

School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Fields Road Elementary School		
Address:	1 School Dr.		
	Gaithersburg, MD 20878		
Reason for Testing:	Scheduled Re-Testing - <input checked="" type="checkbox"/> 2-year or <input type="checkbox"/> 5-year schedule <input type="checkbox"/> Clearance Testing (Post-Mitigation) <input type="checkbox"/> Building Envelope or HVAC Upgrades <input type="checkbox"/> New Construction – Addition or Facility		
Current Radon Status:	<input checked="" type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule) <input type="checkbox"/> Not Previously Tested (New Facility)		
Round of Testing:	<input type="checkbox"/> Initial Testing -or- <input type="checkbox"/> Follow-up Testing		
Testing Status:	<input checked="" type="checkbox"/> No Further Testing Needed -or- <input type="checkbox"/> Follow-Up Testing Required		

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

Mitigation -	Facility Radon Status:		
<input checked="" type="checkbox"/> Not Required <input type="checkbox"/> Required (≥ 4.0 -pCi/L) Rooms:	<input checked="" type="checkbox"/> No Change in Status <input type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	57	Lowest Value (pCi/L)	<0.3
Number of Rooms (≥ 4.0 -pCi/L)	0	Highest Value (pCi/L)	1.3

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

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

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

Attachment 2 – Laboratory Report(s)

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

Detector and Deployment

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

Testing

<input checked="" type="checkbox"/> Short-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	2/24/2025
<input type="checkbox"/> Long-Term				2/27/2025
Does the test period include weekends, school breaks or holidays?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If “Yes” please explain/detail in the space below:				
Was HVAC operating under occupied conditions?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If “No” please explain/detail in the space below:				

Testing (continued)

Round of Testing	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Test Locations ¹	57	0	0	0	57
Duplicates ²	5	0	0	0	5
Field Blanks ³	2	0	0	0	2
Grand Total					64

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

2 - 10% of all locations tested, per floor

3 – 5% of all locations tested, per floor

Quality Assurance / Quality Control (QA/QC)

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

Round of Testing	QA/QC Samples		Total
	Initial	Follow-Up	
Spikes ¹	Not applicable		10
Trip Blanks ²	1	0	0
Office Blanks ^{3, 4}	1	0	0
			12

1 - 3% of EIC detectors; and 3% from each LOT of CAD and ATD detectors; a maximum of 6-spiked measurements per month for both EIC detectors and each LOT of CAD and ATD detectors.

2 – One per shipping container from start of detector deployment

3 – One per facility tested as devices are removed/allocated from the storage location for deployment;

4 - One additional blank, analyzed prior to deployment, for storage locations that have not been evaluated or monitored, for detectors that have been stored for more than 30-day durations.

Quality Assurance / Quality Control (continued)

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

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

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

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

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

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

Summary of Test Results¹ and Determination of Valid Measurements²

Round of Testing	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Number of test locations:	57	0	0	0	57
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 $\leq 33\%$. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023;

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

Summary of Test Results¹ and Determination of Valid Measurements² (continued)

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

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

Follow-Up Testing

Required –

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

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

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

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Fields Road Elementary School		
Test Period: 2/24/2025 - 2/27/2025		
Kit Number	Room / Area	Result
11931176	101	< 0.3
11931107	102	< 0.3
11931182	102	< 0.3
11931063	103	< 0.3
11931180	103	< 0.3
11931123	105	< 0.3
11931181	106	< 0.3
11931162	107	< 0.3
11931046	108	< 0.3
11931060	115	< 0.3
11931081	115	< 0.3
11931003	116	< 0.3
11931174	117	< 0.3
11931173	118	< 0.3
11931172	119	< 0.3
11931171	123	< 0.3
11931163	124	< 0.3
11931116	125	< 0.3
11931088	126	< 0.3
11931078	128	< 0.3
11931098	128	< 0.3
11931086	130	< 0.3
11931075	131	< 0.3
11931076	133	< 0.3
11931038	135	< 0.3
11931053	139	< 0.3
11931054	140	< 0.3
11931061	141	< 0.3
11931062	143	< 0.3
11931064	143	< 0.3
11931079	149	< 0.3
11931085	151	< 0.3
11931080	153	< 0.3
11931087	155	< 0.3
11931037	157	< 0.3
11931090	159	< 0.3
11931082	160	< 0.3

Table 1- Radon Testing Results		
Fields Road Elementary School		
Test Period: 2/24/2025 - 2/27/2025		
Kit Number	Room / Area	Result
11931089	160	< 0.3
11931083	161	< 0.3
11931091	161	< 0.3
11931077	162	0.7
11931092	164	< 0.3
11931093	168	< 0.3
11931094	169	< 0.3
11931095	172	< 0.3
11931070	100F	< 0.3
11931066	100G	0.7
11931072	APR	< 0.3
11931097	APR	< 0.3
11931065	ASSISTANT PRINCIPAL	< 0.3
11931096	BSO	< 0.3
11931100	COUNSELOR	< 0.3
11931067	GYM	0.5
11931084	GYM	< 0.3
11931068	GYM OFFICE	0.9
11931069	GYM OFFICE	1.3
11931071	HEALTH	< 0.3
11931108	LOUNGE	< 0.3
11931074	MAIN OFFICE	< 0.3
11931045	MEDIA	< 0.3
11931165	MEDIA	< 0.3
11931155	MEDIA OFFICE	< 0.3
11931156	MEDIA OFFICE	< 0.3
11931073	WORKROOM	< 0.3

[illegible]

Table 3 - QC Radon Testing Results			
Fields Road Elementary School			
Test Period: 2/24/2025 - 2/27/2025			
Kit Number	QC Type	Room / Area	Result
11931081	D	115	< 0.3
11931078	FB	128	< 0.3
11931062	D	143	< 0.3
11931082	D	160	< 0.3
11931083	FB	161	< 0.3
11931069	D	Gym Office	1.3
11931155	D	Media Office	< 0.3
11926882	OB	OFFICE BLANK	< 0.3
11926890	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Fields Road Elementary School										
Test Period: 2/24/2025 - 2/27/2025										
Sample ID			Duplicate Concentrations (pCi/L) and OC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11931060	11931081	115	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11931062	11931064	143	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11931082	11931089	160	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11931068	11931069	Gym Office	1.3	0.9	✓	1.8	PASS	1.1	<1-pCi/L	✓
11931155	11931156	Media Office	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
NOTES: QC Check #1 - Data Entry QC Check #2 - Higher duplicate concentration is < or = to 2x the Lower QC Check #3 - Meets RPD Limits, by average duplicate concentration - enter 2 if RPD is BELOW warning and control levels, AND passes QC Check 1 and 2 - enter 1 if RPD is ABOVE warning and BELOW control levels, AND passes QC Check 1 and 2 - enter 0 if RPD is ABOVE control level, or 'FAILS' QC Check 1 or 2								Average (pCi/L)	Warning Level	Control Level
								< 2.0	1-pCi/L	NA
								Between 2.0 and 3.9	50% RPD	67% RPD
								≥ 4.0	28% RPD	36% RPD

[illegible]

Attachment 2:

Laboratory Reports

Radon test result report for:
FIELDS ROAD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931070	100F	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931066	100G	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	0.7 ± 0.4	2025-03-04
11931176	101	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931182	102	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931107	102	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931063	103	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931180	103	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931123	105	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931181	106	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931162	107	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931046	108	2025-02-24 @ 10:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-04
11931081	115	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931060	115	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931003	116	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931174	117	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931173	118	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931172	119	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931171	123	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931163	124	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931116	125	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931088	126	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931078	128	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931098	128	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931086	130	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931075	131	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931076	133	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931038	135	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931053	139	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931054	140	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931061	141	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931064	143	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931062	143	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931079	149	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931085	151	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931080	153	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931087	155	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931037	157	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04

Radon test result report for:
FIELDS ROAD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931090	159	2025-02-24 @ 9:00 am	2025-03-03 @ 9:00 am	< 0.3	2025-03-04
11931089	160	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931082	160	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931083	161	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931091	161	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931077	162	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	0.7 ± 0.4	2025-03-04
11931092	164	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931093	168	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931094	169	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931095	172	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931072	APR	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931097	APR	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931065	ASSISTANT PRINCIPAL	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931096	BSO	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931100	COUNSELOR	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931084	GYM	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931067	GYM	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	0.5 ± 0.4	2025-03-04
11931068	GYM OFFICE	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	0.9 ± 0.4	2025-03-04
11931069	GYM OFFICE	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	1.3 ± 0.4	2025-03-04
11931071	HEALTH	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931108	LOUNGE	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931074	MAIN OFFICE	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931045	MEDIA	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931165	MEDIA	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931155	MEDIA OFFICE	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931156	MEDIA OFFICE	2025-02-24 @ 10:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04
11931073	WORKROOM	2025-02-24 @ 9:00 am	2025-02-27 @ 10:00 am	< 0.3	2025-03-04

March 3, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**OFFICE
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11926882	OB	2025-02-24 @ 11:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-03

March 3, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**TRAVEL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11926890	TB	2025-02-24 @ 11:00 am	2025-02-27 @ 11:00 am	< 0.3	2025-03-03

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20001560

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

Date Start: 12/14/24 Date Stop: 12/17/24 Date Start: _____ Date Stop: _____

Time Start: 0815 Time Stop: 0815 Time Start: _____ Time Stop: _____

Device No.'s: (3) CHAR BAGS Device No.'s: _____

11477880, 11477883, 11477896 _____

B4 Right

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

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

December 23, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**SK
MAIN**

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20002919

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

Date Start: 3/7/25 Date Stop: 3/10/25 Date Start: _____ Date Stop: _____

Time Start: 0832 Time Stop: 0832 Time Start: _____ Time Stop: _____

Device No.'s: (7) CHAR BAGS Device No.'s: _____

11886401 thru 11886406,

11886410

G3 Right

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

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

March 19, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

QC
MAIN

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

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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing February 24th – February 27th, 2025

Name of Schools:

1. Diamond ES
2. Smith Center
3. Fields Road ES
4. Forest Oak MS
5. Fox Chapel ES
6. Gaithersburg ES
7. Gaithersburg HS

	Date	Initials
Radon Test Kits Deployed	2/24/2025	DM
Radon Test Kits Collected	2/27/2025	AM
Radon Test Kits Shipped to Lab*	2/27/2025	AM
Radon Test Kits Received by Lab*	3/1/2025	AM

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

MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Fields Road Elementary School
Date of Test Report	4/7/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	57
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.8 pCi/L

Project Status:
Initial testing completed; no further action needed.



