School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Viers Mill Elementary School
Address:	11711 Joseph Mill Rd.
	Silver Spring, MD 20906
Reason for Testing:	Scheduled Re-Testing - ☒ 2-year or ☐ 5-year schedule ☐ Clearance Testing (Post-Mitigation) ☐ Building Envelope or HVAC Upgrades ☐ New Construction – Addition or Facility
Current Radon Status:	☒ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested (New Facility)
Round of Testing:	☒ Initial Testing **-or-** ☐ Follow-up Testing
Testing Status:	☒ No Further Testing Needed **-or-** ☐ Follow-Up Testing Required

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

Mitigation -	**Facility Radon Status:**		
☒ Not Required ☐ Required (≥4.0-pCi/L) Rooms:	☒ No Change in Status ☐ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	95	Lowest Value (pCi/L)	<0.3
Number of Rooms (≥4.0-pCi/L)	0	Highest Value (pCi/L)	2.2

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

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

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

Attachment 2 – Laboratory Report(s)

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

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

Detector and Deployment

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

☒ Short-Term ☐ Long-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	2/4/2025 2/7/2025
Does the test period include weekends, school breaks or holidays?				☐ Yes ☒ No
*If "**Yes**" please explain/detail in the space below:*				
Was HVAC operating under occupied conditions?				☒ Yes ☐ No
*If "**No**" please explain/detail in the space below:*				

Testing (continued)

	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
Round of Testing	Initial	Follow-Up	Initial	Follow-Up	
Test Locations[1]	95	0	0	0	95
Duplicates[2]	11	0	0	0	11
Field Blanks[3]	5	0	0	0	5
				Grand Total	111

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

Quality Assurance / Quality Control (QA/QC)

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

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

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

Quality Assurance / Quality Control (continued)

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

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

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

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

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

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

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

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

	Ground-Contact		Upper-Level(s)		Total
Round of Testing	**Initial**	**Follow-Up**	**Initial**	**Follow-Up**	
Number of test locations:	95	0	0	0	95
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:	2	0	0	0	2
Number of missing required test locations[3]:	1	0	0	0	1
Number of failed duplicate control locations:	0	0	0	0	0
Percentage of missing test locations for the facility[4,5]:	1%	0	0	0	1%

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

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

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

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

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

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

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

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

Follow-Up Testing

Required –

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

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

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

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Viers Mill Elementary School		
Test Period: 2/4/2025 - 2/7/2025		
Kit Number	Room / Area	Result
11951806	100	0.8
11951820	101	0.7
11951825	102	< 0.3
11951826	103	< 0.3
11951819	104	0.7
11951817	105	< 0.3
11951816	105	< 0.3
11951818	106	0.6
11951805	107	0.8
11951802	107	1.0
11951891	199	1.2
11951872	199	1.2
11951895	201	0.9
11951879	202	< 0.3
11951886	203	1.5
11951890	204	1.2
11951889	205	0.7
11951884	205	1.1
11951892	206	< 0.3
11951883	207	0.8
11951882	208	0.9
11951881	210	< 0.3
11951894	301	1.0
11951876	302	1.9
11951875	303	2.2
11951874	304	1.1
11951814	305	1.1
11951801	306	1.1
11951829	306	1.0
11951846	307	1.1
11951847	308	0.8
11951848	309	0.7
11951854	310	0.8
11951853	311	1.0
11951860	312	1.1
11951855	312	1.0
11951873	313	< 0.3

Table 1- Radon Testing Results		
Viers Mill Elementary School		
Test Period: 2/4/2025 - 2/7/2025		
Kit Number	Room / Area	Result
11951868	313	1.1
11951856	314	0.9
11951861	315	1.1
11951857	317	< 0.3
11951898	400	1.3
11951885	401	1.3
11951762	401	1.2
11951899	402	2.1
11951859	403	1.2
11951763	404	1.5
11951758	404	1.6
11951743	405	< 0.3
11951753	406	0.5
11951760	407	0.7
11951754	408	< 0.3
11951746	409	0.6
11951752	411	0.6
11951764	413	< 0.3
11951759	413	< 0.3
11951761	415	0.8
11951896	503	1.8
11951862	601	0.6
11951858	604	1.3
11951867	605	0.7
11951864	607	0.7
11951866	611	0.8
11951865	611	0.5
11951863	612	0.6
11951870	613	< 0.3
11951869	616	0.6
11951842	617	0.8
11951871	618	< 0.3
11951841	622	0.7
11951823	623	< 0.3
11951824	628	< 0.3
11951831	632	< 0.3
11951843	212/4	0.9

