School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Hallie Wells Middle School
Address:	11701 Little Seneca Parkway
	Clarksburg, MD 20871
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 ☐ 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	77	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥4.0-pCi/L)	0	Highest Value (pCi/L)	0.7

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

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

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

Attachment 2 – Laboratory Report(s)

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

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

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.
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):	03/10/25 03/14/25	03/31/25 04/03/25
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]	70	2	6	0	78
Duplicates[2]	8	1	0	0	9
Field Blanks[3]	4	1	0	0	5
				Grand Total	92

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

MCPS DEM SUSTAINABILITY & COMPLIANCE

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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:	70	1	6	0	77
Number of locations ≥8.0-pCi/L:	0	0	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0	0	0
Number of locations ≥2.7 and <4-pCi/L:	0	0	0	0	0
Number of locations ≥2.0 and <2.7-pCi/L:	0	0	0	0	0
Number of missing required test locations[3]:	0	0	0	0	0
Number of failed duplicate control locations:	1	0	0	0	1
Percentage of missing test locations for the facility[4,5]:	0	0	0	0	0

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

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

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

4 – if all valid measurements are <4.0-pCi/L and the total number of test locations are ≥18, there is an allowance of ≤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		
Hallie Wells Middle School		
Test Period: 3/10/2025 - 3/13/2025		
Kit Number	Room / Area	Result
11892295	100	< 0.3
11892282	102	< 0.3
11892232	104	< 0.3
11892241	105	< 0.3
11892233	106	< 0.3
11892235	106	< 0.3
11892236	108	< 0.3
11892248	111	< 0.3
11892247	112	< 0.3
11892209	113	< 0.3
11892211	115	< 0.3
11892212	115	< 0.3
11892206	116	0.8
11892218	119	< 0.3
11892271	120	< 0.3
11892275	123	0.6
11892268	124	< 0.3
11892263	126	< 0.3
11892262	130	< 0.3
11892267	132	< 0.3
11892270	132	< 0.3
11892266	134	< 0.3
11892269	136	< 0.3
11892265	138	< 0.3
11892256	142	< 0.3
11892261	144	< 0.3
11892252	148	< 0.3
11892251	149	< 0.3
11892244	150	< 0.3
11892258	150	< 0.3
11892276	151	< 0.3
11892230	157	< 0.3
11892215	159	< 0.3
11892213	163	< 0.3
11892229	171	< 0.3
11892255	178	< 0.3
11892257	178	< 0.3

Table 1- Radon Testing Results		
Hallie Wells Middle School		
Test Period: 3/10/2025 - 3/13/2025		
Kit Number	Room / Area	Result
11892259	206	< 0.3
11892223	223	0.6
11892260	250	< 0.3
11892264	250	< 0.3
11892253	323	< 0.3
11892254	324	< 0.3
11892219	350	< 0.3
11892289	100A	< 0.3
11892296	100A	< 0.3
11892293	100B	< 0.3
11892294	100B	< 0.3
11892208	100D	< 0.3
11892292	100F	< 0.3
11892291	100G	< 0.3
11892216	100H	< 0.3
11892207	100J	< 0.3
11892273	100M	< 0.3
11892274	100Q	< 0.3
11892272	100R	< 0.3
11892202	100T	< 0.3
11892203	100T	0.7
11892201	100U	< 0.3
11892205	100U	< 0.3
11892204	100V	< 0.3
11892217	101 APR	< 0.3
11892227	101 APR	< 0.3
11892220	101A	< 0.3
11892290	102A	< 0.3
11892297	102E	< 0.3
11892281	102G	< 0.3
11892231	104A	< 0.3
11892225	104C	< 0.3
11892226	104D	< 0.3
11892224	104E	< 0.3
11892298	104F	< 0.3
11892210	104G	< 0.3
11892234	108C	< 0.3

