MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Glen Haven Elementary School
Address:	10900 Inwood Avenue
	Wheaton, MD 20902
Reason for Testing:	Scheduled Re-Testing - ☐ 2-year or ☒ 5-year schedule ☐ Clearance Testing (Post-Mitigation) ☒ Building Envelope or HVAC Upgrades ☐ New Construction – Addition or Facility
Current Radon Status:	☐ Active Mitigation (2-year regular schedule) ☒ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested (New Facility)
Round of Testing:	☐ Initial Testing **-or-** ☒ Follow-up Testing
Testing Status:	☒ No Further Testing Needed **-or-** ☐ Follow-Up Testing Required

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

Mitigation -	**Facility Radon Status:**		
☐ Not Required ☒ Consider (≥2.0 & <4.0-pCi/L) ☐ Required (≥4.0-pCi/L) Rooms:	☒ No Change in Status ☐ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	65	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥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 ≥2.0-pCi/L; ≥2.7-pCi/L; ≥4.0-pCi/L; and ≥8.0-pCi/L;
- QA/QC Results - (field blanks and duplicates) indicating location collected; trip and office blanks; and spike sample results;
- Invalid Measurement Locations – missed locations, missing and or damaged/compromised testing devices.

Attachment 2 – Laboratory Report(s)

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

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Detector and Deployment

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

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

Testing

☒ Short-Term ☐ Long-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	12/09/24 12/12/24	03/17/25 03/20/25
Does the test period include weekends, school breaks or holidays?				☐ Yes ☒ No	
*If "**Yes**" please explain/detail in the space below:*					
Was HVAC operating under occupied conditions?				☒ Yes ☐ No	
*If "**No**" please explain/detail in the space below:*					

Testing (continued)

	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
Round of Testing	Initial	Follow-Up	Initial	Follow-Up	
Test Locations[1]	62	2	2	0	66
Duplicates[2]	7	1	0	0	8
Field Blanks[3]	3	1	0	0	4
				Grand Total	78

1 – include all detectors deployed (duplicates, field blanks); 1 detector per occupied (or intended to be occupied) ground-contact space ≤ 2,000-square feet; large spaces ≥ 2,000-square feet - 1 detector per 2,000-square feet or part thereof); and upper floors - 10% of all occupied or intended to be occupied rooms per floor (these are in addition to ground contact locations)
2 - 10% of all locations tested, per floor
3 – 5% of all locations tested, per floor

Quality Assurance / Quality Control (QA/QC)

A Quality Assurance plan that is consistent with ANSI/AARST MS-QA (Radon Measurement Systems Quality Assurance) was submitted under separate cover, and is available to review at the MCPS Radon Testing and Mitigation Program website. The following number of QA/QC samples are associated this facility.

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

1 - 3% of EIC detectors; and 3% from each LOT of CAD and ATD detectors; a maximum of 6-spiked measurements per month for both EIC detectors and each LOT of CAD and ATD detectors.
2 – One per shipping container from start of detector deployment
3 – One per facility tested as devices are removed/allocated from the storage location for deployment;
4 - One additional blank, analyzed prior to deployment, for storage locations that have not been evaluated or monitored, for detectors that have been stored for more than 30-day durations.

Quality Assurance / Quality Control (continued)

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

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

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

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

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

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

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

	Ground-Contact		Upper-Level(s)		Total
Round of Testing	**Initial**	**Follow-Up**	**Initial**	**Follow-Up**	
Number of test locations:	62	1	2	0	65
Number of locations ≥8.0-pCi/L:	0	0	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0	0	0
Number of locations ≥2.7 and <4-pCi/L:	0	0	0	0	0
Number of locations ≥2.0 and <2.7-pCi/L:	1	0	0	0	1
Number of missing required test locations[3]:	0	0	0	0	0
Number of failed duplicate control locations:	1	0	0	0	1
Percentage of missing test locations for the facility[4,5]:	0	0	0	0	0

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

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

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

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

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

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

Round of Testing	Initial	Follow-Up
Were test devices deployed in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms?	☒ Yes ☐ No	☒ Yes ☐ No
Were valid measurements obtained in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms?	☐ Yes ☒ No	☒ Yes ☐ No
If Yes to both above *– then Testing Status –* ***'No Further Testing Needed'*** *mark 'NA' below and complete Conclusions section*		
If No to either above, were all results obtained under 4.0-pCi/L **and** were sufficient valid measurements obtained?[1,2] ***If Yes,*** *then -* ***'No Further Testing Needed'*** *complete Conclusion section on first page.* ***If No****, then -* ***'Follow-up Testing Required'*** *continue below.*	☐ Yes ☐ No ☒ NA	☐ Yes ☐ No ☒ NA

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

Follow-Up Testing

Required –

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

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

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

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Glen Haven Elementary School		
Test Period: 12/09/2024 - 12/12/2024		
Kit Number	Room / Area	Result
11903505	100	< 0.3
11903543	102	< 0.3
11903554	103	< 0.3
11903561	103	< 0.3
11903565	103	< 0.3
11903535	104	< 0.3
11903527	105	0.6
11903548	105	< 0.3
11903520	107	< 0.3
11903528	107	< 0.3
11903508	111	< 0.3
11903521	112	< 0.3
11903515	113	< 0.3
11903513	114	< 0.3
11903530	115	< 0.3
11903562	120	< 0.3
11903570	122	0.7
11903590	123	< 0.3
11903566	124	0.6
11903581	125	0.6
11903576	129	2.5
11903584	140	0.8
11903529	141	< 0.3
11903553	145	< 0.3
11903539	147	1.3
11903545	147	0.9
11903518	151	1.2
11903540	151	< 0.3
11903519	153	< 0.3
11903531	155	< 0.3
11903547	157	0.7
11903546	159	0.5
11903536	161	0.7
11903550	200	0.5
11903537	202	0.6
11903541	202	< 0.3
11903552	205	< 0.3