Table 1- Radon Testing Results		
Viers Mill Elementary School		
Test Period: 2/4/2025 - 2/7/2025		
Kit Number	Room / Area	Result
11951810	505C	0.6
11951811	505D	< 0.3
11951815	506A	1.5
11951808	506B	1.3
11951807	506C	0.9
11951834	506D	1.5
11951833	506E	0.9
11951822	619A	1.4
11951844	619B	< 0.3
11951849	619B	< 0.3
11951845	625B	< 0.3
11951840	625J	< 0.3
11951830	625K	< 0.3
11951839	625L	< 0.3
11951838	625L	< 0.3
11951835	625M	< 0.3
11951832	625N	< 0.3
11951837	825G	< 0.3
11951888	APR	1.5
11951893	APR	0.9
11951827	BE OFFICE	< 0.3
11951813	BSO	< 0.3
11951828	GUIDANCE	0.6
11951821	GUIDANCE	1.0
11951804	GYM	0.7
11951836	GYM	0.8
11951803	GYM OFFICE	< 0.3
11951900	JAG	1.2
11951812	MAIN OFFICE	< 0.3
11951877	MEDIA	1.6
11951878	MEDIA	1.4
11951887	MEDIA OFFICE	1.2
11951850	NURSE	< 0.3
11951851	NURSE OFFICE	< 0.3
11951880	STAFF LOUNGE	0.6
11951897	STAFF LOUNGE	< 0.3
11951809	WORKROOM	1.7

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Viers Mill Elementary School							
Test Period: 2/4/2025 - 2/7/2025							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
402	2.1	N/A	N/A	N/A	N/A	N/A	N/A
303	2.2						

Table 3 - QC Radon Testing Results			
Viers Mill Elementary School			
Test Period: 2/4/2025 - 2/7/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11951816	FB	105	< 0.3
11951802	D	107	1.0
11951872	D	199	1.2
11951884	D	205	1.1
11951829	D	306	1.0
11951855	D	312	1.0
11951868	FB	313	1.1
11951762	D	401	1.2
11951758	D	404	1.6
11951759	FB	413	< 0.3
11951865	D	611	0.5
11951852	FB	623	Missing Kit
11951849	D	619b	< 0.3
11951838	D	625l	< 0.3
11951821	D	Guidance	1.0
11951897	FB	Staff lounge	< 0.3
11931544	OB	OFFICE BLANK	< 0.3
11931543	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Viers Mill Elementary School										
Test Period: 2/4/2025 - 2/7/2025										
Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11951828	11951821	Guidance	1.0	0.6	✓	1.2	PASS	0.8	<1-pCi/L	✓
11951805	11951802	107	1.0	0.8	✓	1.6	PASS	0.9	<1-pCi/L	✓
11951839	11951838	625L	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11951844	11951849	619B	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11951866	11951865	611	0.8	0.5	✓	1.0	PASS	0.7	<1-pCi/L	✓
11951860	11951855	312	1.1	1.0	✓	2.0	PASS	1.1	<1-pCi/L	✓
11951801	11951829	306	1.1	1.0	✓	2.0	PASS	1.1	<1-pCi/L	✓
11951891	11951872	199	1.2	1.2	✓	2.4	PASS	1.2	<1-pCi/L	✓
11951889	11951884	205	1.1	0.7	✓	1.4	PASS	0.9	<1-pCi/L	✓
11951763	11951758	404	1.6	1.5	✓	3.0	PASS	1.6	<1-pCi/L	✓
11951885	11951762	401	1.3	1.2	✓	2.4	PASS	1.3	<1-pCi/L	✓

NOTES:

QC Check #1 - Data Entry

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

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

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

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

Table 4 - Summary of Invalid Measurement Locations		
Viers Mill Elementary School		
Test Period: 2/4/25 - 2/7/25		
Kit Number	**Room/Area**	**Reason**
11951824	628	Missing Kit

Attachment 2:

Laboratory Reports

February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11951806	100	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.3	2025-02-11
11951820	101	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.3	2025-02-11
11951825	102	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951826	103	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951819	104	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.3	2025-02-11
11951816	105	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951817	105	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951818	106	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.3	2025-02-11
11951805	107	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.0 ± 0.4	2025-02-11
11951802	107	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.4	2025-02-11
11951891	199	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.2 ± 0.3	2025-02-11
11951872	199	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.2 ± 0.3	2025-02-11
11951895	201	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.9 ± 0.3	2025-02-11
11951879	202	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951886	203	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.5 ± 0.4	2025-02-11
11951890	204	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.2 ± 0.3	2025-02-11
11951884	205	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.3	2025-02-11
11951889	205	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.1 ± 0.3	2025-02-11
11951892	206	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951883	207	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.3	2025-02-11
11951882	208	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.9 ± 0.3	2025-02-11
11951881	210	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951843	212/4	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.9 ± 0.4	2025-02-11
11951894	301	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.0 ± 0.4	2025-02-11
11951876	302	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.9 ± 0.4	2025-02-11
11951875	303	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	2.2 ± 0.4	2025-02-11
11951874	304	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.1 ± 0.4	2025-02-11
11951814	305	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.1 ± 0.4	2025-02-11
11951829	306	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.0 ± 0.4	2025-02-11
11951801	306	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.1 ± 0.4	2025-02-11
11951846	307	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.1 ± 0.4	2025-02-11
11951847	308	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.4	2025-02-11
11951848	309	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.4	2025-02-11
11951854	310	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.4	2025-02-11
11951853	311	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.0 ± 0.4	2025-02-11
11951855	312	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.1 ± 0.4	2025-02-11
11951860	312	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.0 ± 0.4	2025-02-11