April 7, 2022

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

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

Location: Fields Road ES
One School Dr.
Gaithersburg, MD 20878

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 Fields Road ES, located at One School Dr. Gaithersburg, MD 20878 (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 22, 2022 and deployed sixty four (64) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

KCI returned to the site on February 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 post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

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 pCi/L	NA	NA
<4.0 pCi/L	See Attachment B	

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

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

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Check, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

OC- Quality Control

Table 1- Radon Testing Results		
Fields Rd ES		
Test Period: 02/22/2022 - 02/25/2022		
Kit Number	Room / Area	Result
11131463	4	< 0.3
11131442	8	1.2
11131411	101	< 0.3
11131405	102	< 0.3
11131415	103	< 0.3
11131419	103	< 0.3
11131407	105	< 0.3
11131410	106	< 0.3
11131417	107	< 0.3
11131401	108	< 0.3
11131402	108	< 0.3
11131409	115	< 0.3
11131423	115	< 0.3
11131418	116	< 0.3
11131471	117	< 0.3
11131450	118	< 0.3
11131472	119	< 0.3
11131449	123	< 0.3
11131470	124	< 0.3
11131448	125	< 0.3
11131478	125	< 0.3
11131468	126	< 0.3
11131479	126	< 0.3
11131429	128	< 0.3
11131427	129	0.6
11131425	130	< 0.3
11131426	131	< 0.3
11131428	133	< 0.3
11131435	135	< 0.3
11131436	135	< 0.3
11131430	139	0.6
11131434	140	< 0.3
11131424	141	< 0.3
11131431	143	< 0.3
11131437	149	< 0.3
11131432	151	< 0.3
11131438	153	< 0.3
11131433	155	< 0.3
11131443	157	< 0.3
11131444	157	< 0.3
11131439	159	< 0.3
11131445	160	< 0.3
11131462	160	< 0.3
11131446	161	< 0.3
11131447	162	< 0.3

Table 1- Radon Testing Results		
Fields Rd ES		
Test Period: 02/22/2022 - 02/25/2022		
Kit Number	Room / Area	Result
11131455	164	< 0.3
11131460	168	0.9
11131456	169	< 0.3
11131454	172	0.7
11131461	172	< 0.3
11131440	174	< 0.3
11131414	ASSISTANT PRINCIPAL	< 0.3
11131453	CAFETERIA	< 0.3
11131469	CAFETERIA	0.8
11131406	CONFERENCE ROOM	< 0.3
11131416	CONFERENCE ROOM MEDIA CENTER	< 0.3
11131404	COUNSELOR	< 0.3
11131441	GYM	1.1
11131464	GYM	1.8
11131413	HEALTH ROOM	< 0.3
11131412	MAIN OFFICE	< 0.3
11131421	MEDIA CENTER	< 0.3
11131422	MEDIA CENTER	< 0.3
11131408	MEDIA PTA	< 0.3
11131403	PRINCIPAL	< 0.3
11131420	STAFF LOUNGE	< 0.3

Table 2- Radon Testing Results			
Fields Rd. ES			
Test Period: 02/22/2022 - 02/25/2022			
Kit Number	QC Type	Room / Area	Result
11131415	D	103	< 0.3
11131402	D	108	< 0.3
11131423	FB	115	< 0.3
11131435	D	135	< 0.3
11131444	D	157	< 0.3
11131462	FB	160	< 0.3
11131454	D	172	0.7
11131478	D	125	< 0.3
11131468	FB	126	< 0.3
11139384	OB	OFFICE BLANK	< 0.3
11131222	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

March 3, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**FIELDS ROAD ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11131402	108	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131409	115	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03

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

Radon test result report for:
FIELDS ROAD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11131463	004	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131442	008	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	1.2 ± 0.5	2022-03-03
11131411	101	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131405	102	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131419	103	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131415	103	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131407	105	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131410	106	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131417	107	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131401	108	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131423	115	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131418	116	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131471	117	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131450	118	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131472	119	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131449	123	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131470	124	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131478	125	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131448	125	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131468	126	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131479	126	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131429	128	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131427	129	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	0.6 ± 0.5	2022-03-03
11131425	130	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131426	131	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131428	133	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131436	135	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131435	135	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131430	139	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	0.6 ± 0.4	2022-03-03
11131434	140	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131424	141	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131431	143	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131437	149	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131432	151	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131438	153	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131433	155	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131444	157	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03

March 3, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**FIELDS ROAD ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11131443	157	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131439	159	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131462	160	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131445	160	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131446	161	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131447	162	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131455	164	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131460	168	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	0.9 ± 0.5	2022-03-03
11131456	169	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131454	172	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	0.7 ± 0.5	2022-03-03
11131461	172	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131440	174	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131414	ASSISTANT PRINCIPAL	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131453	CAFETERIA	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131469	CAFETERIA	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	0.8 ± 0.5	2022-03-03
11131406	CONFERENCE ROOM	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131416	CONFERENCE ROOM MEDIA CENTER	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131404	COUNSELOR	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131464	GYM	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	1.8 ± 0.5	2022-03-03
11131441	GYM	2022-02-22 @ 10:00 am	2022-02-25 @ 9:00 am	1.1 ± 0.5	2022-03-03
11131413	HEALTH ROOM	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131412	MAIN OFFICE	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131421	MEDIA CENTER	2022-02-22 @ 9:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131422	MEDIA CENTER	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131408	MEDIA PTA	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03
11131403	PRINCIPAL	2022-02-22 @ 8:00 am	2022-02-25 @ 8:00 am	< 0.3	2022-03-03
11131420	STAFF LOUNGE	2022-02-22 @ 9:00 am	2022-02-25 @ 9:00 am	< 0.3	2022-03-03

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204186

NOMINAL Conditions: Radon Conc 25.8 pCi/L Rel. Hum 50.1 % 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 - Device No.'s: _____

11113484, 1112998, 20107126 _____

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 μ R/h Elevation = 820 ft

March 14, 2022

**** LABORATORY ANALYSIS REPORT ****

Pg 1 of 1

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

Kit 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



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. Dufief ES
2. Emory Grove Center
3. Fields Road ES
4. Forest Oak MS
5. Gaithersburg ES
6. Gaithersburg MS
7. Jones Lane ES
8. Rachel Carson ES
9. Rosemont ES
10. Shady Grove MS
11. Summit Hall ES
12. Washington Grove ES

	Date	Initials
Radon Test Kits Deployed	02/22/2022	PM
Radon Test Kits Collected	02/25/2022	PM
Radon Test Kits Shipped to Lab*	02/25/2022	PM
Radon Test Kits Received by Lab*	02/28/2022	PM

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



MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Fields Road Elementary School
Date of Report	2/28/2020
Round of Testing	Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	1
# 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: Retesting completed; no further action



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2/28/2020

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

Re: Radon Testing Services

KCI Job #1214634188

Location: Fields Road Elementary School

One School Drive
Gaithersburg, Maryland 20878

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Fields Road Elementary School, located at One School Drive in Gaithersburg, Maryland 20878 (subject site).

SCOPE OF SERVICES

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

KCI visited the site on 2/4/2020 and deployed four (4) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

1. Rooms with missing test kits from the December 2019 testing period (i.e. test kit was deployed but not recovered),

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

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

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

KCI returned to the site on 2/7/2020 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures ranged from the mid-30s to the low-50s; and high temperatures ranged from the upper-40s to the mid-60s. Maximum sustained winds ranged from 13-21 miles per hour. Average humidity was approximately 76%. A total of 1.09 Inches of rain were recorded during the testing period. The weather conditions during the testing period may have resulted in atypical radon test results for this facility.

RESULTS

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

Mr. Tyler P. McCleaf
Radon Measurement Provider
KCI Technologies, Inc.

