ES     |
| 5. Emory Grove Center                      | 17. Monocacy ES                |
| 6. John Poole MS                           | 18. Lakewood ES                |
| 7. Lakelands Park MS                       | 19. Little Bennett ES          |
| 8. Laytonsville ES                         | 20. Lois P. Rockwell ES        |
| 9. Gaithersburg HS                         | 21. Olney ES                   |
| 10. Neelsville MS                          | 22. North Chevy Chase ES       |
| 11. Sequoyah ES                            | 23. Woodfield ES               |
| 12. Clarksburg ES Annex                    | 24. Wootton HS                 |

---

	Date	Initials
Radon Test Kits Deployed	12/03/2018	ML
Radon Test Kits Sampled	12/06/2018	ML
Radon Test Kits Shipped to Lab*	12/06/2018	ML
Radon Test Kits Received by Lab*	12/07/2018; 12/08/2018	ML

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

**RADON SCREENING SURVEY – FOLLOW-UP NORTH CHEVY CHASE ELEMENTARY  
SCHOOL**

3700 Jones Bridge Road, Chevy Chase, Maryland 20815

**EXECUTIVE SUMMARY**

Date of Test Report:	3/7/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	4
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7
Confirmed Rooms $\geq$ 4.0 pCi/L US EPA Action Level	0

**Summary of Sampling Events  $\geq$  4.0 pCi/L**

Room	Result (pCi/L) 3/3/16 (Rev 1) Initial	Result (pCi/L) 3/7/16 Follow-Up	Average Result (pCi/L)
32	5.0	1.7	3.4
MAIN OFFICE	1.6 (tampered)	0.8	1.2
Principal's Office	missing	0.6	0.6
MPR	missing	1.4 (tampered)	1.4



### MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/7/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	4
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7

Project Status:

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

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



March 7, 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 # 12146341.28

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Road  
Chevy Chase, MD 20815

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 North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (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](http://www.montgomerycountymd.gov/dep/air/radon) or [www.epa.gov/radon](http://www.epa.gov/radon).

KCI visited the site on February 8, 2016 and deployed six (6) 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 11, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

**Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}$  F.

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

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

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

**Results:**

The results of the radon test analysis indicated the following:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
$\geq 4.0$ pCi/L	none	n/a
$< 4.0$ pCi/L	See Attachment B	

Notes:  
D- Duplicate sample

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

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

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

Sincerely,



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

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

# ATTACHMENT A

## Floor Plan With Test Locations

# ATTACHMENT B

## Radon Test Summary Spreadsheet

**Table Notes:**

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank\*

PM- Project Manager

QC- Quality Control

\*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 8 testing. Office blanks were not submitted under each school individually.

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Test Period: 02/08/16-02/11/16</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7730299	32	1.7
7730295	MAIN OFFICE	0.8
7730297	* MPR (tampered)	1.4
7730296	PRINC OFF	0.6

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Test Period: 02/08/16-02/11/16</b>		
<b>Kit Number</b>	<b>QC Type</b>	<b>Result</b>
7730298	* D (MPR:tampered)	1.3
7730300	FB (32)	< 0.3

Table Note:

\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

---

February 25, 2016  
**LABORATORY ANALYSIS  
REPORT \*\***

---

Radon test result report for:  
**NORTH CHEVY CHASE ELEMENTARY SCHOOL  
MAIN**

---

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
7730299	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.7 ± 0.4	2016-02-15
7730300	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	< 0.3	2016-02-15
7730295	MAIN OFFICE	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.8 ± 0.3	2016-02-15
7730297	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.4 ± 0.4	2016-02-15
7730298	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.3 ± 0.3	2016-02-15
7730296	PRINC OFF	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.6 ± 0.3	2016-02-15

---

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

---

February 25, 2016 **\*\* LABORATORY ANALYSIS REPORT \*\***

---

Radon test result report for:

**MCPS RADON  
PHASE 8  
OFFICE BLANKS**

---

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
7729754	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729757	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729758	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15

