MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Rolling Terrace Elementary School
Address:	705 Bayfield Street
	Takoma Park, MD 20912
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	53	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥4.0-pCi/L)	0	Highest Value (pCi/L)	1.2

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
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):	12/17/2024 12/20/2024
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]	49	0	4	0	53
Duplicates[2]	5	0	1	0	6
Field Blanks[3]	3	0	0	0	3
				Grand Total	62

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		3
Trip Blanks[2]	1	0	1
Office Blanks[3, 4]	1	0	1
			5

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:	49	0	4	0	53
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:	0	0	0	0	0
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		
Rolling Terrace Elementary School		
Test Period: 12/17/2024 - 12/20/2024		
Kit Number	Room / Area	Result
11919293	105	< 0.3
11919294	105	< 0.3
11919297	106	< 0.3
11919288	111	< 0.3
11919289	112	< 0.3
11919290	113	< 0.3
11919284	114	< 0.3
11919285	114	< 0.3
11919286	114	< 0.3
11919295	117	< 0.3
11919291	121	< 0.3
11919296	122	< 0.3
11919299	A100	0.6
11907201	A101	1.0
11919298	A102	< 0.3
11919300	A103	1.2
11919292	A104	0.8
11907205	A200	0.7
11919264	APR	< 0.3
11919266	APR	< 0.3
11919263	ART	1.2
11919265	ART	0.8
11919257	ARTS	0.9
11919250	ASSISTANT PRINCIPLE	0.6
11919281	B100	< 0.3
11919282	B101	0.9
11919280	B102	< 0.3
11919277	B104	< 0.3
11919278	B105	0.9
11919270	B106	< 0.3
11919279	B107	< 0.3
11919268	B108	< 0.3
11919274	B109	< 0.3
11919269	B110	0.5
11919267	B111	0.5
11919273	B113	< 0.3
11907204	B203	< 0.3

Table 1- Radon Testing Results		
Rolling Terrace Elementary School		
Test Period: 12/17/2024 - 12/20/2024		
Kit Number	Room / Area	Result
11907202	B214	< 0.3
11907206	B214	< 0.3
11907211	B214	< 0.3
11919262	C100	< 0.3
11919259	C101	< 0.3
11919254	C103	0.7
11919283	CONF A	< 0.3
11919287	CONF B	< 0.3
11919242	CONFERENCE ROOM IN OFFICE	0.7
11919251	GYM	< 0.3
11919252	GYM	< 0.3
11919253	IT'LL RM	0.6
11919241	MAIN OFFICE	< 0.3
11907203	MEDIA CENTER	< 0.3
11919256	MUSIC	0.6
11919271	OLD FAMILY RM	< 0.3
11919249	PCC OFFICE	< 0.3
11919260	PE OFFICE	0.6
11919261	PE OFFICE	0.6
11919272	PE OFFICE	< 0.3
11919248	PRINCIPAL OFFICE	0.6
11919275	STAFF DINING	< 0.3
11919276	STAFF DINING	< 0.3
11919258	STAGE	< 0.3
11919255	WORK ROOM IN OFFICE	0.5

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Rolling Terrace Elementary School							
Test Period: 12/17/2024 - 12/20/2024							
≥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
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Rolling Terrace Elementary School			
Test Period: 12/17/2024 - 12/20/2024			
Kit Number	**QC Type**	**Room / Area**	**Result**
11919294	D	105	< 0.3
11919285	D	114	< 0.3
11919286	FB	114	< 0.3
11919265	D	Art	0.8
11907206	D	B214	< 0.3
11907211	FB	B214	< 0.3
11919261	D	PE Office	0.6
11919272	FB	PE Office	< 0.3
11919276	D	Staff Dining	< 0.3
11907208	OB	OFFICE BLANK	< 0.3
11907209	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation

Rolling Terrace Elementary School

Test Period: 12/17/2024 - 12/20/2024

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
11919263	11919265	Art	1.2	0.8	✓	1.6	PASS	1.0	<1-pCi/L	✓
11919260	11919261	PE office	0.6	0.6	✓	1.2	PASS	0.6	<1-pCi/L	✓
11919275	11919276	Staff Dining	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11919284	11919285	114	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11919293	11919294	105	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11907202	11907206	b214	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		
Rolling Terrace Elementary School		
Test Period: 12/17/24 - 12/20/24		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