Attachments:

A- Floor Plan with Test Locations

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

Floor Plan Legend

X-Sample Location (in red)

X- Previous Sample Location

1- Not Samled; No Ground Contact

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

3- Not Samled; High Humidity/Moisture

4- Not Samled; Bathroom/Hallway

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Fields Road Elementary School		
Test Period: 02/04/20-02/07/20		
Kit Number	Room / Area	Result
9348540	GYM 006	<0.3
9348546	GYM 006	<0.3
9334909	OFFICE BLANK	<0.3
9334910	OFFICE BLANK	<0.3

Table 2- Radon Testing Results			
Fields Road Elementary School			
Test Period: 02/04/20-02/07/20			
Kit Number	QC Type	Room / Area	Result
9334902	TRANSIT BLANK	NA	<0.3

ATTACHMENT C

Laboratory Analytical Results

February 11, 2020

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

FIELDS ROAD ES

566

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9348540	GYM 006	2020-02-04 @ 12:00 pm	2020-02-07 @ 9:00 am	< 0.3	2020-02-11
9348546	GYM 006	2020-02-04 @ 12:00 pm	2020-02-07 @ 9:00 am	< 0.3	2020-02-11

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 194523

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

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

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

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

9341725 thru 9341733 _____

52 Left

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

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

February 28, 2020

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341725	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	26.9 \pm 1.6	2020-02-26
9341730	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	26.1 \pm 1.6	2020-02-26
9341728	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	26.9 \pm 1.6	2020-02-26
9341726	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	25.8 \pm 1.5	2020-02-26
9341731	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	25.1 \pm 1.5	2020-02-26
9341729	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	26.2 \pm 1.6	2020-02-26
9341727	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	27.2 \pm 1.6	2020-02-26
9341732	N/A	2020-02-21 @ 8:00 am	2020-02-24 @ 8:00 am	27.3 \pm 1.6	2020-02-26

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



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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 2019 Week 1 Retesting

Name of Schools:

1. Belmont E.S.
2. Clarksburg H.S.
3. Damascus E.S.
4. Damascus H.S.
5. DuFief E.S.
6. Fields Road E.S.
7. Gaithersburg E.S.
8. McAuliffe E.S.
9. Quince Orchard H.S.
10. Snowden Farms E.S.
11. South Lake E.S.
12. Stone Mill E.S.
13. Travilah ES
14. Watkins Mill ES
15. Whitman H.S.

	Date	Initials
Radon Test Kits Deployed	02/03/20 to 02/04/20	TM
Radon Test Kits Collected	02/06/20 to 02/07/20	TM
Radon Test Kits Shipped to Lab*	02/07/20	TM
Radon Test Kits Received by Lab*	02/10/20	TM

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Fields Road Elementary School
Date of Report	1/28/2020
Round of Testing	Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	52
# 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 Complete; missing/compromised tests to be sampled.



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1/28/2020

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

Re: Radon Testing Services

KCI Job #12146341126

Location: Fields Road Elementary School

One School Drive
Gaithersburg, Maryland 20878

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Fields Road Elementary School, located at One School Drive in Gaithersburg, Maryland 20878 (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/departments/facilities/maintenance/default.aspx?id=458858> or www.epa.gov/radon.

KCI visited the site on 12/9/2019 and deployed sixty-four (64) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted sixty (60) test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on 12/12/2019 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the upper-30s and high temperatures ranged from the upper-30s to the mid-50s. Maximum sustained winds ranged from 7-21 miles per hour. Average humidity was around 75%. 0.52 inches of precipitation (rain) was recorded during the testing period.

RESULTS

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

Mr. Tyler P. McCleaf
Radon Measurement Provider
111004 RT

KCI Technologies, Inc.

Attachments:

A- Floor Plan with Test Locations

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Fields Road Elementary School		
Test Period: 12/9/2019-12/12/2019		
Kit Number	Room / Area	Result
9334831	172	< 0.3
9334832	101	< 0.3
9334833	108	< 0.3
9334834	109	< 0.3
9334837	105	< 0.3
9334838	106	< 0.3
9334840	109	0.6
9334841	LIBRARY	< 0.3
9334842	LIBRARY	0.6
9334843	139	< 0.3
9334844	130	< 0.3
9334845	107	< 0.3
9334846	102	< 0.3
9334847	141	0.6
9334848	140	< 0.3
9334849	139	< 0.3
9334851	131	< 0.3
9334852	135	< 0.3
9334853	131	< 0.3
9334854	153	< 0.3
9334855	157	< 0.3
9334856	155	< 0.3
9334857	151	< 0.3
9334858	149	< 0.3
9334859	142	< 0.3
9334860	174	< 0.3
9334861	APR 005	< 0.3
9334862	GYM	0.5
9334863	APR 005	< 0.3
9334864	124	< 0.3
9334865	126	< 0.3
9334866	125	< 0.3
9334867	123	< 0.3
9334868	106	< 0.3
9334869	1W8	0.5
9334870	103	< 0.3
9334871	119	< 0.3
9334872	118	< 0.3
9334873	117	< 0.3
9334874	116	< 0.3
9334875	115	< 0.3
9334876	104A	< 0.3
9334877	169	< 0.3
9334878	169	< 0.3
9334879	169	< 0.3
9334880	168	< 0.3
9334881	164	< 0.3
9334882	162	< 0.3
9334883	161	< 0.3
9334884	159	< 0.3

9334885	160	< 0.3
9334886	GYM OFFICE 005	< 0.3
9334887	171	< 0.3
9334889	100F CONF	< 0.3
9334890	ASSISTANT PRINCIPAL	< 0.3
9334891	100F CONF	< 0.3
9334892	100F CONF	< 0.3
9334893	PRINCIPAL OFFICE	< 0.3
9334894	MAIN OFFICE	0.5
9334895	100A WORK ROOM	< 0.3
9334896	100B	< 0.3
9334897	100I	< 0.3
9334898	100I	< 0.3
9334900	100I	< 0.3
9334511	OFFICE BLANK	<0.3
9334899	GYM 006	MISSING

Table 2- Radon Testing Results			
Fields Road Elementary School			
Test Period: 12/9/2019-12/12/2019			
Kit Number	QC Type	Room / Area	Result
9334891	D	100F CONF	<0.3
9334892	FB	100F CONF	<0.3
9334898	D	100I	<0.3
9334898	FB	100I	<0.3
9334878	D	169	<0.3
9334879	FB	169	<0.3
9334849	D	139	<0.3
9334840	D	109	0.6
9334868	D	106	<0.3
9334831	D	172	<0.3
9334850	TRANSIT BLANK	NA	< 0.3
9334914	TRANSIT BLANK	NA	< 0.3
9334916	TRANSIT BLANK	NA	< 0.3
9334963	TRANSIT BLANK	NA	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:
FIELDS ROAD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9334895	100A WORK ROOM	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334896	100B	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334889	100F CONF	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334892	100F CONF	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334891	100F CONF	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334900	100I	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334897	100I	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334898	100I	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334832	101	2019-12-09 @ 10:00 am	2019-12-12 @ 8:00 am	< 0.3	2019-12-17
9334846	102	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334870	103	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334876	104A	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334837	105	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334868	106	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334838	106	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334845	107	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334833	108	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334840	109	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	0.6 ± 0.4	2019-12-17
9334834	109	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334875	115	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334874	116	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334873	117	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334872	118	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334871	119	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334867	123	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334864	124	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334866	125	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334865	126	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334844	130	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334851	131	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334853	131	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334852	135	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334843	139	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334849	139	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334848	140	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334847	141	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	0.6 ± 0.4	2019-12-17
9334859	142	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17

Radon test result report for:**FIELDS ROAD ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9334858	149	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334857	151	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334854	153	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334856	155	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334855	157	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334884	159	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334885	160	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334883	161	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334882	162	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334881	164	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334880	168	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334878	169	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334879	169	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334877	169	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334887	171	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334831	172	2019-12-09 @ 10:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334860	174	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334869	1W8	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	0.5 ± 0.4	2019-12-17
9334863	APR 005	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334861	APR 005	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334890	ASSISTANT PRINCIPLE	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334862	GYM	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	0.5 ± 0.4	2019-12-17
9334886	GYM OFFICE 005	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334841	LIBRARY	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9334842	LIBRARY	2019-12-09 @ 9:00 am	2019-12-12 @ 9:00 am	0.6 ± 0.4	2019-12-17
9334894	MAIN OFFICE	2019-12-09 @ 8:00 am	2019-12-12 @ 8:00 am	0.5 ± 0.4	2019-12-17
9334893	PRINCIPLE OFFICE	2019-12-09 @ 8:00 am	2019-12-12 @ 9:00 am	< 0.3	2019-12-17

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 193475

NOMINAL Conditions: Radon Conc 25.7 pCi/L Rel. Hum 74.6 % Temp. 69.9 F

Date Start: 12/13/19 Date Stop: 12/16/19 Date Start: _____ Date Stop: _____
 Time Start: 0806 Time Stop: 0806 Time Start: _____ Time Stop: _____
 (Group 1)
 Device No.'s: (20) Char. Bags - Device No.'s: _____
9334502 thru 9334519,
9334514, 9334516, 9334517,
9334519, 9334519
9334522 thru 9334528
B4

Date Start: 12/13/19 Date Stop: 12/16/19 Date Start: _____ Date Stop: _____
0811
 Time Start: 0806 acm Time Stop: 0811 Time Start: _____ Time Stop: _____
 (Group 2)
 Device No.'s: (20) Char. Bags - Device No.'s: _____
9334529 thru 9334538,
9334540,
9334542 thru 9334550
B3

Date Start: 12/13/19 Date Stop: 12/16/19 Date Start: _____ Date Stop: _____
 Time Start: 0816 Time Stop: 0816 Time Start: _____ Time Stop: _____
 (Group 3)
 Device No.'s: (20) Char. Bags - Device No.'s: _____
9334551, 9334552, 9334562,
9334555 thru 9334559,
9334569, 9334576, 9334579,
9334580, 9334583, 9334584,
9334591, 9334593, 9334594,
9334597, 9334598, 9334599
B2

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

Radon test result report for:

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9334583	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.3 \pm 1.4	2019-12-18
9334529	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.3 \pm 1.5	2019-12-18
9334597	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.8 \pm 1.4	2019-12-18
9334534	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.3 \pm 1.4	2019-12-18
9334540	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.9 \pm 1.4	2019-12-18
9334546	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.9 \pm 1.5	2019-12-18
9334551	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.3 \pm 1.4	2019-12-18
9334558	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.6 \pm 1.4	2019-12-18
9334579	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.6 \pm 1.4	2019-12-18
9334593	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.3 \pm 1.4	2019-12-18
9334532	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.6 \pm 1.4	2019-12-18
9334537	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.8 \pm 1.4	2019-12-18
9334544	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.5 \pm 1.4	2019-12-18
9334549	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.4 \pm 1.5	2019-12-18
9334556	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.1 \pm 1.4	2019-12-18
9334569	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.7 \pm 1.4	2019-12-18
9334584	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.4 \pm 1.5	2019-12-18
9334530	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.6 \pm 1.4	2019-12-18
9334598	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.7 \pm 1.4	2019-12-18
9334535	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.0 \pm 1.4	2019-12-18
9334542	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.7 \pm 1.4	2019-12-18
9334547	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	25.2 \pm 1.5	2019-12-18
9334552	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.2 \pm 1.4	2019-12-18
9334559	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.1 \pm 1.4	2019-12-18
9334580	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.1 \pm 1.4	2019-12-18
9334594	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.1 \pm 1.4	2019-12-18
9334533	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.3 \pm 1.5	2019-12-18
9334538	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.6 \pm 1.5	2019-12-18
9334545	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.0 \pm 1.4	2019-12-18
9334550	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.1 \pm 1.4	2019-12-18
9334557	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.6 \pm 1.5	2019-12-18
9334576	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.3 \pm 1.4	2019-12-18
9334591	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.7 \pm 1.4	2019-12-18
9334531	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.3 \pm 1.5	2019-12-18
9334599	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.8 \pm 1.4	2019-12-18
9334536	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.4 \pm 1.5	2019-12-18
9334543	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.4 \pm 1.5	2019-12-18

December 18, 2019

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9334548	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.0 ± 1.4	2019-12-18
9334555	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.4 ± 1.4	2019-12-18
9334562	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.5 ± 1.4	2019-12-18

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

December 18, 2019

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

S

N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9334505	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.5 ± 1.5	2019-12-18
9334510	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.4 ± 1.5	2019-12-18
9334522	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.9 ± 1.4	2019-12-18
9334527	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	22.6 ± 1.4	2019-12-18
9334503	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.6 ± 1.4	2019-12-18
9334508	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.7 ± 1.5	2019-12-18
9334517	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.5 ± 1.4	2019-12-18
9334525	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.8 ± 1.4	2019-12-18
9334506	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.3 ± 1.5	2019-12-18
9334514	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.5 ± 1.5	2019-12-18
9334523	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.6 ± 1.4	2019-12-18
9334528	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.8 ± 1.4	2019-12-18
9334504	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.8 ± 1.4	2019-12-18
9334509	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.5 ± 1.4	2019-12-18
9334519	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.1 ± 1.4	2019-12-18
9334526	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.3 ± 1.4	2019-12-18
9334502	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	23.7 ± 1.4	2019-12-18
9334507	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.7 ± 1.5	2019-12-18
9334516	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	22.2 ± 1.3	2019-12-18
9334524	N/A	2019-12-13 @ 8:00 am	2019-12-16 @ 8:00 am	24.6 ± 1.5	2019-12-18



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS
Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon 2019 Week 1

Name of Schools:

- | | |
|-----------------------------|-------------------------|
| 1. Baker M.S. | 13. Jones Lane E.S. |
| 2. Belmont E.S. | 14. Lake Seneca E.S. |
| 3. Clarksburg E.S. | 15. McAuliffe E.S. |
| 4. Clarksburg H.S. | 16. Quince Orchard H.S. |
| 5. Clearspring E.S. | 17. Rosa Parks M.S. |
| 6. Damascus E.S. | 18. Snowden Farm E.S. |
| 7. Damascus H.S. | 19. South Lake E.S. |
| 8. Dufief E.S. | 20. Stone Mill E.S. |
| 9. Fields Road E.S. | 21. Travilah E.S. |
| 10. Gaithersburg E.S. | 22. Watkins Mill E.S. |
| 11. Germantown E.S. | 23. Watkins Mill H.S. |
| 12. Great Seneca Creek E.S. | 24. Whitman H.S. |

	Date	Initials
Radon Test Kits Deployed	12/09/19 to 12/10/19	JM
Radon Test Kits Collected	12/12/19 to 12/13/19	JM
Radon Test Kits Shipped to Lab*	12/13/19	JM
Radon Test Kits Received by Lab*	12/16/19	JM

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Fields Road Elementary School
Date of Report	March 9, 2018
Round of Testing	Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	3
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	0.7 pCi/L

Project Status

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



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 9, 2018

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

Re: Radon Testing Services

KCI Job #1214634188

Location: Fields Road Elementary School

One School Dr.
Gaithersburg, Maryland 20878

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Fields Road Elementary School, located at One School Dr. in Gaithersburg, Maryland 20878 (subject site).

SCOPE OF SERVICES

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

KCI visited the site on February 12, 2018 and deployed five (5) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

1. Rooms not successfully tested,
2. Rooms with elevated November 2017 results (i.e. ≥ 3.5 pCi/L).

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

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

KCI returned to the site on February 15, 2018 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures ranged from the mid-20s to upper 40s and high temperatures ranged from the high-30s to the high-60s. Maximum sustained winds ranged from 10-15 miles per hour. Average humidity was around 69%. 0.05 Inches of precipitation was recorded during the testing period.

RESULTS

The sampling locations and analytical results are listed on Table 1 (Attachment B). The quality control sample locations and analytical results are listed on Table 2 (Attachment B). The laboratory analytical results are included in Attachment C. Laboratory results and exposure data for the spike samples are also included in Attachment C.

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,



Radon Measurement Specialist
KCI Technologies, Inc.

Attachments:

B - Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Fields Road Elementary School		
Test Period: 02/12/18-02/15/18		
Kit Number	Room / Area	Result
7978900	109	< 0.3
7978882	KITCHEN	< 0.3
7194192	STAGE	0.7

Table Note:

* Missing or Compromised Sample

Table 2- Radon Testing Results		
Fields Road Elementary School		
Test Period: 02/12/18-02/15/18		
Kit Number	QC Type	Result
7978899	D (109)	< 0.3
7978898	FB (109)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 27, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**FIELDS ROAD ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978898	109	2018-02-12 @ 1:00 pm	2018-02-15 @ 10:00 am	< 0.3	2018-02-19
7978899	109	2018-02-12 @ 1:00 pm	2018-02-15 @ 10:00 am	< 0.3	2018-02-19
7978900	109	2018-02-12 @ 1:00 pm	2018-02-15 @ 10:00 am	< 0.3	2018-02-19
7978882	KITCHEN	2018-02-12 @ 1:00 pm	2018-02-15 @ 11:00 am	< 0.3	2018-02-19
7194192	STAGE	2018-02-12 @ 1:00 pm	2018-02-15 @ 11:00 am	0.7 ± 0.4	2018-02-19

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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon

Names of Schools:

- | | |
|--|--------------------------------------|
| 1. Highland Elementary School | 20. Bethesda Trans. and Maint. Depot |
| 2. Stephen Knolls Elementary School | 21. Sequoyah Elementary School |
| 3. Silver Creek Middle School | 22. Gaithersburg Middle School |
| 4. Woodlin Elementary School | 23. Wayside Elementary School |
| 5. Sligo Creek Elementary School | 24. Travilah Elementary School |
| 6. Francis Scott Key Middle School | 25. Damascus High School |
| 7. John T. Baker Middle School | 26. Jones Lane Elementary School |
| 8. Cedar Grove Elementary School | 27. Greencastle Elementary School |
| 9. Clarksburg Elementary School | 28. Spring Brook High School |
| 10. Clarksburg Elementary School Annex | 29. Montgomery Blair High School |
| 11. Fields Road Elementary School | 30. Watkins Mill High School |
| 12. Dufief Elementary School | |
| 13. Brown Station Elementary School | |
| 14. Diamond Elementary School | |
| 15. Fallsmeade Elementary School | |
| 16. Thomas Whootton High School | |
| 17. Lake Seneca Elementary School | |
| 18. Redland Middle School | |
| 19. Newport Mill Middle School | |

	Date	Initials
Radon Test Kits Deployed	2/12/18	JM
Radon Test Kits Collected	2/15/18	JM
Radon Test Kits Shipped to Lab*	2/15/18	JM
Radon Test Kits Received by Lab*	2/19/15	JM

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

February 27, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

OFFICE BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7979482	1	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986991	10	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985684	11	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986987	12	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986993	13	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986990	14	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7979485	2	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985686	3	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986995	4	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986989	5	2018-02-13 @ 1:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986998	6	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986986	7	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986985	8	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986997	9	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20

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

February 27, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRANSIT BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7984188	1	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7984044	10	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986582	11	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986999	12	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7987000	13	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7984196	14	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986996	2	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986994	3	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7986992	4	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985680	5	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985698	6	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985699	7	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985700	8	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20
7985872	9	2018-02-13 @ 2:00 pm	2018-02-16 @ 2:00 pm	< 0.3	2018-02-20