Table 1- Radon Testing Results		
Glen Haven Elementary School		
Test Period: 12/09/2024 - 12/12/2024		
Kit Number	Room / Area	Result
11903524	209	< 0.3
11903525	211	< 0.3
11903533	214	0.7
11903532	215	0.6
11903538	216	< 0.3
11903523	217	< 0.3
11903534	220	< 0.3
11903507	221	< 0.3
11903512	221	0.8
11903517	222	< 0.3
11903551	222	< 0.3
11903549	226	< 0.3
11903560	300	< 0.3
11903567	300	< 0.3
11903557	302	< 0.3
11903568	306	< 0.3
11903575	308	0.6
11903589	311	< 0.3
11903588	312	0.7
11903555	315	< 0.3
11903556	317	< 0.3
11903526	321	< 0.3
11903572	321	0.6
11903583	403	< 0.3
11903582	414	< 0.3
11903522	100A	< 0.3
11903516	100B	0.8
11903514	100C	< 0.3
11903559	103A	< 0.3
11903544	107A	1.0
11903542	115B	< 0.3
11903569	123A	< 0.3
11903591	123A	0.6
11903579	132E	0.9
11903571	APR	< 0.3
11903587	APR	< 0.3
11903580	STAGE	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Glen Haven Elementary School							
Test Period: 12/09/2024 - 12/12/2024							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
129	2.5	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Glen Haven Elementary School			
Test Period: 12/09/2024 - 12/12/2024			
Kit Number	**QC Type**	**Room / Area**	**Result**
11903527	D	105	0.6
11903545	D	147	0.9
11903540	FB	151	< 0.3
11903541	D	202	< 0.3
11903507	D	221	< 0.3
11903551	FB	222	< 0.3
11903560	D	300	< 0.3
11903572	D	321	0.6
11903561	FB	103 IMC	< 0.3
11903569	D	123A	< 0.3
11477899	OB	OFFICE BLANK	< 0.3
11482789	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation

Glen Haven Elementary School

Test Period: 12/09/2024 - 12/13/2024

Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11903537	11903541	202	0.6	0.3	✓	0.6	PASS	0.5	<1-pCi/L	✓
11903507	11903512	221	0.8	0.3	✓	0.6	FAIL	0.6	<1-pCi/L	✗
11903548	11903527	105	0.6	0.3	✓	0.6	PASS	0.5	<1-pCi/L	✓
11903545	11903539	147	1.3	0.9	✓	1.8	PASS	1.1	<1-pCi/L	✓
11903591	11903569	123A	0.6	0.3	✓	0.6	PASS	0.5	<1-pCi/L	✓
11903560	11903567	300	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11903526	11903572	321	0.6	0.3	✓	0.6	PASS	0.5	<1-pCi/L	✓

NOTES:

QC Check #1 - Data Entry

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

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

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

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

Table 4 - Summary of Invalid Measurement Locations		
Glen Haven Elementary School		
Test Period: 12/09/24 - 12/12/24		
Kit Number	**Room/Area**	**Reason**
11903507	221	Failed QC
11903512	221	

Table 1- Radon Testing Results		
Glen Haven Elementary School RT		
Test Period: 3/17/2025 - 3/20/2025		
Kit Number	Room / Area	Result
11892455	221	< 0.3
11892456	221	< 0.3
11892457	221	< 0.3
11892458	221	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Glen Haven Elementary School							
Test Period: 3/17/2025 - 3/20/2025							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Glen Haven Elementary School			
Test Period: 3/17/2025 - 3/20/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11892457	D	221	< 0.3
11892458	FB	221	< 0.3
11892482	OB	OFFICE BLANK	< 0.3
11892483	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation

Glen Haven Elementary School RT

Test Period: 3/17/2025 - 3/20/2025

Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11892457	11892455 11892456	221	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓

NOTES:

QC Check #1 - Data Entry

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

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

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

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

Table 4 - Summary of Invalid Measurement Locations		
Glen Haven Elementary School		
Test Period: 3/17/25 - 3/20/25		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

December 16, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11903505	100 MAIN	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903522	100A	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903516	100B	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.8 ± 0.4	2024-12-16
11903514	100C	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903543	102	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903565	103 IMC	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903561	103 IMC	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903554	103 IMC	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903559	103A	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903535	104	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903527	105	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.6 ± 0.3	2024-12-16
11903548	105	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903528	107 GYM	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903520	107 GYM	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903544	107A	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	1.0 ± 0.4	2024-12-16
11903508	111	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903521	112	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903515	113 HEALTH	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903513	114	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903530	115	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903542	115B	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903562	120	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903570	122	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.7 ± 0.4	2024-12-16
11903590	123	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903591	123A	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.6 ± 0.3	2024-12-16
11903569	123A	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903566	124	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.6 ± 0.3	2024-12-16
11903581	125	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.6 ± 0.3	2024-12-16
11903576	129	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	2.5 ± 0.4	2024-12-16
11903579	132E	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.9 ± 0.4	2024-12-16
11903584	140	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.8 ± 0.4	2024-12-16
11903529	141	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903553	145	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903545	147	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.9 ± 0.3	2024-12-16
11903539	147	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	1.3 ± 0.3	2024-12-16
11903518	151	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	1.2 ± 0.4	2024-12-16
11903540	151	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16

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

December 16, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11903519	153	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903531	155	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903547	157	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.7 ± 0.3	2024-12-16
11903546	159	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.5 ± 0.3	2024-12-16
11903536	161	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.7 ± 0.3	2024-12-16
11903550	200	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.5 ± 0.3	2024-12-16
11903537	202	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.6 ± 0.3	2024-12-16
11903541	202	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903552	205	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903524	209	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903525	211	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903533	214	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.7 ± 0.3	2024-12-16
11903532	215	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.6 ± 0.3	2024-12-16
11903538	216	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903523	217	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903534	220	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903507	221	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903512	221	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	0.8 ± 0.4	2024-12-16
11903517	222	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903551	222	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903549	226	2024-12-09 @ 8:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903560	300	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903567	300	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903557	302	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903568	306	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903575	308	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.6 ± 0.3	2024-12-16
11903589	311	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903588	312	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.7 ± 0.4	2024-12-16
11903555	315	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903556	317	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903526	321	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903572	321	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	0.6 ± 0.4	2024-12-16
11903583	403	2024-12-09 @ 10:00 am	2024-12-12 @ 7:00 am	< 0.3	2024-12-16
11903582	414	2024-12-09 @ 10:00 am	2024-12-12 @ 7:00 am	< 0.3	2024-12-16
11903571	APR	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903587	APR	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16
11903580	STAGE	2024-12-09 @ 9:00 am	2024-12-12 @ 8:00 am	< 0.3	2024-12-16