Table 1- Radon Testing Results		
Hallie Wells Middle School		
Test Period: 3/10/2025 - 3/13/2025		
Kit Number	Room / Area	Result
11892228	157B	< 0.3
11892214	157C	0.6
11892221	157D	< 0.3
11892237	166C	< 0.3
11892239	167D	< 0.3
11892238	AUX 156	< 0.3
11892249	AUX 158	0.7
11892243	AUX 160	< 0.3
11892250	AUX 160	< 0.3
11892240	BLR 167	< 0.3
11892242	GLR 166	< 0.3
11892245	GYM	< 0.3
11892246	GYM	< 0.3
11892222	KITCHEN OFFICE	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Hallie Wells Middle School							
Test Period: 3/10/2025 - 3/13/2025							
≥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			
Hallie Wells Middle School			
Test Period: 3/10/2025 - 3/13/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11892235	D	106	<0.3
11892212	FB	115	<0.3
11892267	D	132	<0.3
11892258	D	150	<0.3
11892257	D	178	<0.3
11892264	FB	250	<0.3
11892296	FB	100A	<0.3
11892293	D	100B	<0.3
11892202	D	100T	<0.3
11892201	D	100U	<0.3
11892217	D	101 APR	<0.3
11892243	FB	Aux 160	<0.3
11892446	OB	OFFICE BLANK	< 0.3
11892444	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Hallie Wells Middle School										
Test Period: 3/10/2025 - 3/13/2025										
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
11892235	11892233	106	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11892267	11892270	132	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11892258	11892244	150	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11892257	11892255	178	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11892293	11892294	100B	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11892202	11892203	100T	0.7	0.3	✓	0.6	FAIL	0.5	<1-pCi/L	✓
11892201	11892205	100U	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11892217	11892227	101 APR	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		
Hallie Wells Middle School		
Test Period: 3/10/25 - 3/13/25		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Table 1- Radon Testing Results		
Hallie Wells Middle School RT		
Test Period: 3/31/2025 - 4/3/2025		
Kit Number	Room / Area	Result
11887285	100T	< 0.3
11887286	100T	< 0.3
11887295	100T	< 0.3
11887296	100T	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Hallie Wells Middle School RT							
Test Period: 3/31/2025 - 4/3/2025							
≥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			
Hallie Wells Middle School RT			
Test Period: 3/31/2025 - 4/3/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11887285	D	100T	< 0.3
11887286	FB	100T	< 0.3
11886694	OB	OFFICE BLANK	< 0.3
11886589	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Hallie Wells Middle School RT										
Test Period: 3/31/2025 - 4/3/2025										
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
11887285	11887295 11887296	100T	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		
Hallie Wells Middle School RT		
Test Period: 3/31/2025 - 4/3/2025		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

March 17, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
HALLIE WELLS MS
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892295	100	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892296	100A	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892289	100A	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892294	100B	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892293	100B	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892208	100D	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892292	100F	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892291	100G	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	0.7 ± 0.3	2025-03-17
11892216	100H	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	0.6 ± 0.3	2025-03-17
11892207	100J	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892273	100M	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892274	100Q	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892272	100R	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892202	100T	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892203	100T	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892201	100U	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892205	100U	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892204	100V	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892227	101 APR	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892217	101 APR	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892220	101A	2025-03-10 @ 7:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892282	102	2025-03-10 @ 10:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892290	102A	2025-03-10 @ 10:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892297	102E	2025-03-10 @ 10:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892281	102G	2025-03-10 @ 10:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892232	104	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892231	104A	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892225	104C	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892226	104D	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892224	104E	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892298	104F	2025-03-10 @ 10:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892210	104G	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892241	105	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892235	106	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892233	106	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892236	108	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892234	108C	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17

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

March 17, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
HALLIE WELLS MS
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892248	111	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892247	112	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892209	113	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892212	115	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892211	115	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892206	116	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892218	119	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892271	120	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892275	123	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892268	124	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892263	126	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892262	130	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892267	132	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892270	132	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892266	134	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892269	136	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892265	138	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892256	142	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892261	144	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892252	148	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892251	149	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892258	150	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	0.7 ± 0.3	2025-03-17
11892244	150	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892276	151	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	0.6 ± 0.3	2025-03-17
11892230	157	2025-03-10 @ 7:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892228	157B	2025-03-10 @ 7:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892214	157C	2025-03-10 @ 7:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892221	157D	2025-03-10 @ 7:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892215	159	2025-03-10 @ 7:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892213	163	2025-03-10 @ 7:00 am	2025-03-13 @ 8:00 am	0.8 ± 0.4	2025-03-17
11892237	166C	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892239	167D	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	0.6 ± 0.3	2025-03-17
11892229	171	2025-03-10 @ 7:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892257	178	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892255	178	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892259	206	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892223	223	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17

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

March 17, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
HALLIE WELLS MS
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892264	250	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892260	250	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892253	323	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892254	324	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892219	350	2025-03-10 @ 9:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892238	AUX 156	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892249	AUX 158	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892250	AUX 160	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892243	AUX 160	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892240	BLR 167	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892242	GLR 166	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892246	GYM	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892245	GYM	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17
11892222	KITCHEN OFFICE	2025-03-10 @ 8:00 am	2025-03-13 @ 8:00 am	< 0.3	2025-03-17