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

February 28, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within $\pm 25\%$ of the chamber's reference value (20.9 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7984181	1	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	19.7 ± 0.8	2018-02-21
7986621	2	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	19.4 ± 0.8	2018-02-21
7985683	3	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	19.5 ± 0.8	2018-02-21
7984168	4	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	20.5 ± 0.8	2018-02-21
7986618	5	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	19.9 ± 0.8	2018-02-21
7984169	6	2018-02-16 @ 11:00 am	2018-02-19 @ 11:00 am	20.4 ± 0.8	2018-02-21

Air Chek, Inc. 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 183530

NOMINAL Conditions: Radon Conc 20.9 pCi/L Rel. Hum 49.8 % Temp. 79.1 F

Date Start: <u>2/16/18</u> Date Stop: <u>2/19/18</u>	Date Start: _____ Date Stop: _____
Time Start: <u>1052</u> Time Stop: <u>1052</u>	Time Start: _____ Time Stop: _____
Device No.'s: <u>(6) Char. Bags-</u>	Device No.'s: _____
<u>7984181, 7986621, 7985683</u>	_____
<u>7984168, 7986618, 7984169</u>	_____
<u>G3 Middle</u>	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Fields Road Elementary School
Date of Report	February 1, 2018
Round of Testing	Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	52
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	1.8 pCi/L

Current Project Status at this time: Testing Completed; no further action at this time.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

February 1, 2018

Mr. Richard Cox, MS
Team Leader
Montgomery County Public Schools
Division of Maintenance
Rockville, Maryland 20855

Re: Radon Testing Services

KCI Job #1214694182

Location: Fields Road Elementary School

One School Dr.
Gaithersburg, Maryland 20878

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Fields Road Elementary School, located at One School Dr. in Gaithersburg, Maryland 20878 (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 December 4, 2017 and deployed sixty-one (61) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Appendix A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to

Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on December 7, 2017 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the high-20s to mid-40s and high temperatures ranged from the low-40s to mid-50s. Maximum sustained winds ranged from 12-17 miles per hour. Average humidity was around 65%. 0.16 Inches of precipitation was recorded during the testing period.

RESULTS

The sampling locations, field observations, 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). Missing/compromised tests, missed rooms, and locked rooms are listed on Table 3 (Attachment B). The laboratory

analytical results are included in Attachment C. Laboratory results and exposure data for the spike samples are also included in Attachment C.

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,



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

Attachments:

B- Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

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		
Fields Rd Elementary School		
Test Period: 12/04/17-12/07/17		
Kit Number	Room / Area	Result
7985975	5	1.0
7985976	5	0.6
7985977	6	1.2
7985978	6	1.8
7985958	8	1.1
7978759	100	< 0.3
7985953	101	< 0.3
7985957	102	< 0.3
7985979	103	< 0.3
7978714	104	0.6
7978715	104	< 0.3
7985961	105	< 0.3
7985980	106	< 0.3
7985960	107	< 0.3
7985962	108	0.7
7978740	115	< 0.3
7978716	116	< 0.3
7978741	117	0.5
7978713	118	< 0.3
7978746	119	< 0.3
7978734	123	< 0.3
7978723	124	< 0.3
7978738	125	< 0.3
7978737	126	< 0.3
7978747	128	< 0.3
7985999	129	< 0.3
7978739	130	< 0.3
7986000	131	< 0.3
7985956	133	< 0.3
7985982	135	< 0.3
7985986	139	< 0.3
7985984	140	0.6
7985985	141	< 0.3
7985993	143	< 0.3
7985992	149	< 0.3
7985991	151	0.5
7985989	153	0.6
7985996	155	< 0.3
7985983	157	< 0.3
7985995	159	0.8
7985988	160	0.6
7985998	161	< 0.3
7985987	162	< 0.3
7985997	164	0.6
7985959	168	< 0.3
7985971	169	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Fields Rd Elementary School		
Test Period: 12/04/17-12/07/17		
Kit Number	Room / Area	Result
7985994	172	< 0.3
7985990	174	0.9
7985925	100A	0.5
7985906	100B	< 0.3
7978768	100F	< 0.3
7978677	100G	< 0.3
7978767	100H	< 0.3
7978760	100I	< 0.3
7978765	104A	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Fields Rd Elementary School		
Test Period: 12/04/17-12/07/17		
Kit Number	QC Type	Result
7985907	D (100A)	< 0.3
7985908	D (100B)	< 0.3
7978766	D (104A)	< 0.3
7985981	D (133)	0.8
7978745	FB (119)	< 0.3
7979050	OB (OFFICE BLANK)	< 0.3

Table Note:

* Missing or Compromised Sample

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ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**FIELDS RD ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978759	100	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-12
7985907	100A	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7985925	100A	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	0.5 ± 0.3	2017-12-11
7985908	100B	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7985906	100B	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978768	100F	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978677	100G	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978767	100H	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978760	100I	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7985953	101	2017-12-04 @ 4:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985957	102	2017-12-04 @ 4:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-12
7985979	103	2017-12-04 @ 4:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-12
7978714	104	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	0.6 ± 0.3	2017-12-11
7978715	104	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978765	104A	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978766	104A	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7985961	105	2017-12-04 @ 4:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985980	106	2017-12-04 @ 4:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985960	107	2017-12-04 @ 4:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985962	108	2017-12-04 @ 4:00 pm	2017-12-07 @ 9:00 am	0.7 ± 0.3	2017-12-11
7978740	115	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7978716	116	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7978741	117	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	0.5 ± 0.4	2017-12-12
7978713	118	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978745	119	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978746	119	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978734	123	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978723	124	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978738	125	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978737	126	2017-12-04 @ 2:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7978747	128	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985999	129	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7978739	130	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-12
7986000	131	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985956	133	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985981	133	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	0.8 ± 0.4	2017-12-12
7985982	135	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11

Radon test result report for:**FIELDS RD ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7985986	139	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985984	140	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	0.6 ± 0.3	2017-12-11
7985985	141	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985993	143	2017-12-04 @ 3:00 pm	2017-12-07 @ 9:00 am	< 0.3	2017-12-11
7985992	149	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-12
7985991	151	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	0.5 ± 0.4	2017-12-12
7985989	153	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	0.6 ± 0.4	2017-12-12
7985996	155	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7985983	157	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-12
7985995	159	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	0.8 ± 0.4	2017-12-12
7985988	160	2017-12-04 @ 3:00 pm	2017-12-07 @ 10:00 am	0.6 ± 0.3	2017-12-12
7985998	161	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-12
7985987	162	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7985997	164	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	0.6 ± 0.3	2017-12-11
7985959	168	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7985971	169	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-12
7985994	172	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	< 0.3	2017-12-11
7985990	174	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	0.9 ± 0.3	2017-12-11
7985975	5	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	1.0 ± 0.3	2017-12-11
7985976	5	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	0.6 ± 0.3	2017-12-11
7985978	6	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	1.8 ± 0.4	2017-12-11
7985977	6	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	1.2 ± 0.4	2017-12-12
7985958	8	2017-12-04 @ 4:00 pm	2017-12-07 @ 10:00 am	1.1 ± 0.4	2017-12-11
7979050	OFFICE BLANK	2017-12-04 @ 1:00 pm	2017-12-07 @ 1:00 pm	< 0.3	2017-12-11



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase

Names of Schools:

- | | |
|---------------------------------------|----------------------------------|
| 1. Brooke Grove Elementary School | 14. Newport Mill Middle School |
| 2. Brown Station Elementary School | 15. Oakview Elementary School |
| 3. Diamond Elementary School Addition | 16. Quince Orchard High School |
| 4. Dufief Elementary School | 17. Robert Frost Middle School |
| 5. Emory Grove Center | 18. Rosa Parks Middle School |
| 6. Fields Road Elementary School | 19. South Lake Elementary School |
| 7. Facilities Maintenance Depot | |
| 8. Forest Oak Middle School | |
| 9. Francis Scott Key Middle School | |
| 10. Gaithersburg Elementary School | |
| 11. Gaithersburg Middle School | |
| 12. Germantown Elementary School | |
| 13. Greenwood Elementary School | |
| 14. Jones Lane Elementary School | |

	Date	Initials
Radon Test Kits Deployed	12/04/17	JM
Radon Test Kits Collected	12/07/17	JM
Radon Test Kits Shipped to Lab*	12/07/17	JM
Radon Test Kits Received by Lab*	12/11/17	JM

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

Radon test result report for:**TRANSIT 1****NONE**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978062	TRANSIT 1	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975804	TRANSIT 10	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7977990	TRANSIT 11	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978201	TRANSIT 12	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978203	TRANSIT 13	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978206	TRANSIT 14	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978246	TRANSIT 15	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978239	TRANSIT 16	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978226	TRANSIT 17	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975078	TRANSIT 18	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975077	TRANSIT 19	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978074	TRANSIT 2	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975076	TRANSIT 20	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975684	TRANSIT 21	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975683	TRANSIT 22	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975601	TRANSIT 23	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978011	TRANSIT 24	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978012	TRANSIT 25	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978094	TRANSIT 26	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975624	TRANSIT 27	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7834562	TRANSIT 28	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7977995	TRANSIT 29	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978098	TRANSIT 3	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7977992	TRANSIT 30	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978719	TRANSIT 4	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978732	TRANSIT 5	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978731	TRANSIT 6	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975806	TRANSIT 7	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975815	TRANSIT 8	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975805	TRANSIT 9	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04

December 19, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within $\pm 25\%$ of the chamber's reference value (27.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7975075	S1	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	25.6 \pm 0.7	2017-12-07
7975064	S2	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	27.4 \pm 0.8	2017-12-07
7975063	S3	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	26.3 \pm 0.7	2017-12-07
7975065	S4	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	23.0 \pm 0.7	2017-12-07
7975069	S5	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	25.6 \pm 0.7	2017-12-07
7975070	S6	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	23.0 \pm 0.7	2017-12-07