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

Radon test result report for:
ROLLING TERRACE ES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11919294	105	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919293	105	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919297	106	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919288	111	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919289	112	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919290	113	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919285	114	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919284	114	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919295	117	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919291	121	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919296	122	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919299	A100	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	0.6 ± 0.3	2024-12-23
11907201	A101	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	1.0 ± 0.3	2024-12-23
11919298	A102	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919300	A103	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	1.2 ± 0.3	2024-12-23
11919292	A104	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	0.8 ± 0.3	2024-12-23
11907205	A200	2024-12-17 @ 1:00 pm	2024-12-20 @ 11:00 am	0.7 ± 0.3	2024-12-23
11919264	APR	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919266	APR	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919265	ART	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.8 ± 0.3	2024-12-23
11919263	ART	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	1.2 ± 0.3	2024-12-23
11919257	ARTS	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.9 ± 0.3	2024-12-23
11919250	ASSISTANT PRINCIPLE	2024-12-17 @ 11:00 am	2024-12-20 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919281	B100	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919282	B101	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.9 ± 0.3	2024-12-23
11919280	B102	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919277	B104	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919278	B105	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.9 ± 0.3	2024-12-23
11919270	B106	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919279	B107	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919268	B108	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919274	B109	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919269	B110	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.5 ± 0.3	2024-12-23
11919267	B111	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.5 ± 0.3	2024-12-23
11919273	B113	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11907204	B203	2024-12-17 @ 1:00 pm	2024-12-20 @ 11:00 am	< 0.3	2024-12-23
11907202	B214	2024-12-17 @ 1:00 pm	2024-12-20 @ 11:00 am	< 0.3	2024-12-23

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

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

Radon test result report for:
ROLLING TERRACE ES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11907206	B214	2024-12-17 @ 1:00 pm	2024-12-20 @ 11:00 am	< 0.3	2024-12-23
11919262	C100	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919259	C101	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919254	C103	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.7 ± 0.3	2024-12-23
11919283	CONF A	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919287	CONF B	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919242	CONFERENCE ROOM IN OFFICE	2024-12-17 @ 11:00 am	2024-12-20 @ 10:00 am	0.7 ± 0.3	2024-12-23
11919286	FIELD BLANK	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11907211	FIELD BLANK	2024-12-17 @ 1:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919272	FIELD BLANK	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919252	GYM	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919251	GYM	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919253	IT'LL RM	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919241	MAIN OFFICE	2024-12-17 @ 11:00 am	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11907203	MEDIA CENTER	2024-12-17 @ 1:00 pm	2024-12-20 @ 11:00 am	< 0.3	2024-12-23
11919256	MUSIC	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919271	OLD FAMILY RM	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919249	PCC OFFICE	2024-12-17 @ 11:00 am	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919261	PE OFFICE	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919260	PE OFFICE	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919248	PRINCIPAL OFFICE	2024-12-17 @ 11:00 am	2024-12-20 @ 10:00 am	0.6 ± 0.3	2024-12-23
11919276	STAFF DINING	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919275	STAFF DINING	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919258	STAGE	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	< 0.3	2024-12-23
11919255	WORK ROOM IN OFFICE	2024-12-17 @ 12:00 pm	2024-12-20 @ 10:00 am	0.5 ± 0.3	2024-12-23

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

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

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11482799	O	2024-12-16 @ 10:00 am	2024-12-19 @ 1:00 pm	< 0.3	2024-12-23
11907208	O	2024-12-17 @ 10:00 am	2024-12-20 @ 1:00 pm	< 0.3	2024-12-23

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

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

Radon test result report for:
TRAVEL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11482800	T	2024-12-16 @ 10:00 am	2024-12-19 @ 1:00 pm	< 0.3	2024-12-23
11907209	T	2024-12-17 @ 10:00 am	2024-12-20 @ 1:00 pm	< 0.3	2024-12-23

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20001560

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

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

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 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 17th – December 20th, 2024

Name of Schools:

1. Newport Mill MS
2. Rolling Terrace ES
3. Silver Spring International MS
4. Spring Mill Center

	Date	Initials
Radon Test Kits Deployed	12/17/2024	BMM
Radon Test Kits Collected	12/20/2024	BMM
Radon Test Kits Shipped to Lab*	12/20/2024	BMM
Radon Test Kits Received by Lab*	12/24/2024	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	Rolling Terrace Elementary School
Date of Test Report	05/27/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	3
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	<0.3 pCi/L

Project Status

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

KCI TECHNOLOGIES

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

May 27, 2022

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

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

Location: Rolling Terrace Elementary School
705 Bayfield St.
Takoma Park, MD 20910