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

December 16, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11477899	O	2024-12-09 @ 10:00 am	2024-12-12 @ 11:00 am	< 0.3	2024-12-16
11907194	O	2024-12-10 @ 10:00 am	2024-12-13 @ 11:00 am	< 0.3	2024-12-16

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December 16, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRAVEL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11482789	T	2024-12-09 @ 10:00 am	2024-12-12 @ 11:00 am	< 0.3	2024-12-16
11907193	T	2024-12-10 @ 10:00 am	2024-12-13 @ 11:00 am	< 0.3	2024-12-16

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20001560

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

Date Start: 12/14/24 Date Stop: 12/17/24	Date Start: _____ Date Stop: _____
Time Start: 0815 Time Stop: 0815	Time Start: _____ Time Stop: _____
Device No.'s: (3) CHAR BAGS	Device No.'s: _____
11477880, 11477883, 11477896	_____
_____	_____
B4 Right	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

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

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

Radon test result report for:
SK
MAIN

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

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KCI TECHNOLOGIES

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing December 9th – December 12th, 2024

Name of Schools:

1. Georgian Forest ES
2. Glen Haven ES
3. Glenallen ES
4. Greencastle ES
5. Highland ES

	Date	Initials
Radon Test Kits Deployed	12/09/2024	BMM
Radon Test Kits Collected	12/12/2024	BMM
Radon Test Kits Shipped to Lab*	12/12/2024	BMM
Radon Test Kits Received by Lab*	12/16/2024	BMM

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

March 24, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892455	221	2025-03-17 @ 1:00 pm	2025-03-20 @ 2:00 pm	< 0.3	2025-03-24
11892456	221	2025-03-17 @ 1:00 pm	2025-03-20 @ 2:00 pm	< 0.3	2025-03-24
11892457	221	2025-03-17 @ 1:00 pm	2025-03-20 @ 2:00 pm	< 0.3	2025-03-24
11892458	221	2025-03-17 @ 1:00 pm	2025-03-20 @ 2:00 pm	< 0.3	2025-03-24

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

April 7, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
OFFICE
MAIN

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

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

April 7, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
TRAVEL
MAIN

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20002919

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

Date Start: 3/7/25 Date Stop: 3/10/25	Date Start: _____ Date Stop: _____
Time Start: 0832 Time Stop: 0832	Time Start: _____ Time Stop: _____
Device No.'s: (7) CHAR BAGS	Device No.'s: _____
11886401 thru 11886406,	
11886410	
G3 Right	
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____

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

March 19, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
QC
MAIN

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

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Re-Testing March 17th – March 20th, 2025

Name of Schools:

1. Georgian Forest ES
2. Glen Haven ES
3. Jackson Road ES
4. John F. Kennedy HS

	Date	Initials
Radon Test Kits Deployed	3/17/2025	
Radon Test Kits Collected	3/20/2025	
Radon Test Kits Shipped to Lab*	3/20/2025	
Radon Test Kits Received by Lab*	3/24/2025	

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

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MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Glen Haven Elementary School
Date of Test Report	3/2/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	62
# Rooms Re-tested	2
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	2.3 pCi/L

Project Status:

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

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March 3, 2023

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

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

Location: Glen Haven Elementary School
10900 Inwood Avenue
Silver Spring, MD 20902

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 Glen Haven Elementary School, located at 109900 Inwood Avenue, Silver Spring MD 20902 (subject site).

Scope of Services:

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

KCI visited the site initially on January 23, 2023 and deployed seventy (70) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

KCI returned to the site on January 26, 2023 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs - MA. for analysis by gamma-ray spectroscopy. Accustar Labs - MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

KCI re-visited the site on February 14, 2023 to deploy five (5) activated charcoal (AC) radon test kits for testing of missed rooms or compromised test kits during initial testing.

KCI returned to the site on February 17, 2023 to retrieve the radon re-sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs – MA for analysis by gamma-ray spectroscopy. Accustar Labs – MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

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

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

Evaluation of Testing Conditions:

These tests represent:

- Follow up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels at the facility.

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

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

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

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

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

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal
ACI- Air Check, Inc.
D- Duplicate
FB- Field Blank
KCI- KCI Technologies, Inc.
OB- Office Blank
PM- Project Manager
QC- Quality Control

Table 1- Radon Testing Results		
Glen Haven ES		
Test Period: 01/23/2023 - 01/26/2023		
Kit Number	Room / Area	Result
11634316	102	0.8
11634333	102	0.7
11634313	104	0.9
11634334	111	< 0.3
11634328	112	0.7
11634315	113	0.9
11634311	114	2.2
11634301	115	0.8
11634308	120	1.2
11634318	122	1.0
11634309	124	1.4
11634322	125	1.3
11634336	129	1.2
11634339	140	0.9
11634319	141	< 0.3
11634338	145	1.0
11634332	147	2.3
11634306	151	1.9
11634361	153	1.3
11634362	155	1.2
11634369	157	1.0
11634347	159	1.3
11634370	159	0.9
11634348	161	< 0.3
11634358	161	1.6
11634356	200	0.6
11634363	205	0.8
11634355	209	0.9
11634354	211	0.6
11634346	214	0.9
11634307	215	< 0.3
11634329	215	< 0.3
11634312	216	0.6
11634349	216	< 0.3
11634359	217	0.7
11634365	220	< 0.3
11634368	221	0.8
11634360	222	0.6
11634367	226	0.6
11634350	300	< 0.3
11634345	302	0.6
11634351	306	0.7