Air Chek, Inc. 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 182393

NOMINAL Conditions: Radon Conc 27.7 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/1/17 Date Stop: 12/4/17 Date Start: _____ Date Stop: _____

Time Start: 1049 Time Stop: 1049 Time Start: _____ Time Stop: _____

Device No.'s: (6) Chan. Bags. Device No.'s: _____

7975075, 7975064, 7975063, _____

7975065, 7975069, 7975070 _____

F4 Right

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

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



MCPS RADON TESTING

Executive Summary: Fields Road Elementary School

Date of Test Report:	11/28/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	3
# Rooms \geq 4.0 pCi/L:	0
Low Value:	0.6
High Value:	2.1

Project Status:

Post remediation 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

November 28, 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 # 12146341.60

Location: Fields Road Elementary School
1 School Drive
Gaithersburg, MD 20878

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 Fields Road Elementary School, located at 1 School Drive in Gaithersburg, Maryland 20878 (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 November 15, 2016 and deployed four (4) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. 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 three (3) 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 November 18, 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:

- Post-mitigation testing for radon mitigation systems installed recently

These tests were conducted to:

- Confirm the success of the mitigation system(s)

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 30s and high temperatures ranged from 60-70. Maximum sustained winds ranged from 8-14 miles per hour. Average humidity was around 65%. No precipitation was recorded during the testing period.

Results:

The results of the radon test analysis indicated the following:

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

Notes:

D- Duplicate sample

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

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

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this

report, please feel free to contact me at (410) 316-7800.

Sincerely,



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

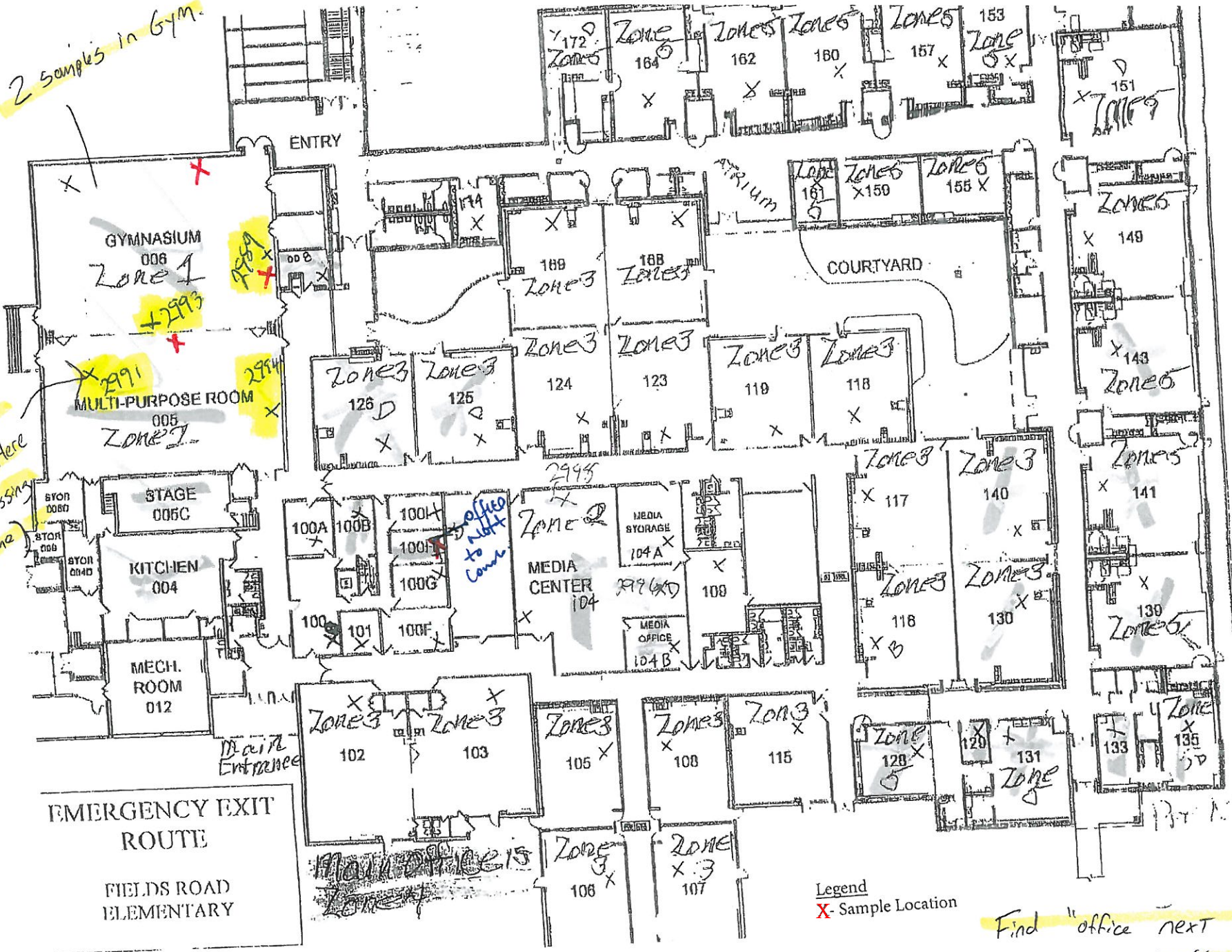
Attachments: A- Floor Plan with Test Locations
 B- Table 1-Radon Test Summary Spreadsheet
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

2 samples in Gym.

Sample MPR Here
was missing
last time



ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Fields Rd Elementary School		
Test Period: 11/15/16-11/18/16		
Kit Number	Room / Area	Result
7826525	6	2.1
7826526	6	1.8
7826527	MPR	0.8
7826528	OFF NXT COUNSELOR	0.6

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

November 22, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**FIELDS RD ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7826525	6	2016-11-15 @ 12:00 pm	2016-11-18 @ 11:00 am	2.1 ± 0.3	2016-11-21
7826526	6	2016-11-15 @ 12:00 pm	2016-11-18 @ 11:00 am	1.8 ± 0.3	2016-11-21
7826527	MPR	2016-11-15 @ 12:00 pm	2016-11-18 @ 11:00 am	0.8 ± 0.3	2016-11-21
7826528	OFF NXT COUNSELO	2016-11-15 @ 12:00 pm	2016-11-18 @ 11:00 am	0.6 ± 0.3	2016-11-21

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

November 22, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS Radon

Phase 19 BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802909	OFFICE	2016-11-11 @ 10:00 am	2016-11-14 @ 10:00 am	< 0.3	2016-11-16
7802910	TRANSIT	2016-11-11 @ 10:00 am	2016-11-14 @ 10:00 am	< 0.3	2016-11-16

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

November 22, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS Radon

Spike Sample Results

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802912	1	2016-11-11 @ 10:00 am	2016-11-14 @ 10:00 am	23.5 ± 0.8	2016-11-16
7802913	2	2016-11-11 @ 10:00 am	2016-11-14 @ 10:00 am	23.0 ± 0.8	2016-11-16
7802911	3	2016-11-11 @ 10:00 am	2016-11-14 @ 10:00 am	25.6 ± 0.9	2016-11-16

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 177376

NOMINAL Conditions: Radon Conc 26.3 pCi/L Rel. Hum 59.1 % Temp. 29.0 F

Date Start: 11/11/16 Date Stop: 11/14/16 Date Start: _____ Date Stop: _____

Time Start: 0958 Time Stop: 0958 Time Start: _____ Time Stop: _____

Device No.'s: (3) Char. Bags - Device No.'s: _____

7802911 thro 7802913

GS Middle

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

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



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Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 19

Names of Schools:

1. Wood Acres Elementary School
2. Walt Whitman High School
3. East Silver Spring Elementary School

	Date	Initials
Radon Test Kits Deployed	11/14/16	JM
Radon Test Kits Collected	11/17/16	JM
Radon Test Kits Shipped to Lab*	11/18/16	JM
Radon Test Kits Received by Lab*	11/21/16	JM

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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 19

Names of Schools:

1. Montgomery Blair High School
2. Springbrook High School
3. Sligo Middle School
4. Einstein High School
5. John F. Kennedy High School
6. Blair Ewing Center
7. Rock Terrace School
8. Thomas Wootton High School
9. Fields Road Elementary School

	Date	Initials
Radon Test Kits Deployed	11/15/16	JM
Radon Test Kits Collected	11/18/16	JM
Radon Test Kits Shipped to Lab*	11/18/16	JM
Radon Test Kits Received by Lab*	11/21/16	JM

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



MCPS RADON TESTING

Executive Summary: Fields Road Elementary School

Date of Test Report:	10/19/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	22
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.2

Project Status:

Post remediation 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: Fields Road Elementary School
1 School Drive
Gaithersburg, MD 20878

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 Fields Road Elementary School, located at 1 School Drive in Gaithersburg, Maryland 20878 (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 twenty-seven (27) 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:

- Post-mitigation testing for radon mitigation systems installed recently.

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

- Confirm the success of the mitigation system(s).