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 Rolling Terrace Elementary School, located at 705 Bayfield St. Takoma Park, MD 20910 (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 29, 2022 and deployed five (5) 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 2022 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 April 01, 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 mid 20°Fs and high temperatures ranged from the low 50°Fs to the mid 70°Fs. Maximum sustained winds ranged from 0-33 miles per hour. Average humidity was around 47% with 0.23 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 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		
Rolling Terrace ES RT		
Test Period: 03/29/2022 - 04/01/2022		
Kit Number	Room / Area	Result
11140041	120	< 0.3
11140035	ART	< 0.3
11140037	ART	< 0.3
11140039	ART	< 0.3
11140031	ARTS	< 0.3

Table 2- Radon Testing Results			
Rolling Terrace ES RT			
Test Period: 03/29/2022 - 04/01/2022			
Kit Number	QC Type	Room / Area	Result
11140035	Art	D	< 0.3
11140037	Art	FB	< 0.3
11139883	OB	OFFICE BLANK	< 0.3
11139841	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Rolling Terrace School RT		
Test Period: 03/29/22 - 04/01/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Rolling Terrace School RT		
Test Period: 03/29/22 - 04/01/22		
Kit Number	Room/Area	Result
	NA	

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

April 4, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
ROLLING TERRACE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11140041	120	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 0.3	2022-04-04
11140035	ART	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 0.3	2022-04-04
11140037	ART	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 0.3	2022-04-04
11140039	ART	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 0.3	2022-04-04
11140031	ARTS	2022-03-29 @ 11:00 am	2022-04-01 @ 11:00 am	< 0.3	2022-04-04

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 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

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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 – March 2022 Schools – Retesting

Name of Schools:

1. Watkins Mill HS
2. Cresthaven ES
3. East Silver Spring ES
4. Fairland Center
5. Francis Scott Key MS
6. Greencastle ES
7. Roscoe Nix ES
8. West Farm Transportation Depot
9. Wheaton HS
10. White Oak MS
11. William Tyler Page ES
12. Bel Pre ES
13. Fairland ES
14. Highland ES
15. Rolling Terrace ES
16. Takoma Park MS
17. Viers Mill ES
18. Poolesville ES

	Date	Initials
Radon Test Kits Deployed	03/29/2022	BMM
Radon Test Kits Collected	04/01/2022	BMM
Radon Test Kits Shipped to Lab*	04/01/2022	BMM
Radon Test Kits Received by Lab*	04/04/2022	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	Rolling Terrace Elementary School
Date of Test Report	5/11/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	58
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.3 pCi/L

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

KCI TECHNOLOGIES

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May 11, 2022

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

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

Location: Rolling Terrace Elementary School
705 Bayfield St.
Takoma Park, MD 20912

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 Rolling Terrace Elementary School, located at 705 Bayfield St. Takoma Park, MD 20912 (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 14, 2022 and deployed sixty-six (66) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

KCI returned to the site on March 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 low 20s and high temperatures ranged from the mid 70s to the high 50s Fahrenheit. Maximum sustained winds ranged from 0-32 miles per hour. Average humidity was around 61% with 0.1 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		
Rolling Terrace ES		
Test Period: 03/14/2022 - 03/17/2022		
Kit Number	Room / Area	Result
11139310	103	< 0.3
11139311	106	0.6
11139312	106	0.7
11139320	111	< 0.3
11139319	112	< 0.3
11139316	113	< 0.3
11139313	114	< 0.3
11139314	117	< 0.3
11139315	120	NA
11139317	121	< 0.3
11139318	122	< 0.3
11139307	A100	< 0.3
11139344	A101	0.6
11139308	A102	0.6
11139345	A103	< 0.3
11139309	A104	1.0
11139364	A204	0.7
11139304	AP OFFICE	< 0.3
11139337	APR	< 0.3
11139338	APR	0.6
11139360	ART	0.7
11139340	ARTS	< 0.3
11139341	ARTS	NA
11139342	ARTS	< 0.3
11139335	B.S. OFFICE	< 0.3
11139321	B100	< 0.3
11139322	B100	< 0.3
11139323	B100	< 0.3
11139348	B101	0.7
11139324	B102	< 0.3
11139325	B104	< 0.3
11139349	B105	0.7
11139326	B106	< 0.3
11139350	B107	1.1
11139327	B108	0.6
11139353	B109	< 0.3
11139328	B110	0.6
11139354	B111	0.6
11139355	B113	< 0.3
11139361	B202	< 0.3
11139362	B202	0.5
11139363	B202	< 0.3