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March 17, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
OFFICE
MAIN

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

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March 17, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
TRAVEL
MAIN

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

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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

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing March 4th – March 7th, 2025

Name of Schools:

1. Hallie Wells MS
2. Snowden Farms ES
3. Watkins Mill HS
4. Whestone ES
5. Woodfield ES

	Date	Initials
Radon Test Kits Deployed	3/10/2025	
Radon Test Kits Collected	3/13/2025	
Radon Test Kits Shipped to Lab*	3/13/2025	
Radon Test Kits Received by Lab*	3/15/2025	

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

P4792 / TYLER MCCLEAF

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11887285	2025-03-31	9:00 am	2025-04-03	12:00 pm	70			100T	HALLIE WELLS MS - RETESTING	1	< 0.3
11887286	2025-03-31	9:00 am	2025-04-03	12:00 pm	70			100T	HALLIE WELLS MS - RETESTING	1	< 0.3
11887295	2025-03-31	9:00 am	2025-04-03	12:00 pm	70			100T	HALLIE WELLS MS - RETESTING	1	< 0.3
11887296	2025-03-31	9:00 am	2025-04-03	12:00 pm	70			100T	HALLIE WELLS MS - RETESTING	1	< 0.3

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April 7, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
KCI
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11886694	OB	2025-03-31 @ 11:00 am	2025-04-04 @ 9:00 am	< 0.3	2025-04-07
11886589	TB	2025-03-31 @ 11:00 am	2025-04-04 @ 9:00 am	< 0.3	2025-04-07

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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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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 March 31st – April 3rd, 2025

Name of Schools:

1. Hallie Wells MS
2. Neelsville MS
3. Quince Orchard HS
4. Redland MS
5. Ridgeview MS
6. Rosemont ES

	Date	Initials
Radon Test Kits Deployed	3/31/2025	BMM
Radon Test Kits Collected	4/03/2025	BMM
Radon Test Kits Shipped to Lab*	4/03/2025	BMM
Radon Test Kits Received by Lab*	4/07/2025	BMM

*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	Hallie Wells Middle School
Date of Test Report	05/12/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	1
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	0.6 pCi/L

Project Status

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

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May 12, 2022

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

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

Location: Hallie Wells Middle School
11701 Little Seneca Parkway,
Clarksburg, MD 20871

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 Hallie Wells Middle School, located at 11701 Little Seneca Parkway, Clarksburg, MD 20871 (subject site).

Scope of Services:

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

KCI visited the site on March 22, 2022 and deployed three (3) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

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

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

KCI returned to the site on March 25, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the low 40°Fs and high temperatures ranged from the low 50°Fs to the low 70°Fs. Maximum sustained winds ranged from 0-29 miles per hour. Average humidity was around 56% with 0.51 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	

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		
Hallie Wells MS RT		
Test Period: 03/22/2022 - 03/25/2022		
Kit Number	Room / Area	Result
11139280	119A	< 0.3
11139286	119A	0.6
11139288	119A	< 0.3

Table 2- Radon Testing Results			
Hallie Wells MS RT			
Test Period: 03/22/2022 - 03/25/2022			
Kit Number	QC Type	Room / Area	Result
11139286	D	119A	0.6
11139280	FB	119A	< 0.3
11139902	OB	OFFICE BLANK	< 0.3
11139928	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Hallie Wells MS RT		
Test Period: 03/22/22 - 03/25/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Hallie Wells MS Rt		
Test Period: 03/22/22 - 03/25/22		
Kit Number	Room/Area	Result
	NA	

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 28, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139280	119A	2022-03-22 @ 10:00 am	2022-03-25 @ 11:00 am	< 0.3	2022-03-28
11139286	119A	2022-03-22 @ 10:00 am	2022-03-25 @ 11:00 am	0.6 ± 0.3	2022-03-28
11139288	119A	2022-03-22 @ 10:00 am	2022-03-25 @ 11:00 am	< 0.3	2022-03-28

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204620

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

Date Start: 3/18/22 Date Stop: 3/21/22	Date Start: _____ Date Stop: _____
Time Start: 0705 Time Stop: 0705	Time Start: _____ Time Stop: _____
Device No.'s: (5) Char Bags -	Device No.'s: _____
11139367, 11139368, 11139371,	_____
11139710, 11139717	_____
E3 Eight	_____
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 30, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