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 pCi/L	none	n/a
<4.0 pCi/L	See Attachment B	

Notes:

D- Duplicate sample

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

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

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

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Fields Rd Elementary School		
Test Period: 09/27/16-09/30/16		
Kit Number	Room / Area	Result
7802992	8	< 0.3
7802998	104	< 0.3
7802996	104	< 0.3
7802986	125	< 0.3
7802972	126	< 0.3
7802981	128	< 0.3
7802979	130	1.2
7802971	131	0.9
7802987	133	0.5
7802988	135	0.6
7802985	139	< 0.3
7802980	140	1.0
7803000	141	< 0.3
7802999	143	< 0.3
7802997	005C (Stage)	< 0.3
7802995	100B	< 0.3
7802963	100H	< 0.3
7802684	104A (Media Office)	< 0.3
7802601	104B (Media Office)	< 0.3
7802695	4 (Kitchen)	0.7
7802989	* 6 (Missing)	-
7802993	* 6 (Missing)	-
7802994	MPR	0.6
7802991	* MPR (Missing)	-
7802982	Rm 129	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Fields Rd Elementary School		
Test Period: 09/27/16-09/30/16		
Kit Number	QC Type	Result
7802983	D (100H)	< 0.3
7802978	D (126)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**FIELDS RD ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802997	005C	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802995	100B	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802963	100H	2016-09-27 @ 4:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802983	100H	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802998	104	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802996	104	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802684	104A	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802601	104B	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802986	125	2016-09-27 @ 4:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802972	126	2016-09-27 @ 4:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802978	126	2016-09-27 @ 4:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802981	128	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802982	129	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802979	130	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	1.2 ± 0.3	2016-10-03
7802971	131	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	0.9 ± 0.3	2016-10-03
7802987	133	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	0.5 ± 0.2	2016-10-03
7802988	135	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	0.6 ± 0.2	2016-10-03
7802985	139	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802980	140	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	1.0 ± 0.3	2016-10-03
7803000	141	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802999	143	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03
7802695	4	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	0.7 ± 0.2	2016-10-03
7802991	MPR	@	@		
7802994	MPR	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	0.6 ± 0.2	2016-10-03
7802993	6	@	@		
7802989	6	@	@		
7802992	8	2016-09-27 @ 5:00 pm	2016-09-30 @ 1:00 pm	< 0.3	2016-10-03

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

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:

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

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

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. 70.0 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 μ R/h Elevation = 820 ft



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 18

Name of Schools:

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



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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 Phase 18

Name of Schools:

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

RADON SCREENING SURVEY – FOLLOW-UP FIELDS ROAD ELEMENTARY SCHOOL

1 School Drive, Gaithersburg, Maryland 20878

EXECUTIVE SUMMARY

Date of Test Report:	3/22/16 (Follow-Up)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	18
# Rooms \geq 4.0 pCi/L:	7
Low Value:	0.9
High Value:	8.2
Confirmed Rooms \geq 4.0 pCi/L US EPA Action Level	8

Summary of Sampling Events \geq 4.0 pCi/L

Room	Result (pCi/L) 2/9/16 Initial	Result (pCi/L) 3/22/16 Follow-Up	Average Result (pCi/L)
135	12.9	7.8	10.4
133	10.8	8.2	9.5
126	9.2	7.3	8.3
8	8.7	3.1	5.9
131	7.7	6.4	7.1
6	7.5	4.5	6.0
129	4.6	4.9	4.8
139	4.6	2.4	3.5
104	4.5	4.1	4.3
109	1.3 Tampered	1.2	1.3
128	4.5 Tampered	2.9	3.7
168	--- Missing	0.9	0.9
151	1.9 Tampered	1.3	1.6
MPR (5)	3.8	3.3	3.6
MPR (5)	3.4	2.8	3.1
100B	3.4	1.8	2.6
100H	3.3	1.7	2.5
125	3.6	1.7	2.7
141	3.8	2.3	3.1



MCPS RADON TESTING

Executive Summary: Fields Road Elementary School

Date of Test Report:	3/22/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	18
# Rooms \geq 4.0 pCi/L:	7
Low Value:	0.9
High Value:	8.2

Rooms with results \geq 4.0 pCi/L:

133 (8.2 pCi/L), 135 (7.8 pCi/L), 126 (7.3 pCi/L), 131 (6.4 pCi/L), 129 (4.9 pCi/L), 6 (4.3 and 4.5 pCi/L),
104 (4.1 pCi/L)

Project Status:

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



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March 22, 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 # 12146341.30

Location: Fields Road Elementary School
1 School Drive
Gaithersburg, MD 20878

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 Fields Road Elementary School, located at 1 School Drive in Gaithersburg, Maryland 20878 (subject site).

Scope of Services:

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

KCI visited the site on February 29, 2016 and deployed twenty-three (23) 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 March 3, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler

Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	133	8.2
	135	6.4, 7.8 (D)
	126	7.3
	131	6.4
	129	4.9
	6	4.5, 4.3
	104	4.1
< 4.0 pCi/L	See Attachment B	

Notes:

D- Duplicate sample

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

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

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this

report, please feel free to contact me at (410) 316-7800.

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 10 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
Fields Road Elementary School		
Test Period: 02/29/16-03/03/16		
Kit Number	Room / Area	Result
7719186	5	3.3
7731149	5	2.8
7729862	6	4.5
7731417	6	4.3
7729858	8	3.1
7729861	104	4.1
7732200	109	1.2
7719495	125	1.7
7729902	126	7.3
7729901	128	2.9
7719493	129	4.9
7717382	131	6.4
7729920	133	8.2
7731170	135	6.4
7731412	139	2.4
7731411	141	2.3
7729863	151	1.3
7729856	168	0.9
7731150	100B	1.8
7729903	100H	1.7

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Fields Road Elementary School		
Test Period: 02/29/16-03/03/16		
Kit Number	QC Type	Result
7731171	D (100H)	1.4
7729906	D (135)	7.8
7731419	FB (133)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 16, 2016
**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

**FIELDS ROAD ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7731150	100B	2016-02-29 @ 11:00 am	2016-03-03 @ 9:00 am	1.8 ± 0.4	2016-03-07
7729903	100H	2016-02-29 @ 11:00 am	2016-03-03 @ 9:00 am	1.7 ± 0.4	2016-03-07
7731171	100H	2016-02-29 @ 11:00 am	2016-03-03 @ 9:00 am	1.4 ± 0.4	2016-03-07
7729861	104	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	4.1 ± 0.5	2016-03-07
7732200	109	2016-02-29 @ 11:00 am	2016-03-03 @ 9:00 am	1.2 ± 0.3	2016-03-07
7719495	125	2016-02-29 @ 11:00 am	2016-03-03 @ 9:00 am	1.7 ± 0.4	2016-03-07
7729902	126	2016-02-29 @ 11:00 am	2016-03-03 @ 9:00 am	7.3 ± 0.7	2016-03-07
7729901	128	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	2.9 ± 0.5	2016-03-07
7719493	129	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	4.9 ± 0.6	2016-03-07
7717382	131	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	6.4 ± 0.7	2016-03-07
7729920	133	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	8.2 ± 0.8	2016-03-07
7731419	133	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	< 0.3	2016-03-07
7729906	135	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	7.8 ± 0.8	2016-03-07
7731170	135	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	6.4 ± 0.7	2016-03-07
7731412	139	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	2.4 ± 0.4	2016-03-07
7731411	141	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	2.3 ± 0.4	2016-03-07
7729863	151	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	1.3 ± 0.4	2016-03-07
7729856	168	2016-02-29 @ 11:00 am	2016-03-03 @ 10:00 am	0.9 ± 0.3	2016-03-07
7719186	5	2016-02-29 @ 11:00 am	2016-03-03 @ 9:00 am	3.3 ± 0.5	2016-03-07
7731149	5	2016-02-29 @ 11:00 am	2016-03-03 @ 9:00 am	2.8 ± 0.4	2016-03-07
7729862	6	2016-02-29 @ 12:00 pm	2016-03-03 @ 9:00 am	4.5 ± 0.6	2016-03-07
7731417	6	2016-02-29 @ 12:00 pm	2016-03-03 @ 9:00 am	4.3 ± 0.6	2016-03-07
7729858	8	2016-02-29 @ 12:00 pm	2016-03-03 @ 9:00 am	3.1 ± 0.5	2016-03-07

March 16, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**MCPS Radon
Phase 10 Office Blanks**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7726881	0	2016-02-29 @ 12:00 pm	2016-03-03 @ 12:00 pm	< 0.3	2016-03-07
7735197	0	2016-02-29 @ 12:00 pm	2016-03-03 @ 12:00 pm	< 0.3	2016-03-07

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

March 22, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**TRANSIT - PHASE 10 & 11
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7735300	1	2016-03-18 @ 4:00 pm	2016-03-21 @ 4:00 pm	< 0.3	2016-03-22
7735296	2	2016-03-18 @ 4:00 pm	2016-03-21 @ 4:00 pm	< 0.3	2016-03-22
7735294	3	2016-03-18 @ 4:00 pm	2016-03-21 @ 4:00 pm	< 0.3	2016-03-22

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

February
15,
2016

**** LABORATORY ANALYSIS
REPORT ****

Spike Sample Laboratory Results

Radon test result report for:
MCPS

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

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

Date Start: 11/30/16 Date Stop: 2/1/16

Date Start: _____ Date Stop: _____

Time Start: 0926 Time Stop: 0926

Time Start: _____ Time Stop: _____

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

Device No.'s: _____

7718281, 7718282, 7718291,

7718288, 7718289, 7718273

3 Left

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

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



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Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 10

Name of Schools:

1. Clarksburg Annex
2. Gaithersburg HS
3. Garrett Park Annex
4. Fields Road ES
5. Whitman HS
6. Rockview ES
7. Whittier Woods
8. Roscoe Nix ES
9. Clearspring ES
10. Key MS

	Date	Initials
Radon Test Kits Deployed	2/29/16	JM
Radon Test Kits Collected	3/3/16	JM
Radon Test Kits Shipped to Lab*	3/3/16	JM
Radon Test Kits Received by Lab*	3/7/16	JM

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



MCPS RADON TESTING

Executive Summary: Fields Road Elementary School

Date of Test Report:	2/9/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	58
# Rooms ≥ 4.0 pCi/L:	10
Low Value:	<0.3
High Value:	12.9

Rooms with results ≥ 4.0 pCi/L:

Room 135 (12.9 pCi/L), Room 133 (10.8 pCi/L), Room 126 (9.2 pCi/L); Room 8 (8.7 pCi/L);
Room 131 (7.7 pCi/L); Room 6 (7.5 pCi/L); Room 129 (4.6 pCi/L);
Room 139 (4.6 pCi/L); Room 104 (4.5 pCi/L); Room 128 (4.5 pCi/L)

Project Status:

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



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February 9, 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 # 12146341.24

Location: Fields Road Elementary School
1 School Drive
Gaithersburg, MD 20878

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 Fields Road Elementary School, located at 1 School Drive in Gaithersburg, Maryland 20878 (subject site).