Table 1- Radon Testing Results		
Rolling Terrace ES		
Test Period: 03/14/2022 - 03/17/2022		
Kit Number	Room / Area	Result
11139365	B215	< 0.3
11139330	C100	0.8
11139331	C100	1.3
11139357	C101	< 0.3
11139329	C102	0.9
11139358	C103	< 0.3
11139366	C200	< 0.3
11139303	COMM. CORD. OFFICE	0.9
11139346	CONF 1	0.7
11139347	CONF 2	0.7
11139356	ESOL	0.6
11139301	GENERAL OFFICE	< 0.3
11139332	GYM	0.7
11139333	GYM	< 0.3
11139334	GYM OFFICE	< 0.3
11139359	ITNL. ROOM	1.1
11139306	MAIN OFF. CONF.	0.8
11139305	MAIN OFF. COPY ROOM	< 0.3
11139343	MUSIC	< 0.3
11139336	OLD FAM. ROOM	< 0.3
11139302	PRINCIPAL	0.6
11139351	STAFF LOUNGE	0.9
11139352	STAFF LOUNGE	< 0.3
11139339	STAGE	0.6

Table 2- Radon Testing Results			
Rolling Terrace ES			
Test Period: 03/14/2022 - 03/17/2022			
Kit Number	QC Type	Room / Area	Result
11139312	D	106	0.7
11139322	D	B100	< 0.3
11139323	FB	B100	< 0.3
11139331	D	C100	1.3
11139341	D	Arts	NA
11139342	FB	Arts	< 0.3
11139352	D	Staff lounge	< 0.3
11139362	D	B202	0.5
11138932	OB	OFFICE BLANK	< 0.3
11138946	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Rolling Terrace ES		
Test Period: 03/14/22 - 03/17/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Rolling Terrace ES		
Test Period: 03/14/22 - 03/17/22		
Kit Number	Room/Area	Result
11139315	120	Compromised
11139341	ARTS	Compromised

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 22, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

ROLLING TERRACE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139310	103	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139312	106	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	0.7 ± 0.3	2022-03-21
11139311	106	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	0.6 ± 0.3	2022-03-21
11139320	111	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139319	112	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139316	113	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139313	114	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139314	117	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139315	120	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	???? IF1	2022-03-21
11139317	121	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139318	122	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139307	A100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139344	A101	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.6 ± 0.3	2022-03-21
11139308	A102	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	0.6 ± 0.3	2022-03-21
11139345	A103	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139309	A104	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	1.0 ± 0.3	2022-03-21
11139364	A204	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11139304	AP OFFICE	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139338	APR	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	0.6 ± 0.3	2022-03-21
11139337	APR	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139360	ART	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11139342	ARTS	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139340	ARTS	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139341	ARTS	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	???? IF1	2022-03-21
11139335	B.S. OFFICE	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139322	B100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139323	B100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139321	B100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139348	B101	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11139324	B102	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139325	B104	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139349	B105	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11139326	B106	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139350	B107	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	1.1 ± 0.4	2022-03-21
11139327	B108	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	0.6 ± 0.3	2022-03-21
11139353	B109	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139328	B110	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	0.6 ± 0.3	2022-03-21

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

March 22, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
ROLLING TERRACE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139354	B111	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.6 ± 0.3	2022-03-21
11139355	B113	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139361	B202	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139362	B202	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.5 ± 0.3	2022-03-21
11139363	B202	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139365	B215	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139330	C100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	0.8 ± 0.3	2022-03-21
11139331	C100	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	1.3 ± 0.4	2022-03-21
11139357	C101	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139329	C102	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	0.9 ± 0.3	2022-03-21
11139358	C103	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139366	C200	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139303	COMM. CORD. OFFICE	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	0.9 ± 0.4	2022-03-21
11139346	CONF 1	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11139347	CONF 2	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.7 ± 0.3	2022-03-21
11139356	ESOL	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.6 ± 0.3	2022-03-21
11139301	GENERAL OFFICE	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139333	GYM	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139332	GYM	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	0.7 ± 0.3	2022-03-21
11139334	GYM OFFICE	2022-03-14 @ 12:00 pm	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139359	ITNL. ROOM	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	1.1 ± 0.3	2022-03-21
11139306	MAIN OFF. CONF.	2022-03-14 @ 11:00 am	2022-03-17 @ 10:00 am	0.8 ± 0.4	2022-03-21
11139305	MAIN OFF. COPY ROOM	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	< 0.3	2022-03-21
11139343	MUSIC	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139336	OLD FAM. ROOM	2022-03-14 @ 12:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139302	PRINCIPAL	2022-03-14 @ 11:00 am	2022-03-17 @ 9:00 am	0.6 ± 0.3	2022-03-21
11139352	STAFF LOUNGE	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	< 0.3	2022-03-21
11139351	STAFF LOUNGE	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.9 ± 0.4	2022-03-21
11139339	STAGE	2022-03-14 @ 1:00 pm	2022-03-17 @ 10:00 am	0.6 ± 0.3	2022-03-21