Table 1- Radon Testing Results		
Glen Haven ES		
Test Period: 01/23/2023 - 01/26/2023		
Kit Number	Room / Area	Result
11634344	308	1.8
11634353	311	0.8
11634342	312	1.2
11634352	315	< 0.3
11634364	317	0.8
11634343	321	< 0.3
11634357	321	0.6
11634366	400	1.1
11634303	420	0.8
11634320	100A	1.5
11634327	100B	1.1
11634326	100C	1.0
11634325	103A	< 0.3
11634331	125A	1.5
11634330	147A	1.7
11634337	147A	1.8
11634317	APR	N/A
11634321	APR	0.8
11634302	GYM	1.1
11634304	GYM	0.9
11634305	GYM OFFICE	1.9
11634323	KITCHEN OFFICE	< 0.3
11634324	KITCHEN OFFICE	1.6
11634335	MAIN 100	2.3
11634340	MEDIA 103	0.9
11634341	MEDIA 103	0.7
11634310	STAGE	1.0
11634314	STAGE	1.0

Table 2- Radon Testing Results			
Glen Haven ES			
Test Period: 01/23/23 - 01/26/23			
Kit Number	QC Type	Room / Area	Result
11634333	D	102	0.7
11634347	D	159	1.3
11634348	FB	161	< 0.3
11634312	D	216	0.6
11634357	D	321	0.6
11634330	D	147A	1.7
11634323	FB	Kitchen Office	< 0.3
11634310	D	Stage	1.0
11633990	OB	OFFICE BLANK	< 0.3
11633992	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Glen Haven ES		
Test Period: 01/23/23 - 01/26/23		
Kit Number	Room/Area	Result
N/A	105	N/A

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Glen Haven ES		
Test Period: 01/23/23 - 01/26/23		
Kit Number	Room/Area	Result
11634317	APR	Missing

Table Note:

* Missing or Compromised Sample

Table 1- Radon Testing Results		
Glen Haven ES RT		
Test Period: 02/14/2023 - 02/17/2023		
Kit Number	Room / Area	Result
11634061	105	0.5
11633976	APR	0.8
11634059	APR	1.1
11634062	APR	< 0.3
11634966	APR	1.0

Table 2- Radon Testing Results			
Glen Haven ES RT			
Test Period: 02/14/23 - 02/17/23			
Kit Number	QC Type	Room / Area	Result
11634059	D	APR	1.1
11634062	FB	APR	< 0.3
11634060	OB	OFFICE BLANK	< 0.3
11634067	TB	TRAVEL BALNK	< 0.3

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

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

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 30, 2023

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11634320	100A	2023-01-23 @ 8:00 am	2023-01-26 @ 10:00 am	1.5 ± 0.4	2023-01-30
11634327	100B	2023-01-23 @ 9:00 am	2023-01-26 @ 9:00 am	1.1 ± 0.4	2023-01-30
11634326	100C	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.0 ± 0.3	2023-01-30
11634316	102	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	0.8 ± 0.3	2023-01-30
11634333	102	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	0.7 ± 0.3	2023-01-30
11634325	103A	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634313	104	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	0.9 ± 0.4	2023-01-30
11634334	111	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634328	112	2023-01-23 @ 8:00 am	2023-01-26 @ 9:00 am	0.7 ± 0.3	2023-01-30
11634315	113	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	0.9 ± 0.3	2023-01-30
11634311	114	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	2.2 ± 0.4	2023-01-30
11634301	115	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.8 ± 0.3	2023-01-30
11634308	120	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.2 ± 0.4	2023-01-30
11634318	122	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.0 ± 0.4	2023-01-30
11634309	124	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.4 ± 0.4	2023-01-30
11634322	125	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.3 ± 0.3	2023-01-30
11634331	125A	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.5 ± 0.4	2023-01-30
11634336	129	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.2 ± 0.4	2023-01-30
11634339	140	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	0.9 ± 0.3	2023-01-30
11634319	141	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634338	145	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.0 ± 0.3	2023-01-30
11634332	147	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	2.3 ± 0.4	2023-01-30
11634330	147A	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.7 ± 0.4	2023-01-30
11634337	147A	2023-01-23 @ 9:00 am	2023-01-26 @ 9:00 am	1.8 ± 0.4	2023-01-30
11634306	151	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.9 ± 0.4	2023-01-30
11634361	153	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.3 ± 0.4	2023-01-30
11634362	155	2023-01-23 @ 9:00 am	2023-01-26 @ 9:00 am	1.2 ± 0.4	2023-01-30
11634369	157	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	1.0 ± 0.3	2023-01-30
11634370	159	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.9 ± 0.4	2023-01-30
11634347	159	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	1.3 ± 0.3	2023-01-30
11634348	161	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634358	161	2023-01-23 @ 10:00 am	2023-01-26 @ 9:00 am	1.6 ± 0.4	2023-01-30
11634356	200	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.6 ± 0.3	2023-01-30
11634363	205	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.8 ± 0.3	2023-01-30
11634355	209	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.9 ± 0.3	2023-01-30
11634354	211	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.6 ± 0.3	2023-01-30
11634346	214	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.9 ± 0.3	2023-01-30