Scope of Services:

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

KCI visited the site on January 11, 2016 and deployed seventy-three (73) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

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

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result (pCi/L)
≥ 4.0 pCi/L	135	12.9(D), 11.0
	133	10.8
	126	9.2
	8	8.7
	131	7.7
	6	7.5
	129	4.6
	139	4.6
	104	4.5
	128	4.5
< 4.0 pCi/L	See Attachment B	

Notes:

D- Duplicate sample

All 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,



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

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

ATTACHMENT 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		
Fields Road Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	Room / Area	Result
7714412	6	7.5
7714448	6	7.5
7714408	8	8.7
7714446	100	1.9
7714426	101	1.7
7714427	102	1.1
7714437	103	0.7
7714404	104	4.5
7714423	105	< 0.3
7711588	106	< 0.3
7711571	107	1.7
7707925	108	< 0.3
7714435	115	0.9
7715015	116	1.2
7719305	116	1.3
7711581	117	0.9
7707926	118	< 0.3
7711547	119	0.6
7714440	123	1.4
7714413	124	1.7
7714439	125	3.3
7714422	126	9.2
7719302	129	4.6
7719309	130	2.2
7714419	130	2.4
7719315	131	7.7
7719316	133	10.8
7719311	135	11
7714441	139	4.6
7714424	140	2.3
7714443	141	3.8
7714416	143	3.2
7714410	149	3.1
7714445	151	1.9
7711606	153	2
7711624	155	3
7714420	157	1.9
7711613	159	2.9
7714438	160	1.7
7714968	161	2.3
7714451	162	1.7
7714449	164	1.4
7714407	169	1.8
7714434	172	1.7
7714444	174	2.7
7719314	1046	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Fields Road Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	Room / Area	Result
7719307	1047	< 0.3
7719318	1048	< 0.3
7719317	1078	< 0.3
7714414	005 MPR	3.8
7714447	005 MPR	3.4
7711556	100A	2.7
7714417	100B	3.4
7711628	100F	1.9
7714425	100G	2.6
7711551	100H	3.3
7711620	100I	2.6
7714436	104A	2.3
7714415	104B	2.4
7714418	* 109 (Tampered)	1.3
7719303	* 128 (Tampered)	4.5
7714442	* 168 (Missing)	0

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Fields Road Elementary School		
Test Period: 01/11/16-01/14/16		
Kit Number	QC Type	Result
7719319	D (100A)	2.4
7714453	D (104)	3.4
7719301	D (1047)	< 0.3
7711583	D (125)	3.6
7719306	D (135)	12.9
7714421	* D (151: Tampered)	1.9
7714450	D (172)	1
7714409	FB (100)	< 0.3
7719308	FB (100A)	< 0.3
7714411	FB (116)	< 0.3
7719392	OB (0)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

**FIELDS ROAD ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719392	0	2016-01-11 @ 4:00 pm	2016-01-14 @ 4:00 pm	< 0.3	2016-01-19
7714414	005 MPR	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	3.8 ± 0.5	2016-01-19
7714447	005 MPR	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	3.4 ± 0.5	2016-01-19
7714409	100	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-19
7714446	100	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	1.9 ± 0.4	2016-01-19
7719308	100A	2016-01-11 @ 12:00 pm	2016-01-14 @ 9:00 am	< 0.3	2016-01-19
7719319	100A	2016-01-11 @ 12:00 pm	2016-01-14 @ 9:00 am	2.4 ± 0.4	2016-01-19
7711556	100A	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	2.7 ± 0.4	2016-01-19
7714417	100B	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	3.4 ± 0.5	2016-01-19
7711628	100F	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	1.9 ± 0.4	2016-01-19
7714425	100G	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	2.6 ± 0.4	2016-01-19
7711551	100H	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	3.3 ± 0.5	2016-01-19
7711620	100I	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	2.6 ± 0.4	2016-01-19
7714426	101	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	1.7 ± 0.4	2016-01-19
7714427	102	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	1.1 ± 0.4	2016-01-19
7714437	103	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	0.7 ± 0.3	2016-01-19
7714453	104	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	3.4 ± 0.5	2016-01-19
7714404	104	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	4.5 ± 0.6	2016-01-19
7714436	104A	2016-01-11 @ 9:00 am	2016-01-14 @ 9:00 am	2.3 ± 0.4	2016-01-19
7714415	104B	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	2.4 ± 0.4	2016-01-19
7714423	105	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-19
7711588	106	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-19
7711571	107	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.7 ± 0.4	2016-01-19
7707925	108	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-19
7714418	109	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.3 ± 0.3	2016-01-19
7714435	115	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.9 ± 0.3	2016-01-19
7715015	116	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.2 ± 0.3	2016-01-19
7719305	116	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	1.3 ± 0.3	2016-01-19
7714411	116	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-19
7711581	117	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.9 ± 0.3	2016-01-19
7707926	118	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-19
7711547	119	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.6 ± 0.3	2016-01-19
7714440	123	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.4 ± 0.4	2016-01-19
7714413	124	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.7 ± 0.4	2016-01-19
7711583	125	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	3.6 ± 0.5	2016-01-19
7714439	125	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	3.3 ± 0.5	2016-01-19
7714422	126	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	9.2 ± 0.8	2016-01-19

February 4, 2016
****LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**FIELDS ROAD ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719303	128	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	4.5 ± 0.5	2016-01-19
7719302	129	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	4.6 ± 0.5	2016-01-19
7719309	130	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	2.2 ± 0.4	2016-01-19
7714419	130	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	2.4 ± 0.4	2016-01-19
7719315	131	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	7.7 ± 0.7	2016-01-19
7719316	133	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	10.8 ± 0.9	2016-01-19
7719306	135	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	12.9 ± 1.0	2016-01-19
7719311	135	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	11.0 ± 0.9	2016-01-19
7714441	139	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	4.6 ± 0.5	2016-01-19
7714424	140	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	2.3 ± 0.4	2016-01-19
7714443	141	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	3.8 ± 0.5	2016-01-19
7714416	143	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	3.2 ± 0.4	2016-01-19
7714410	149	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	3.1 ± 0.5	2016-01-19
7714421	151	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	1.9 ± 0.4	2016-01-19
7714445	151	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.9 ± 0.4	2016-01-19
7711606	153	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	2.0 ± 0.4	2016-01-19
7711624	155	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	3.0 ± 0.5	2016-01-19
7714420	157	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.9 ± 0.4	2016-01-19
7711613	159	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	2.9 ± 0.4	2016-01-19
7714438	160	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.7 ± 0.3	2016-01-18
7714968	161	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	2.3 ± 0.4	2016-01-19
7714451	162	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.7 ± 0.4	2016-01-19
7714449	164	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.4 ± 0.3	2016-01-19
7714442	168	@	@		
7714407	169	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.8 ± 0.4	2016-01-19
7714450	172	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.0 ± 0.3	2016-01-19
7714434	172	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	1.7 ± 0.4	2016-01-19
7714444	174	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	2.7 ± 0.4	2016-01-19
7714448	6	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	7.5 ± 0.8	2016-01-19
7714412	6	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	7.5 ± 0.7	2016-01-19
7714408	8	2016-01-11 @ 10:00 am	2016-01-14 @ 10:00 am	8.7 ± 0.8	2016-01-19

February 4, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**FIELDS ROAD ELEMENTARY SCHOOL
PORTABLE**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719314	1046	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-19
7719301	1047	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-18
7719307	1047	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-19
7719318	1048	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-19
7719317	1078	2016-01-11 @ 11:00 am	2016-01-14 @ 10:00 am	< 0.3	2016-01-19

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

February 2, 2016
**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**MCPS PHASE 5 & 6
TRANSIT BLANKS**

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

December
23,
2015

****LABORATORY ANALYSIS
REPORT ****

Spike Sample Laboratory Results

Radon test result report for:
MCPS

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173224

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

Date Start: 12/18/15 Date Stop: 12/21/15 Date Start: _____ Date Stop: _____

Time Start: 0929 Time Stop: 0929 Time Start: _____ Time Stop: _____

Device No.'s: 7705132, 7706208, Device No.'s: _____

7706211, 7706366, _____

7706380, 7706381 _____

F3 Left

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

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

Device No.'s: _____ Device No.'s: _____

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



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Chain of Custody

Project Name: MCPS Radon Phase V

Name of Schools:

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

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

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