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

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

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 – March 2022 Schools – Retesting

Name of Schools:

1. Herbert Hoover MS
2. Parkland MS
3. Redland MS
4. Rock Creek Valley ES
5. Tilden MS
6. Rockville HS
7. Wootton HS
8. Capt. James E. Daly ES
9. Clarksburg HS
10. Clearspring ES
11. Hallie Wells MS
12. Northwest HS
13. Paint Branch HS
14. Rocky Hills MS
15. Seneca Valley HS
16. Sherwood HS
17. Wilson Wims ES

	Date	Initials
Radon Test Kits Deployed	03/22/2022	BMM
Radon Test Kits Collected	03/25/2022	BMM
Radon Test Kits Shipped to Lab*	03/25/2022	BMM
Radon Test Kits Received by Lab*	03/28/2022	BMM

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

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MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Hallie Wells Middle School
Date of Test Report	4/6/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	72
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.8 pCi/L

Project Status:
Initial testing completed; Missing or compromised kits need re-sampling.

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April 6, 2022

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

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

Location: Hallie Wells MS
11701 Little Seneca Parkway
Clarksburg, MD 20871

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 Hallie Wells MS, located at 11701 Little Seneca Parkway Clarksburg, MD 20871 (subject site).

Scope of Services:

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

KCI visited the site on February 14, 2022 and deployed eighty three (83) 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 February 17, 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 and high temperatures ranged from the high 30s to the high 40s Fahrenheit. Maximum sustained winds ranged from 5-18 miles per hour. Average humidity was around 15% with 1.5 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	

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		
Hallie Wells MS		
Test Period: 02/14/2022 - 02/17/2022		
Kit Number	Room / Area	Result
11122290	104	< 0.3
11122251	105	< 0.3
11122284	106	< 0.3
11122263	108	< 0.3
11122254	111	< 0.3
11122255	112	< 0.3
11122221	113	< 0.3
11122265	115	< 0.3
11122223	116	0.6
11122269	119	0.8
11122241	120	< 0.3
11122233	123	< 0.3
11122242	124	< 0.3
11122243	126	< 0.3
11122235	130	< 0.3
11122236	130	< 0.3
11122230	132	< 0.3
11122210	136	< 0.3
11122209	138	< 0.3
11122218	142	< 0.3
11122219	144	< 0.3
11122217	148	< 0.3
11122222	149	< 0.3
11122226	150	< 0.3
11122244	151	0.6
11122273	157	< 0.3
11122246	158	< 0.3
11122276	159	< 0.3
11122247	160	< 0.3
11122250	162	< 0.3
11122202	163	< 0.3
11122275	168	< 0.3
11122252	171	< 0.3
11122231	204	< 0.3
11122229	250	< 0.3
11122289	250	< 0.3
11122278	350	0.5
11122216	100A	0.6
11122213	100B	< 0.3
11122211	100D	< 0.3
11122220	100F	0.5
11122212	100G	0.6

Table 1- Radon Testing Results		
Hallie Wells MS		
Test Period: 02/14/2022 - 02/17/2022		
Kit Number	Room / Area	Result
11122204	100H	0.5
11122203	100J	0.8
11122207	100M	< 0.3
11122234	100Q	< 0.3
11122287	100R	< 0.3
11122228	100T	< 0.3
11122227	100V	< 0.3
11122260	101 CAFETERIA	< 0.3
11122268	101 CAFETERIA	< 0.3
11122272	101A	< 0.3
11122267	101G	< 0.3
11122215	102 HEALTH	< 0.3
11122206	102A	< 0.3
11122214	102E	< 0.3
11122208	102F	< 0.3
11122205	102G	< 0.3
11122237	103 GYM	< 0.3
11122240	103 GYM	0.5
11122258	104A	< 0.3
11122283	104A	0.8
11122274	104C	0.6
11122259	104D	0.6
11122245	104E	< 0.3
11122271	104F	0.8
11122281	104G	1.8
11122262	108C	< 0.3
11122256	112A	< 0.3
11122249	112B	< 0.3
11122270	115A	< 0.3
11122257	119A	< 0.3
11122225	123 OFFICE	< 0.3
11122224	132 OFFICE	< 0.3
11122248	156 AUX 1	< 0.3
11122282	157B	< 0.3
11122279	157C	< 0.3
11122280	157D	< 0.3
11122239	166C	< 0.3
11122238	167D	< 0.3
11122232	178 TEAM ROOM	< 0.3
11122266	223 TEAM ROOM	< 0.3
11122201	MAIN OFFICE 100	< 0.3