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

January 30, 2023

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11634307	215	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634329	215	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634349	216	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634312	216	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.6 ± 0.3	2023-01-30
11634359	217	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.7 ± 0.3	2023-01-30
11634365	220	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634368	221	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.8 ± 0.3	2023-01-30
11634360	222	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.6 ± 0.3	2023-01-30
11634367	226	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.6 ± 0.3	2023-01-30
11634350	300	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634345	302	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.6 ± 0.3	2023-01-30
11634351	306	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.7 ± 0.3	2023-01-30
11634344	308	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	1.8 ± 0.4	2023-01-30
11634353	311	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.8 ± 0.4	2023-01-30
11634342	312	2023-01-23 @ 10:00 am	2023-01-26 @ 9:00 am	1.2 ± 0.3	2023-01-30
11634352	315	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634364	317	2023-01-23 @ 10:00 am	2023-01-26 @ 9:00 am	0.8 ± 0.3	2023-01-30
11634343	321	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634357	321	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.6 ± 0.3	2023-01-30
11634366	400	2023-01-23 @ 10:00 am	2023-01-26 @ 9:00 am	1.1 ± 0.4	2023-01-30
11634303	420	2023-01-23 @ 10:00 am	2023-01-26 @ 10:00 am	0.8 ± 0.3	2023-01-30
11634321	APR	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	0.8 ± 0.3	2023-01-30
11634304	GYM	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	0.9 ± 0.3	2023-01-30
11634302	GYM	2023-01-23 @ 9:00 am	2023-01-26 @ 9:00 am	1.1 ± 0.4	2023-01-30
11634305	GYM OFFICE	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.9 ± 0.4	2023-01-30
11634323	KITCHEN OFFICE	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	< 0.3	2023-01-30
11634324	KITCHEN OFFICE	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.6 ± 0.4	2023-01-30
11634335	MAIN 100	2023-01-23 @ 8:00 am	2023-01-26 @ 9:00 am	2.3 ± 0.4	2023-01-30
11634341	MEDIA 103	2023-01-23 @ 9:00 am	2023-01-26 @ 9:00 am	0.7 ± 0.3	2023-01-30
11634340	MEDIA 103	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	0.9 ± 0.3	2023-01-30
11634314	STAGE	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.0 ± 0.3	2023-01-30
11634310	STAGE	2023-01-23 @ 9:00 am	2023-01-26 @ 10:00 am	1.0 ± 0.4	2023-01-30

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

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

Radon test result report for:
GLEN HAVEN ES
1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11634061	105	2023-02-14 @ 11:00 am	2023-02-17 @ 11:00 am	0.5 ± 0.3	2023-02-20
11633976	APR	2023-02-14 @ 11:00 am	2023-02-17 @ 11:00 am	0.8 ± 0.3	2023-02-20
11634059	APR	2023-02-14 @ 11:00 am	2023-02-17 @ 11:00 am	1.1 ± 0.3	2023-02-20
11634062	APR	2023-02-14 @ 11:00 am	2023-02-17 @ 11:00 am	< 0.3	2023-02-20
11634966	APR	2023-02-14 @ 11:00 am	2023-02-17 @ 11:00 am	1.0 ± 0.3	2023-02-20

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 208802

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

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

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

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

Radon test result report for:
OFFICE
MAIN

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Week 2 Retesting January Schools

Name of Schools:

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

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

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

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
Glen Haven Elementary School

10900 Inwood Avenue
Silver Spring, MD 20902

Date of Test Report:	12/14/2018
Round of Testing:	Initial Follow-up Post Remediation
# of Rooms Tested:	54
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	1.7

Project Status

Initial testing complete: No further action at this time

December 14, 2018

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

Re: Radon Testing Services

Location: Glen Haven Elementary School
10900 Inwood Avenue
Silver Spring, MD 20902

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 Glen Haven Elementary School, located at 10900, Silver Spring, MD 20902 (subject site).

Scope of Services:

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

PSI visited the site on November 12, 2018 and deployed seventy-two (72) 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. 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 returned to the site on November 15, 2018 to retrieve the radon sampling test kits. PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007) and 2 Saber Way, Haverhill, Massachusetts (certification # ARL0017).

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D -Duplicate Sample

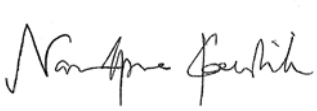
The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within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

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

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

Respectfully Submitted,

INTERTEK-PSI



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

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

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Glen Haven Elementary School		
Testing period: 11/12/18 - 11/15/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3919771	100	1.2
3919777	102	0.5
3919889	103	0.7
3919890	103	0.7
3919775	104	0.4
3919825	105	1.1
3919827	112	< 0.4
3919773	113	0.5
3919776	114	0.5
3919774	115	0.6
3919669	120	0.7
3919667	122	1.3
3919791	124	0.8
3919683	125	1.2
3919682	129	0.9
3919757	129	0.8
3919681	140	0.7
3919756	141	0.4
3919780	145	0.5
3919862	147	1.4
3919864	151	1.2
3919868	153	0.7
3919869	155	0.5
3919867	157	1.6
3919866	159	0.7
3919865	161	0.8
3919886	200	< 0.4
3919885	205	< 0.4
3919842	209	0.5
3919686	211	0.4
3919881	214	0.6
3919684	215	0.4
3919841	216	0.4
3919882	217	< 0.4
3919690	220	< 0.4
3919685	221	< 0.4
3919883	222	0.6
3919884	226	0.7
3919830	300	< 0.4
3919829	302	0.4
3919828	306	0.4
3919680	308	0.9
3919861	311	0.7

Radon Testing Results		
Glen Haven Elementary School		
Testing period: 11/12/18 - 11/15/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3919888	312	1.5
3919823	315	0.6
3919821	317	0.5
3919887	321	0.4
3919688	419	0.5
3919687	420	0.4
3919772	100A	1.7
3919704	100C	1.1
3919670	103A	0.8
3919863	147A	1.3
3881188	APR	0.4
3919758	APR - Stage	< 0.4
3881178	Gym	0.8
3881168	Gym	0.7
3919778	Gym Office	1.0
3919760	Kitchen	< 0.4
3919759	Kitchen Office	0.4

Radon Testing Results		
Glen Haven Elementary School		
Testing period: 11/12/18 - 11/15/18		
Kit Number	**QC Type**	**Result (pCi/L)**
3919826	100 (D)	0.9
3919666	103 (D)	0.7
3919668	120 (D)	1.1
3919824	311 (D)	0.7
3919822	315 (D)	0.7
3919689	420 (D)	< 0.4
3919779	Gym Office (D)	1.0
3918893	Field Blank	< 0.4
3918894	Field Blank	< 0.4
3917871	Office Blank	< 0.4
3918892	Trip Blank	< 0.4