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204620

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

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

Name of Schools:

1. Silver Spring International MS
2. Sligo Creek ES
3. Takoma Park MS
4. Takoma Park ES
5. Highland ES
6. Rolling Terrace ES

	Date	Initials
Radon Test Kits Deployed	03/14/2022	
Radon Test Kits Collected	03/17/2022	
Radon Test Kits Shipped to Lab*	03/17/2022	
Radon Test Kits Received by Lab*	03/20/2022	

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

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: Rolling Terrace Elementary School

Date of Test Report:	2/19/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	65
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.1

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

KCI TECHNOLOGIES

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

February 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 # 12146341.25

Location: Rolling Terrace Elementary School
705 Bayfield Street
Takoma Park, MD 20912

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 Rolling Terrace Elementary School, located at 705 Bayfield Street in Takoma Park, Maryland 20912 (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 19, 2016 and deployed seventy-eight (78) 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 22, 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

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

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

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

Sincerely,

James M. 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

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Rolling Terrace Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	**Room / Area**	**Result**
7727061	103	< 0.3
7727062	106	1.1
7727064	111	< 0.3
7727065	112	< 0.3
7727066	113	< 0.3
7727067	114	0.8
7727063	116	< 0.3
7727068	117	0.6
7727069	120	< 0.3
7727070	121	< 0.3
7727071	122	< 0.3
7727058	A100	< 0.3
7727056	A101	0.8
7727059	A102	< 0.3
7727057	A103	< 0.3
7727060	A104	0.9
7714351	ALL PURPOSE	< 0.3
7718275	ALL PURPOSE	< 0.3
7714348	ART	0.7
7727052	ASST. PRINCIPAL 1	0.5
7727053	ASST. PRINCIPAL 2	< 0.3
7719557	B100	< 0.3
7715107	B101	2.1
7719560	B102	< 0.3
7715108	B103	< 0.3
7715111	B104	< 0.3
7727087	B106	< 0.3
7715110	B107	< 0.3
7727086	B108	< 0.3
7727085	B109	1.1
7727082	B110	< 0.3
7727084	B111	< 0.3
7727083	B113	< 0.3
7727092	B204	< 0.3
7727091	B206	< 0.3
7727073	BUILDING SERVICE	< 0.3
7727080	C100	< 0.3
7727076	C101	< 0.3
7727079	C102	0.8
7727077	C103	< 0.3
7714349	COMPUTER LAB	< 0.3
7719559	CONF 1	< 0.3
7719558	CONF 2	< 0.3
7727055	CONFERENCE	0.7
7727054	COPY ROOM	< 0.3
7727081	ESOL	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Rolling Terrace Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	**Room / Area**	**Result**
7718287	FAMILY ROOM	< 0.3
7727074	GYM	0.9
7727075	GYM	0.8
7727078	GYM OFFICE	< 0.3
7727090	INTERNATIONAL	< 0.3
7727093	LC1	< 0.3
7719565	LC10	< 0.3
7727096	LC2	< 0.3
7727097	LC3	< 0.3
7727100	LC4	< 0.3
7718283	LC5	< 0.3
7718280	LC6	< 0.3
7718279	LC7	< 0.3
7727099	LC8	< 0.3
7718268	LC9	< 0.3
7727094	MEDIA CENTER	< 0.3
7714350	MUSIC	0.7
7727049	OFFICE	< 0.3
7727051	PRINCIPAL	< 0.3
7714346	STAFF DINING	< 0.3
7727088	STORAGE	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Rolling Terrace Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	**QC Type**	**Result**
7727072	D (103)	< 0.3
7719092	D (ALL PURPOSE)	< 0.3
7727089	D (B111)	< 0.3
7714343	D (LC10)	< 0.3
7727095	D (MEDIA CENTER)	< 0.3
7727050	D (OFFICE)	< 0.3
7715112	D (STAFF DINING)	< 0.3
7718286	FB (LC10)	< 0.3
7727098	FB (LC3)	< 0.3
7714352	FB (STAFF DINING)	< 0.3
7719456	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 11, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