Table 2- Radon Testing Results			
Hallie Wells MS			
Test Period: 02/14/2022 - 02/17/2022			
Kit Number	QC Type	Room / Area	Result
11122211	D	100D	< 0.3
11122243	D	126	< 0.3
11122235	FB	130	< 0.3
11122210	D	136	< 0.3
11122257	D	119A	< 0.3
11122264	FB	119A	NA
11122246	D	158	< 0.3
11122283	D	104A	0.8
11122258	FB	104A	< 0.3
11122280	D	157D	< 0.3
11122289	D	250	< 0.3
11122229	FB	250	< 0.3
11107385	OB	OFFICE BLANK	< 0.3
11123161	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Hallie Wells MS		
Test Period: 02/14/22 - 02/17/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Hallie Wells MS		
Test Period: 02/14/22 - 02/17/22		
Kit Number	Room/Area	Result
11122264	119A (FB)	Missing

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 21, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11123638	1	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.0 ± 0.3	2022-02-21
11123608	10	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	0.6 ± 0.3	2022-02-21
11122216	100A	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	0.6 ± 0.3	2022-02-21
11122213	100B	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122211	100D	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11123617	100D	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	1.8 ± 0.4	2022-02-21
11123610	100E	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	2.2 ± 0.4	2022-02-21
11122220	100F	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	0.5 ± 0.3	2022-02-21
11122212	100G	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	0.6 ± 0.3	2022-02-21
11122204	100H	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	0.5 ± 0.3	2022-02-21
11123623	100I	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	1.1 ± 0.4	2022-02-21
11122203	100J	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	0.8 ± 0.3	2022-02-21
11122207	100M	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122234	100Q	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122287	100R	2022-02-14 @ 12:00 pm	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122228	100T	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122227	100V	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122260	101 CAFETERIA	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122268	101 CAFETERIA	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123618	101 HEALTH	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.9 ± 0.3	2022-02-21
11122272	101A	2022-02-14 @ 12:00 pm	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123609	101C	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123601	101D	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	1.0 ± 0.3	2022-02-21
11122267	101G	2022-02-14 @ 12:00 pm	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122215	102 HEALTH	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122206	102A	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122214	102E	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122208	102F	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122205	102G	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122237	103 GYM	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122240	103 GYM	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	0.5 ± 0.3	2022-02-21
11122290	104	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123607	104	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11122283	104A	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	0.8 ± 0.3	2022-02-21
11122258	104A	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123615	104A	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	0.8 ± 0.3	2022-02-21
11123606	104B	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.1 ± 0.4	2022-02-21

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

February 21, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11122274	104C	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	0.6 ± 0.3	2022-02-21
11122259	104D	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	0.6 ± 0.3	2022-02-21
11122245	104E	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122271	104F	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	0.8 ± 0.4	2022-02-21
11122281	104G	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	1.8 ± 0.3	2022-02-21
11122251	105	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122284	106	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123644	107A	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	1.2 ± 0.4	2022-02-21
11123643	107B	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	0.8 ± 0.3	2022-02-21
11122263	108	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122262	108C	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123642	11	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11122254	111	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122255	112	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122256	112A	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122249	112B	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122221	113	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122265	115	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122270	115A	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122223	116	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	0.6 ± 0.3	2022-02-21
11122269	119	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	0.8 ± 0.3	2022-02-21
11122257	119A	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123604	12	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123636	12	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11122241	120	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122233	123	2022-02-14 @ 10:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122225	123 OFFICE	2022-02-14 @ 10:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122242	124	2022-02-14 @ 10:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122243	126	2022-02-14 @ 10:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11123629	13	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11122236	130	2022-02-14 @ 10:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122235	130	2022-02-14 @ 10:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11122230	132	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122224	132 OFFICE	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122210	136	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122209	138	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123611	14	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21