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Glen Haven ES
Not Indicated
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195787	3919771	11/12/2018 11:10 am	11/15/2018 8:25 am	First Floor Room 100	1.2
3195788	3919826	11/12/2018 11:10 am	11/15/2018 8:25 am	First Floor Room 100 Duplicate	0.9
3195789	3919827	11/12/2018 11:16 am	11/15/2018 8:27 am	First Floor Room 112	< 0.4
3195790	3919772	11/12/2018 12:55 pm	11/15/2018 8:28 am	First Floor Room 100A	1.7
3195791	3919704	11/12/2018 11:20 am	11/15/2018 8:29 am	First Floor Room 100C	1.1
3195792	3919776	11/12/2018 11:21 am	11/15/2018 8:30 am	First Floor Room 114	0.5
3195793	3919773	11/12/2018 11:23 am	11/15/2018 8:31 am	First Floor Room 113	0.5
3195794	3919774	11/12/2018 11:25 am	11/15/2018 8:32 am	First Floor Room 115	0.6
3195795	3919775	11/12/2018 11:28 am	11/15/2018 8:33 am	First Floor Room 104	0.4
3195796	3919777	11/12/2018 11:30 am	11/15/2018 8:34 am	First Floor Room 102	0.5

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

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.

NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Glen Haven ES
Not Indicated
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195797	3919825	11/12/2018 11:32 am	11/15/2018 8:35 am	First Floor Room 105	1.1
3195798	3919778	11/12/2018 11:45 am	11/15/2018 8:38 am	First Floor Room 107	1.0
3195799	3919779	11/12/2018 11:45 am	11/15/2018 8:38 am	First Floor Room 107 Duplicate	1.0
3195800	3919868	11/12/2018 11:48 am	11/15/2018 8:40 am	First Floor Room 153	0.7
3195801	3919869	11/12/2018 11:50 am	11/15/2018 8:41 am	First Floor Room 155	0.5
3195802	3919867	11/12/2018 11:51 am	11/15/2018 8:42 am	First Floor Room 157	1.6
3195803	3919866	11/12/2018 11:52 am	11/15/2018 8:43 am	First Floor Room 159	0.7
3195804	3919865	11/12/2018 11:53 am	11/15/2018 8:44 am	First Floor Room 161	0.8
3195805	3919864	11/12/2018 11:54 am	11/15/2018 8:45 am	First Floor Room 151	1.2
3195806	3919862	11/12/2018 11:55 am	11/15/2018 8:46 am	First Floor Room 147	1.4

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Glen Haven ES
Not Indicated
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195807	3919863	11/12/2018 11:56 am	11/15/2018 8:47 am	First Floor Room 147A	1.3
3195808	3919681	11/12/2018 11:58 am	11/15/2018 8:48 am	First Floor Room 140	0.7
3195809	3919780	11/12/2018 12:00 pm	11/15/2018 8:49 am	First Floor Room 145	0.5
3195810	3919756	11/12/2018 12:05 pm	11/15/2018 8:50 am	First Floor Room 141	0.4
3195811	3919791	11/12/2018 12:09 pm	11/15/2018 8:51 am	First Floor Room 124	0.8
3195812	3919667	11/12/2018 12:11 pm	11/15/2018 8:52 am	First Floor Room 122	1.3
3195813	3919669	11/12/2018 12:14 pm	11/15/2018 8:53 am	First Floor Room 120	0.7
3195814	3919668	11/12/2018 12:14 pm	11/15/2018 8:53 am	First Floor Room 120 Duplicate	1.1
3195815	3919670	11/12/2018 12:15 pm	11/15/2018 8:55 am	First Floor Room 103A	0.8
3195816	3919889	11/12/2018 12:18 pm	11/15/2018 8:56 am	First Floor Room 103	0.7

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

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NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Glen Haven ES
Not Indicated
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195817	3919890	11/12/2018 12:17 pm	11/15/2018 8:58 am	First Floor Room 103	0.7
3195818	3919666	11/12/2018 12:17 pm	11/15/2018 8:58 am	First Floor Room 103 Duplicate	0.7
3195819	3919683	11/12/2018 12:20 pm	11/15/2018 8:59 am	First Floor Room 125	1.2
3195820	3919682	11/12/2018 12:25 pm	11/15/2018 9:00 am	First Floor Room 129	0.9
3195821	3919757	11/12/2018 12:27 pm	11/15/2018 9:01 am	First Floor Room 129	0.8
3195822	3919758	11/12/2018 12:30 pm	11/15/2018 9:02 am	First Floor Room 132	< 0.4
3195823	3919760	11/12/2018 12:40 pm	11/15/2018 9:04 am	First Floor Room 132	< 0.4
3195824	3919759	11/12/2018 12:42 pm	11/15/2018 9:05 am	First Floor Room 132E	0.4
3195825	3919830	11/12/2018 12:56 pm	11/15/2018 9:06 am	First Floor Room 300	< 0.4
3195826	3919829	11/12/2018 12:58 pm	11/15/2018 9:07 am	First Floor Room 302	0.4

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

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NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Glen Haven ES
Not Indicated
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195827	3919861	11/12/2018 12:59 pm	11/15/2018 9:08 am	First Floor Room 311	0.7
3195828	3919824	11/12/2018 12:59 pm	11/15/2018 9:08 am	First Floor Room 311 Duplicate	0.7
3195829	3919823	11/12/2018 1:02 pm	11/15/2018 9:11 am	First Floor Room 315	0.6
3195830	3919822	11/12/2018 1:02 pm	11/15/2018 9:11 am	First Floor Room 315 Duplicate	0.7
3195831	3919828	11/12/2018 1:05 pm	11/15/2018 9:12 am	First Floor Room 306	0.4
3195832	3919821	11/12/2018 1:07 pm	11/15/2018 9:13 am	First Floor Room 317	0.5
3195833	3919680	11/12/2018 1:09 pm	11/15/2018 9:14 am	First Floor Room 308	0.9
3195834	3919888	11/12/2018 1:10 pm	11/15/2018 9:15 am	First Floor Room 312	1.5
3195835	3919887	11/12/2018 1:12 pm	11/15/2018 9:16 am	First Floor Room 321	0.4
3195836	3919886	11/12/2018 1:15 pm	11/15/2018 9:17 am	First Floor Room 200	< 0.4