ROLLING TERRACE ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719456		2016-01-19 @ 4:00 pm	2016-01-22 @ 11:00 am	< 0.3	2016-01-27
7727061	103	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7727072	103	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7727062	106	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	1.1 ± 0.3	2016-01-27
7727064	111	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727065	112	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727066	113	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727067	114	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	0.8 ± 0.3	2016-01-27
7727063	116	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727068	117	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	0.6 ± 0.3	2016-01-27
7727069	120	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727070	121	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727071	122	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727058	A100	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7727056	A101	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	0.8 ± 0.3	2016-01-26
7727059	A102	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727057	A103	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727060	A104	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	0.9 ± 0.3	2016-01-27
7714351	ALL PURPOSE	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7718275	ALL PURPOSE	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7719092	ALL PURPOSE	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7714348	ART	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7727052	ASST. PRIN. 1	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	0.5 ± 0.3	2016-01-27
7727053	ASST. PRIN. 2	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7719557	B100	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7715107	B101	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	2.1 ± 0.4	2016-01-27
7719560	B102	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7715108	B103	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7715111	B104	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727087	B106	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7715110	B107	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727086	B108	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727085	B109	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.1 ± 0.3	2016-01-27
7727082	B110	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727089	B111	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7727084	B111	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727083	B113	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 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

February 11, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

ROLLING TERRACE ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7727092	B204	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727091	B206	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727073	BUILDING SERVICE	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727080	C100	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727076	C101	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727079	C102	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.8 ± 0.3	2016-01-27
7727077	C103	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7714349	COMPUTER LAB	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7719559	CONF 1	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7719558	CONF 2	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727055	CONFERENCE	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7727054	COPY ROOM	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727081	ESOL	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7718287	FAMILY ROOM	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727074	GYM	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.9 ± 0.3	2016-01-27
7727075	GYM	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.8 ± 0.3	2016-01-27
7727078	GYM OFFICE	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727090	INTERNATIONAL	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7719565	LC10	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727094	MEDIA CENTER	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727095	MEDIA CENTER	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7714350	MUSIC	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7727050	OFFICE	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7727049	OFFICE	2016-01-19 @ 1:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727051	PRINCIPAL	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7714352	STAFF DINING	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7714346	STAFF DINING	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7715112	STAFF DINING	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727088	STORAGE	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27

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February 11, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

ROLLING TERRACE ELEMENTARY SCHOOL
PORTABLE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7727093	LC1	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7714343	LC10	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7718286	LC10	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727096	LC2	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727097	LC3	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727098	LC3	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727100	LC4	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7718283	LC5	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7718280	LC6	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7718279	LC7	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7727099	LC8	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7718268	LC9	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27

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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

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February 15, 2016

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

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

Date Start: 1/30/16 Date Stop: 2/1/16	Date Start: _____ Date Stop: _____
Time Start: 0926 Time Stop: 0926	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags -	Device No.'s: _____
7718281, 7718282, 7718291,	_____
7718288, 7718289, 7718273	_____
E3 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

Chain of Custody

Project Name: MCPS Radon Phase VI

Name of Schools:

1. Francis Scott Key MS
2. Gaithersburg ES
3. Gaithersburg MS
4. Galway ES
5. Great Seneca Creek ES
6. Harmony Hills ES
7. John Poole MS
8. Judith A. Resnik ES
9. Kemp Mill ES
10. Kingsview MS
11. Lakelands Park MS
12. Little Bennett ES
13. Loiderman MS
14. Longview ES
15. Meadow Hall ES
16. Neelsville MS
17. New Hampshire Estates ES
18. North Bethesda MS
19. Northwest HS
20. Pine Crest ES
21. Radnor Center
22. Ritchie Park ES
23. Rolling Terrace ES
24. Roscoe Nix ES
25. Sally K. Ride ES
26. Spark Matsunaga ES
27. Tacoma Park ES
28. Thomas Pyle MS
29. Wayside ES
30. Westbrook ES (retest)
31. Westland MS (retest)
32. William B. Gibbs ES
33. William Tyler Page ES

	Date	Initials
Radon Test Kits Deployed	1/19/16	JM
Radon Test Kits Sampled	1/22/16	JM
Radon Test Kits Shipped to Lab*	1/22/16	JM
Radon Test Kits Received by Lab*	1/26/16	JM

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