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February 21, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11122218	142	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122219	144	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122217	148	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122222	149	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123663	15	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122226	150	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122244	151	2022-02-14 @ 10:00 am	2022-02-17 @ 9:00 am	0.6 ± 0.3	2022-02-21
11122248	156 AUX 1	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122273	157	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122282	157B	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122279	157C	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122280	157D	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122246	158	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122276	159	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123672	16	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	0.8 ± 0.3	2022-02-21
11122247	160	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122250	162	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122202	163	2022-02-14 @ 12:00 pm	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122239	166C	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122238	167D	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122275	168	2022-02-14 @ 12:00 pm	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123653	17	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122252	171	2022-02-14 @ 12:00 pm	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11122232	178 TEAM ROOM	2022-02-14 @ 11:00 am	2022-02-17 @ 9:00 am	< 0.3	2022-02-21
11123659	18	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	0.9 ± 0.4	2022-02-21
11123650	19	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	1.1 ± 0.3	2022-02-21
11123641	2	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123634	2	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	0.6 ± 0.3	2022-02-21
11123646	20	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11122231	204	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11123649	21	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	0.7 ± 0.3	2022-02-21
11123651	22	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	1.2 ± 0.4	2022-02-21
11122266	223 TEAM ROOM	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11123652	23	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	0.8 ± 0.3	2022-02-21
11123658	24	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	0.7 ± 0.3	2022-02-21
11123680	25	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	1.2 ± 0.3	2022-02-21
11122289	250	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21

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February 21, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11122229	250	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11123675	26	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	2.9 ± 0.4	2022-02-21
11123648	27	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123657	27	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	1.4 ± 0.3	2022-02-21
11123628	3	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	0.7 ± 0.3	2022-02-21
11122278	350	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	0.5 ± 0.3	2022-02-21
11123639	4	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123632	5	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.4 ± 0.4	2022-02-21
11123619	6	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.2 ± 0.4	2022-02-21
11123612	7	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.3 ± 0.4	2022-02-21
11123637	8	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123625	9	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	0.5 ± 0.3	2022-02-21
11123630	ART	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123670	BUILDING SERVICES OFFICE	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	1.4 ± 0.4	2022-02-21
11123674	C	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	1.3 ± 0.4	2022-02-21
11123622	COPY ROOM	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123621	COUNSELORS OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.0 ± 0.3	2022-02-21
11123661	GYM	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	1.1 ± 0.4	2022-02-21
11123668	GYM	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	1.1 ± 0.3	2022-02-21
11123660	GYM OFFICE	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	1.4 ± 0.4	2022-02-21
11123662	ISM	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11123616	K1	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	0.8 ± 0.3	2022-02-21
11123614	K2	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.3 ± 0.3	2022-02-21
11123613	K3	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.8 ± 0.3	2022-02-21
11123647	K4	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	1.4 ± 0.4	2022-02-21
11123602	MAIN OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	1.5 ± 0.4	2022-02-21
11122201	MAIN OFFICE 100	2022-02-14 @ 9:00 am	2022-02-17 @ 8:00 am	< 0.3	2022-02-21
11123633	MEDIA ASST OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123620	MEDIA CENTER	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123640	MEDIA CENTER	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123627	MEDIA OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123626	MEDIA WORK ROOM	2022-02-14 @ 1:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123645	MULTIPURPOSE ROOM	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	1.0 ± 0.3	2022-02-21
11123655	MULTIPURPOSE ROOM	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11123624	PRINCIPALS OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	3.1 ± 0.4	2022-02-21
11123654	R1/R2	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	1.0 ± 0.4	2022-02-21
11123682	R1/R2 LL	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	1.5 ± 0.3	2022-02-21

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February 21, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11123666	RR	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	1.5 ± 0.4	2022-02-21
11123673	S1	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	0.7 ± 0.3	2022-02-21
11123603	S3	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11123664	SPT	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	0.6 ± 0.4	2022-02-21
11123631	ST	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123605	ST OFFICE	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123656	STAFF LOUNGE	2022-02-14 @ 2:00 pm	2022-02-17 @ 10:00 am	1.3 ± 0.3	2022-02-21
11123635	STAGE	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	< 0.3	2022-02-21
11123665	V	2022-02-14 @ 2:00 pm	2022-02-17 @ 11:00 am	0.8 ± 0.3	2022-02-21
11123681	Z	2022-02-14 @ 3:00 pm	2022-02-17 @ 11:00 am	2.2 ± 0.4	2022-02-21

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204186

NOMINAL Conditions: Radon Conc 25.8 pCi/L Rel. Hum 59.1 % Temp. 70.9 F

Date Start: 2/18/22 Date Stop: 2/21/22	Date Start: _____ Date Stop: _____
Time Start: 0911 Time Stop: 0911	Time Start: _____ Time Stop: _____
Device No.'s: (3) Char Bags - 11113484, 11192998, 20107126	Device No.'s: _____
23 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