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

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NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Glen Haven ES
Not Indicated
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195837	3919885	11/12/2018 1:18 pm	11/15/2018 9:18 am	First Floor Room 205	< 0.4
3195838	3919884	11/12/2018 1:21 pm	11/15/2018 9:19 am	First Floor Room 226	0.7
3195839	3919883	11/12/2018 1:23 pm	11/15/2018 9:20 am	First Floor Room 222	0.6
3195840	3919882	11/12/2018 1:26 pm	11/15/2018 9:21 am	First Floor Room 217	< 0.4
3195841	3919881	11/12/2018 1:28 pm	11/15/2018 9:22 am	First Floor Room 214	0.6
3195842	3919684	11/12/2018 1:31 pm	11/15/2018 9:23 am	First Floor Room 215	0.4
3195843	3919685	11/12/2018 1:33 pm	11/15/2018 9:24 am	First Floor Room 221	< 0.4
3195844	3919686	11/12/2018 1:35 pm	11/15/2018 9:25 am	First Floor Room 211	0.4
3195845	3919687	11/12/2018 1:40 pm	11/15/2018 9:27 am	Second Floor Room 420	0.4
3195846	3919689	11/12/2018 1:40 pm	11/15/2018 9:27 am	Second Floor Room 420 Duplicate	< 0.4

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

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NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Glen Haven ES
Not Indicated
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195847	3919688	11/12/2018 1:45 pm	11/15/2018 9:28 am	Second Floor Room 419	0.5
3195848	3919690	11/12/2018 1:50 pm	11/15/2018 9:29 am	First Floor Room 220	< 0.4
3195849	3919841	11/12/2018 1:55 pm	11/15/2018 9:30 am	First Floor Room 216	0.4
3195850	3919842	11/12/2018 2:00 pm	11/15/2018 9:31 am	First Floor Room 209	0.5
3195851	3917871	11/12/2018 6:00 am	11/15/2018 3:00 pm	Floor N/A Room Office Blank	< 0.4
3195852	3918892	11/12/2018 6:00 am	11/15/2018 3:00 pm	Floor N/A Room Trip Blank	< 0.4
3195853	3918893	11/12/2018 11:10 am	11/15/2018 9:31 am	Floor N/A Room Field Blank	< 0.4
3195854	3918894	11/12/2018 11:10 am	11/15/2018 9:31 am	Floor N/A Room Field Blank	< 0.4

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

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AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

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

Laboratory Report for:

PSI - Fairfax
2930 Eskridge Road
Fairfax VA 22031

Property Tested:

MCPS Radon Survey
Glen Haven ES
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
2392991	3881168	11/12/2018	11:42 am	11/15/2018	8:37 am	First Floor Room 107	0.7
2392992	3881178	11/12/2018	11:37 am	11/15/2018	8:36 am	First Floor Room 107	0.8
2392993	3881188	11/12/2018	12:35 pm	11/15/2018	9:03 am	First Floor Room 132	0.4

Distributed by: Intertek-PSI (VA)

Date Received: 11/16/2018 Date Logged: 11/16/2018 Date Analyzed: 11/17/2018 Date Reported: 11/19/2018

Report Reviewed By: _____ Report Approved By: _____

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AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007
Ohio RL41

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

Laboratory Report for:

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

Property Tested:

MCPS Radon Survey
4514 Taylorsville Road
Dayton OH 45424

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

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

Test Performed By: Unknown

Distributed by: Intertek-PSI (VA)

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

Report Reviewed By: _____ Report Approved By: _____

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Intertek - PSI Job Number 187732

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

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

Time Start: 0947 Time Stop: 0947

Device No.'s: (10) Char. Cans- 3926831 thru 3926840

G2 Left

Date Start: ______ Date Stop: ______

Time Start: ______ Time Stop: ______

Device No.'s: ______

Date Start: ______ Date Stop: ______

Time Start: ______ Time Stop: ______

Device No.'s: ______

Date Start: ______ Date Stop: ______

Time Start: ______ Time Stop: ______

Device No.'s: ______

Date Start: ______ Date Stop: ______

Time Start: ______ Time Stop: ______

Device No.'s: ______

Date Start: ______ Date Stop: ______

Time Start: ______ Time Stop: ______

Device No.'s: ______

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: Glen Haven Elementary School

Date of Test Report:	2/04/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	54
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.5

Project Status:
Initial testing completed; no further action at this time.

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ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

February 4, 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 # 12146341.24

Location: Glen Haven Elementary School
10900 Inwood Avenue
Silver Spring, MD 20902

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 Glen Haven Elementary School, located at 10900 Inwood Avenue in Silver Spring, Maryland 20902 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on January 11, 2016 and deployed sixty-five (65) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on January 14, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

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

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

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

Sincerely,

H. Allen Bennett
Certified Industrial Hygienist
KCI Technologies, Inc.

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Glen Haven Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	**Room / Area**	**Result**
7718252	100	0.7
7718260	102	0.5
7718226	103	1.1
7718224	103	0.7
7718257	104	0.6
7718223	107	0.7
7718216	107	0.6
7718238	112	0.8
7718236	113	0.6
7718247	114	1.4
7718242	115	< 0.3
7718255	125	1.1
7718256	129	0.8
7718245	132	< 0.3
7718231	132	< 0.3
7718241	140	0.6
7718219	141	< 0.3
7718203	145	< 0.3
7718235	147	1.2
7718233	151	0.9
7718232	153	0.7
7718204	155	0.8
7718215	157	1.3
7718210	159	1.4
7718239	161	0.9
7718211	200	0.6
7718217	205	0.6
7718209	209	0.6
7718214	211	< 0.3
7718246	214	0.7
7718225	215	0.7
7718251	216	< 0.3
7718248	217	< 0.3
7718244	220	< 0.3
7718213	221	< 0.3
7718220	222	< 0.3
7718208	226	< 0.3
7718228	300	0.7
7718227	302	< 0.3
7718205	306	0.5
7718222	308	0.8
7718229	311	0.6
7718201	312	1.5
7718249	315	0.6
7718234	317	< 0.3
7718206	321	0.7