---

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**

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
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 \_\_\_\_\_  
ε3 Left

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_  
Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_  
Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_  
Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_  
Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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



## Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 8

Name of Schools:

- |                          |                          |
|--------------------------|--------------------------|
| 1. Blair G. Ewing Center | 12. Jackson Road ES      |
| 2. Cedar Grove ES        | 13. Jones Lane ES        |
| 3. Clarksburg ES         | 14. Lake Seneca ES       |
| 4. Cloverly ES           | 15. Laytonsville ES      |
| 5. Cold Spring ES        | 16. Montgomery Knolls ES |
| 6. Damascus ES           | 17. North Chevy Chase ES |
| 7. Dufief ES             | 18. Oakview ES           |
| 8. East Silver Spring    | 19. Randolph Maint       |
| 9. Georgian Forest ES    | 20. Robert Frost MS      |
| 10. Germantown ES        | 21. Shady Grove Maint    |
| 11. Glenallen ES         | 22. Viers Mill ES        |

---

	Date	Initials
Radon Test Kits Deployed	2/8/16	JM
Radon Test Kits Collected	2/11/16	JM
Radon Test Kits Shipped to Lab*	12/11/16	JM
Radon Test Kits Received by Lab*	12/15/16	JM

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



### MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/3/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	50
# Rooms $\geq$ 4.0 pCi/L:	1
Low Value:	< 0.3
High Value:	5.0

Rooms with results  $\geq$  4.0 pCi/L:  
Room CR32 (5.0 pCi/L)

Project Status:

Initial testing completed; re-test needed for results  $\geq$  4.0 pCi/L.  
Initial testing completed; missing or compromised samples need re-test.



March 3, 2016 (Rev 1)

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

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

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Road  
Chevy Chase, MD 20815

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 North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (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](http://www.montgomerycountymd.gov/dep/air/radon) or [www.epa.gov/radon](http://www.epa.gov/radon).

KCI visited the site on December 21, 2015 and deployed sixty (60) 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 December 24, 2015 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

**Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}$  F.

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

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

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

**Results:**

The results of the radon test analysis indicated the following:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
$\geq 4.0$ pCi/L	CR32	5.0
$< 4.0$ pCi/L	See Attachment B	

Notes:

D- Duplicate sample

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

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

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

Sincerely,



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

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

# ATTACHMENT A

## Floor Plan With Test Locations

# ATTACHMENT B

## Radon Test Summary Spreadsheet

**Table Notes:**

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

<b>Radon Testing Results</b>		
<b>North Chevy Chase E.S</b>		
<b>Test Period: 12/21/15-12/24/15</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7712046	112	1.8
7712042	114	2.0
7712058	205	1.8
7712052	110A	2.0
7712038	118A	2.3
7712041	118B	2.5
7712049	118C	3.0
7712055	118D	2.7
7712039	BLDG SER	1.5
7712032	CF21	1.7
7712002	CONF RM	1.8
7712012	COUNSELOR RM	1.2
7712013	CR10	1.4
7712043	CR103	2.2
7712047	CR104	1.2
7712051	CR105	2.5
7712037	CR107	2.5
7712016	CR12	1.4
7712017	CR13	1.2
7712001	CR14	1.4
7712019	CR15	1.1
7712015	CR16	1.9
7712020	CR17	0.8
7712024	CR18	0.7
7712021	CR20	1.1
7712028	CR22	1.2
7712031	CR23	2.1
7712025	CR24	1.9
7712029	CR25	1.6
7712027	CR26	1.8
7712026	CR27	1.3
7712050	CR31	< 0.3
7712045	CR32	5.0
7712054	CR33	1.0
7712059	CR34	2.0
7712009	DEVEL TEACH OFF	2.9
7712053	GYM	< 0.3
7712070	GYM	0.6
7712057	GYM OFF	1.4
7712008	HEALTH RM	1.8
7712004	* MAIN OFF (tampered)	1.6
7712018	MEDIA CTR	1.3
7712022	MEDIA CTR	1.2
7712011	MEDIA CTR OFF	1.3
7712033	* MPR (missing)	-
7712014	PHONE ROOM	1.8