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

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11113484	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK1		1	27.9
11122998	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK2		1	26.0
20107126	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK3		1	27.6

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 – February 2022 Schools

Name of Schools:

1. Sherwood HS
2. Paint Branch HS
3. Clarksburg HS
4. Hallie Wells MS
5. Rocky Hill MS
6. Wilson Wims ES
7. John T. Baker MS
8. Clearspring ES
9. Damascus ES

	Date	Initials
Radon Test Kits Deployed	02/14/2022	
Radon Test Kits Collected	02/17/2022	
Radon Test Kits Shipped to Lab*	02/17/2022	
Radon Test Kits Received by Lab*	02/19/2022	

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

KCI TECHNOLOGIES

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

MCPS RADON TESTING

Executive Summary: Hallie Wells Middle School

Date of Test Report:	10/19/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	67
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	0.6

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

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

October 19, 2016

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

Re: **Radon Testing Services**
KCI Job # 12146341.54

Location: Hallie Wells Middle School
11701 Little Seneca Parkway
Clarksburg, MD 20871

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 Hallie Wells Middle School, located at 11701 Little Seneca Parkway Clarksburg, MD 20871 (subject site).

Scope of Services:

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

KCI visited the site on September 27, 2016 and deployed eighty-two (82) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on September 30, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Initial testing of a newly constructed facility.

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

- Determine if the newly constructed facility needs a mitigation system.

Future periodic testing should be conducted during the heating season in ideal conditions as described below. According to AARST, *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*, ideal testing conditions would be when the building is fully occupied and the heating system is active. For this test, the facility's HVAC system was operating in cooling mode; therefore, KCI concludes that this test was not conducted during ideal testing conditions.

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Hallie Wells Middle School		
Test Period: 09/27/16-09/30/16		
Kit Number	**Room / Area**	**Result**
7802383	100	< 0.3
7802025	101	< 0.3
7802053	101	< 0.3
7802391	102	< 0.3
7802023	103	< 0.3
7802024	103	0.5
7802062	103	< 0.3
7802311	104	< 0.3
7802320	104	0.5
7802032	105	< 0.3
7802328	108	< 0.3
7802340	112	< 0.3
7802326	113	< 0.3
7802301	115	< 0.3
7802392	115	< 0.3
7802336	119	0.5
7802306	120	< 0.3
7802395	123	< 0.3
7802393	124	< 0.3
7802382	126	< 0.3
7802390	130	< 0.3
7802321	132	< 0.3
7802302	134	< 0.3
7802329	136	< 0.3
7802330	138	< 0.3
7802333	142	< 0.3
7802278	144	< 0.3
7802338	148	< 0.3
7802337	149	< 0.3
7802054	156	< 0.3
7802026	157	< 0.3
7802060	158	< 0.3
7802020	159	< 0.3
7802047	160	< 0.3
7802031	163	< 0.3
7802029	171	< 0.3
7802048	178	< 0.3
7802036	220	< 0.3
7802042	226	< 0.3
7802056	249	< 0.3
7802038	250	< 0.3
7802006	323	< 0.3
7802039	324	< 0.3
7802044	330	< 0.3
7802033	338	< 0.3
7802001	348	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Hallie Wells Middle School		
Test Period: 09/27/16-09/30/16		
Kit Number	**Room / Area**	**Result**
7802344	2344	< 0.3
7802400	100A	< 0.3
7802385	100B	< 0.3
7802386	100D	< 0.3
7802381	100F	< 0.3
7802387	100G	< 0.3
7802332	100H	< 0.3
7802331	100J	< 0.3
7802323	100M	< 0.3
7802388	100Q	< 0.3
7802394	100R	< 0.3
7802396	100T	< 0.3
7802389	100U	< 0.3
7802384	102 A	< 0.3
7802399	102E	< 0.3
7802398	102F	0.5
7802379	102G	< 0.3
7802304	104A	< 0.3
7802334	104C	< 0.3
7802327	104D	< 0.3
7802303	104E	< 0.3
7802319	104F	0.5
7802052	157B	< 0.3
7802061	166C	< 0.3
7802055	167D	< 0.3
7802043	200E	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Hallie Wells Middle School		
Test Period: 09/27/16-09/30/16		
Kit Number	**QC Type**	**Result**
7802397	D (100U)	0.6
7802030	D (101)	< 0.3
7802380	D (102F)	< 0.3
7802312	D (104A)	< 0.3
7802335	D (108)	< 0.3
7802313	D (124)	< 0.3
7802037	D (220)	< 0.3
7802007	D (323)	< 0.3
7802378	FB (102F)	< 0.3
7801953	FB (104A)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