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Glen Haven Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	**Room / Area**	**Result**
7718263	400	0.6
7718202	407	0.9
7718264	409	0.8
7718254	414	< 0.3
7718262	415	< 0.3
7718261	416	< 0.3
7718243	100A	1.3
7718237	100C	1.2
7718230	107A	1.2
7718253	125B	0.9
7718212	147A	1.4

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Glen Haven Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	**QC Type**	**Result**
7718250	D (115)	0.8
7718221	D (147)	1.1
7718240	D (157)	1.3
7718218	D (400)	< 0.3
7718259	D (415)	0.7
7718258	FB (104)	< 0.3
7718207	FB (159)	< 0.3
7718276	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

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

ATTACHMENT C

Laboratory Analytical Results

February 1, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

GLEN HAVEN ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7718276	0	2016-01-11 @ 6:00 pm	2016-01-14 @ 4:00 pm	< 0.3	2016-01-18
7718252	100	2016-01-11 @ 5:00 pm	2016-01-14 @ 2:00 pm	0.7 ± 0.3	2016-01-18
7718243	100A	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	1.3 ± 0.3	2016-01-18
7718237	100C	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	1.2 ± 0.3	2016-01-18
7718260	102	2016-01-11 @ 5:00 pm	2016-01-14 @ 2:00 pm	0.5 ± 0.3	2016-01-18
7718224	103	2016-01-11 @ 5:00 pm	2016-01-14 @ 3:00 pm	0.7 ± 0.3	2016-01-18
7718226	103	2016-01-11 @ 5:00 pm	2016-01-14 @ 3:00 pm	1.1 ± 0.3	2016-01-18
7718257	104	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.6 ± 0.3	2016-01-18
7718258	104	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	< 0.3	2016-01-18
7718216	107	2016-01-11 @ 5:00 pm	2016-01-14 @ 2:00 pm	0.6 ± 0.3	2016-01-18
7718223	107	2016-01-11 @ 5:00 pm	2016-01-14 @ 2:00 pm	0.7 ± 0.3	2016-01-18
7718230	107A	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	1.2 ± 0.3	2016-01-18
7718238	112	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.8 ± 0.3	2016-01-18
7718236	113	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.6 ± 0.3	2016-01-18
7718247	114	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	1.4 ± 0.3	2016-01-18
7718242	115	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	< 0.3	2016-01-18
7718250	115	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.8 ± 0.3	2016-01-18
7718255	125	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	1.1 ± 0.3	2016-01-18
7718253	125B	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	0.9 ± 0.3	2016-01-18
7718256	129	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	0.8 ± 0.3	2016-01-18
7718245	132	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718231	132	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718241	140	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.6 ± 0.3	2016-01-18
7718219	141	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718203	145	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	< 0.3	2016-01-18
7718221	147	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	1.1 ± 0.3	2016-01-18
7718235	147	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	1.2 ± 0.3	2016-01-18
7718212	147A	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	1.4 ± 0.3	2016-01-18
7718233	151	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.9 ± 0.3	2016-01-18
7718232	153	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.7 ± 0.3	2016-01-18
7718204	155	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.8 ± 0.3	2016-01-18
7718215	157	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	1.3 ± 0.3	2016-01-18
7718240	157	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	1.3 ± 0.3	2016-01-18
7718207	159	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	< 0.3	2016-01-18
7718210	159	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	1.4 ± 0.3	2016-01-18
7718239	161	2016-01-11 @ 6:00 pm	2016-01-14 @ 2:00 pm	0.9 ± 0.4	2016-01-20
7718211	200	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	0.6 ± 0.3	2016-01-18

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

February 1, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

GLEN HAVEN ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7718217	205	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	0.6 ± 0.3	2016-01-18
7718209	209	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	0.6 ± 0.3	2016-01-18
7718214	211	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718246	214	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	0.7 ± 0.3	2016-01-18
7718225	215	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	0.7 ± 0.3	2016-01-18
7718251	216	2016-01-11 @ 6:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718248	217	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718244	220	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718213	221	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718220	222	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718208	226	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718228	300	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	0.7 ± 0.3	2016-01-18
7718227	302	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	< 0.3	2016-01-18
7718205	306	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	0.5 ± 0.3	2016-01-18
7718222	308	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	0.8 ± 0.3	2016-01-18
7718229	311	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	0.6 ± 0.3	2016-01-18
7718201	312	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	1.5 ± 0.3	2016-01-18
7718249	315	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	0.6 ± 0.3	2016-01-18
7718234	317	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	< 0.3	2016-01-18
7718206	321	2016-01-11 @ 7:00 pm	2016-01-14 @ 2:00 pm	0.7 ± 0.3	2016-01-18
7718218	400	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718263	400	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	0.6 ± 0.3	2016-01-18
7718202	407	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	0.9 ± 0.3	2016-01-18
7718264	409	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	0.8 ± 0.3	2016-01-18
7718254	414	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718259	415	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	0.7 ± 0.3	2016-01-18
7718262	415	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18
7718261	416	2016-01-11 @ 7:00 pm	2016-01-14 @ 3:00 pm	< 0.3	2016-01-18

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

February 2, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS PHASE 5 & 6
TRANSIT BLANKS

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

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

December 23, 2015

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173224

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

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Chain of Custody

Project Name: MCPS Radon Phase V

Name of Schools:

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

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

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