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>North Chevy Chase E.S</b>		
<b>Test Period: 12/21/15-12/24/15</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7712003	* PRINC OFF (missing)	-
7712034	SLOUNGE	0.9
7712036	SOFF1	0.8
7712030	SOFF2	1.2
7712005	SPEECH OFF	2.1
7712007	STAFF WORK	1.8

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>North Chevy Chase E.S</b>		
<b>Test Period: 12/21/15-12/24/15</b>		
<b>Kit Number</b>	<b>QC Type</b>	<b>Result</b>
7712056	D (118C)	2.5
7712035	D (BLDG SER)	1.4
7712006	D (CONF RM)	2.1
7712023	D (MEDIA CTR)	1.7
7712044	* D (MPR:missing)	-
7712010	FB (PHONE RM)	< 0.3
7712040	FB (SOFF2)	< 0.3
7712192	OB (0)	< 0.3

Table Note:

\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

January 14, 2016 **LABORATORY ANALYSIS REPORT** \*\*

Radon test result report for:  
**NORTH CHEVY CHASE E.S**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712192	00	2015-12-21 @ 6:00 pm	2015-12-24 @ 2:00 pm	< 0.3	2015-12-29
7712052	110A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712046	112	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712042	114	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712038	118A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.3 ± 0.4	2015-12-29
7712041	118B	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712049	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	3.0 ± 0.5	2015-12-29
7712056	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712055	118D	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.7 ± 0.4	2015-12-29
7712058	205	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712035	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712039	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.5 ± 0.4	2015-12-29
7712032	CF21	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.7 ± 0.4	2015-12-29
7712002	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712006	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	2.1 ± 0.4	2015-12-29
7712012	COUNSELOR RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712013	CR10	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712043	CR103	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.2 ± 0.4	2015-12-29
7712047	CR104	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712051	CR105	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712037	CR107	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712016	CR12	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712017	CR13	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712001	CR14	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712019	CR15	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.4	2015-12-29
7712015	CR16	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712020	CR17	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712024	CR18	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7712021	CR20	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.3	2015-12-29
7712028	CR22	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712031	CR23	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712025	CR24	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712029	CR25	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.6 ± 0.4	2015-12-29
7712027	CR26	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712026	CR27	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712050	CR31	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712045	CR32	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	5.0 ± 0.6	2015-12-29

January 14, 2016 **LABORATORY ANALYSIS REPORT \*\***

Radon test result report for:  
**NORTH CHEVY CHASE E.S  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712054	CR33	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.0 ± 0.3	2015-12-29
7712059	CR34	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	2.0 ± 0.4	2015-12-29
7712009	DEVEL TEACH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.9 ± 0.5	2015-12-29
7712053	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712070	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	0.6 ± 0.3	2015-12-29
7712057	GYM OFF	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.4 ± 0.4	2015-12-29
7712008	HEALTH RM	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712004	MAIN OFF	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.6 ± 0.4	2015-12-29
7712022	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.2 ± 0.4	2015-12-29
7712023	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.7 ± 0.4	2015-12-29
7712018	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.3 ± 0.4	2015-12-29
7712011	MEDIA CTR OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712033	MPR	@	@		
7712044	MPR	@	@		
7712010	PHONE RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712014	PHONE ROOM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712003	PRINC OFF	@	@		
7712034	SLOUNGE	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.9 ± 0.4	2015-12-29
7712036	SOFF1	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712030	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712040	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712005	SPEECH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712007	STAFF WORK	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29

December  
29,  
2015

**\*\*LABORATORY ANALYSIS  
REPORT\*\***

Radon test result report for:  
**TRANSIT DEC 14 2015**  
**NONE**

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

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  $\mu$ R/h Elevation = 820 ft**



### Chain of Custody

Project Name: MCPS Radon Phase II

School Names:

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

-----

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

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