October 7, 2016 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

HALLIE WELLS MIDDLE SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802383	100	2016-09-27 @ 11:00 am	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802400	100A	2016-09-27 @ 11:00 am	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802385	100B	2016-09-27 @ 11:00 am	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802386	100D	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802381	100F	2016-09-27 @ 12:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802387	100G	2016-09-27 @ 12:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802332	100H	2016-09-27 @ 12:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802331	100J	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802323	100M	2016-09-27 @ 12:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802388	100Q	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802394	100R	2016-09-27 @ 12:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802396	100T	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802397	100U	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	0.6 ± 0.2	2016-10-03
7802389	100U	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802025	101	2016-09-27 @ 2:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802053	101	2016-09-27 @ 2:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802030	101	2016-09-27 @ 2:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802391	102	2016-09-27 @ 11:00 am	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802384	102 A	2016-09-27 @ 11:00 am	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802399	102E	2016-09-27 @ 11:00 am	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802380	102F	2016-09-27 @ 11:00 am	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802398	102F	2016-09-27 @ 11:00 am	2016-09-30 @ 10:00 am	0.5 ± 0.2	2016-10-03
7802378	102F	2016-09-27 @ 11:00 am	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802379	102G	2016-09-27 @ 11:00 am	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802062	103	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802023	103	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802024	103	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	0.5 ± 0.3	2016-10-03
7802320	104	2016-09-27 @ 1:00 pm	2016-09-30 @ 11:00 am	0.5 ± 0.2	2016-10-03
7802311	104	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802304	104A	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7801953	104A	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802312	104A	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802334	104C	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802327	104D	2016-09-27 @ 1:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802303	104E	2016-09-27 @ 1:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802319	104F	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	0.5 ± 0.2	2016-10-03
7802032	105	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03

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

October 7, 2016 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

HALLIE WELLS MIDDLE SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802328	108	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802335	108	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802340	112	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802326	113	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802392	115	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802301	115	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802336	119	2016-09-27 @ 12:00 pm	2016-09-30 @ 11:00 am	0.5 ± 0.2	2016-10-03
7802306	120	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802395	123	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802313	124	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802393	124	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802382	126	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802390	130	2016-09-27 @ 12:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802321	132	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802302	134	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802329	136	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802330	138	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802333	142	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802278	144	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802338	148	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802337	149	2016-09-27 @ 12:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03
7802054	156	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802026	157	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802052	157B	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802060	158	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802020	159	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802047	160	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802031	163	2016-09-27 @ 2:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802061	166C	2016-09-27 @ 1:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802055	167D	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802029	171	2016-09-27 @ 2:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802048	178	2016-09-27 @ 1:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802043	200E	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802036	220	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802037	220	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802042	226	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802344	2344	2016-09-27 @ 1:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03

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October 7, 2016 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
HALLIE WELLS MIDDLE SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802056	249	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802038	250	2016-09-27 @ 2:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802006	323	2016-09-27 @ 3:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802007	323	2016-09-27 @ 3:00 pm	2016-09-30 @ 10:00 am	< 0.3	2016-10-03
7802039	324	2016-09-27 @ 3:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802044	330	2016-09-27 @ 3:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802033	338	2016-09-27 @ 3:00 pm	2016-09-30 @ 11:00 am	< 0.3	2016-10-03
7802001	348	2016-09-27 @ 3:00 pm	2016-09-30 @ 9:00 am	< 0.3	2016-10-03

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October 7, 2016 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS Radon
Phase 18 Office Blanks

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

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October 7, 2016 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS Radon
Phase 18 Transit Blanks

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

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October 12, 2016 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
MCPS Radon
Spike Sample Results

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 176788

NOMINAL Conditions: Radon Conc 26.1 pCi/L Rel. Hum 49.6 % Temp. 79.0 F

Date Start: 9/24/16 Date Stop: 9/26/16	Date Start: _____ Date Stop: _____
Time Start: 0758 Time Stop: 0758	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags -	Device No.'s: _____
7769899, 7769884, 7769885,	_____
7769889, 7769890, 7769891	_____
F3 Left	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 18

Name of Schools:

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

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

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

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 Phase 18

Name of Schools:

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

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

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