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

February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11951873	313	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.1 ± 0.4	2025-02-11
11951868	313	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951856	314	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.9 ± 0.4	2025-02-11
11951861	315	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.1 ± 0.4	2025-02-11
11951857	317	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951898	400	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.3 ± 0.4	2025-02-11
11951762	401	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.3 ± 0.4	2025-02-11
11951885	401	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.2 ± 0.4	2025-02-11
11951899	402	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	2.1 ± 0.4	2025-02-11
11951859	403	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.2 ± 0.4	2025-02-11
11951763	404	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.6 ± 0.4	2025-02-11
11951758	404	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.5 ± 0.4	2025-02-11
11951743	405	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951753	406	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.5 ± 0.4	2025-02-11
11951760	407	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.4	2025-02-11
11951754	408	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951746	409	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.4	2025-02-11
11951752	411	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.4	2025-02-11
11951759	413	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951764	413	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951761	415	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.4	2025-02-11
11951896	503	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.8 ± 0.4	2025-02-11
11951810	505C	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.3	2025-02-11
11951811	505D	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951815	506A	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	1.5 ± 0.3	2025-02-11
11951808	506B	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	1.3 ± 0.4	2025-02-11
11951807	506C	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	0.9 ± 0.3	2025-02-11
11951834	506D	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	1.5 ± 0.3	2025-02-11
11951833	506E	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	0.9 ± 0.3	2025-02-11
11951862	601	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.4	2025-02-11
11951858	604	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.3 ± 0.4	2025-02-11
11951867	605	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.4	2025-02-11
11951864	607	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.4	2025-02-11
11951865	611	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.4	2025-02-11
11951866	611	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.5 ± 0.3	2025-02-11
11951863	612	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.3	2025-02-11
11951870	613	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11

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February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11951869	616	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.3	2025-02-11
11951842	617	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.4	2025-02-11
11951871	618	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951822	619A	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	1.4 ± 0.4	2025-02-11
11951844	619B	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951849	619B	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951841	622	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.4	2025-02-11
11951823	623	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951852	623	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951845	625B	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951837	625G	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951840	625J	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951830	625K	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951838	625L	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951839	625L	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951835	625M	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951832	625N	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951831	632	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951888	APR	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.5 ± 0.4	2025-02-11
11951893	APR	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.9 ± 0.4	2025-02-11
11951827	BE OFFICE	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951813	BSO	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951828	GUIDANCE	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	1.0 ± 0.3	2025-02-11
11951821	GUIDANCE	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.3	2025-02-11
11951804	GYM	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.7 ± 0.4	2025-02-11
11951836	GYM	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	0.8 ± 0.4	2025-02-11
11951803	GYM OFFICE	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951900	JAG	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.2 ± 0.4	2025-02-11
11951812	MAIN OFFICE	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951877	MEDIA	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.6 ± 0.4	2025-02-11
11951878	MEDIA	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.4 ± 0.4	2025-02-11
11951887	MEDIA OFFICE	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	1.2 ± 0.4	2025-02-11
11951850	NURSE	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951851	NURSE OFFICE	2025-02-04 @ 10:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951880	STAFF LOUNGE	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	0.6 ± 0.3	2025-02-11
11951897	STAFF LOUNGE	2025-02-04 @ 11:00 am	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11951809	WORKROOM	2025-02-04 @ 9:00 am	2025-02-07 @ 12:00 pm	1.7 ± 0.4	2025-02-11

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February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931544	O	2025-02-04 @ 11:00 am	2025-02-07 @ 11:00 am	< 0.3	2025-02-11

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February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRAVEL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931543	T	2025-02-04 @ 11:00 am	2025-02-07 @ 11:00 am	< 0.3	2025-02-11

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20001560

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

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

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

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

Radon test result report for:
SK
MAIN

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

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20002919

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

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

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

March 19, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
QC
MAIN

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

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KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

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

Name of Schools:

1. Candlewood ES
2. Viers Mill ES
3. Wayside ES
4. Julius West MS
5. Westland MS

	Date	Initials
Radon Test Kits Deployed	2/4/2025	
Radon Test Kits Collected	2/7/2025	
Radon Test Kits Shipped to Lab*	2/7/2025	
Radon Test Kits Received by Lab*	2/10/2025	

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

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MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Viers Mill Elementary School
Date of Test Report	05/27/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	1
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.9 pCi/L

Project Status

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

KCI TECHNOLOGIES

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May 27, 2022

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

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

Location: Viers Mill Elementary School
11711 Joseph Mill Rd.
Silver Spring, MD 20906

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 Viers Mill Elementary School, located at 11711 Joseph Mill Rd. Silver Spring, MD 20906 (subject site).

Scope of Services:

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

KCI visited the site on March 29, 2022 and deployed three (3) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

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

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

KCI returned to the site on April 01, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the mid 20°Fs and high temperatures ranged from the low 50°Fs to the mid 70°Fs. Maximum sustained winds ranged from 0-33 miles per hour. Average humidity was around 47% with 0.23 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

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

Table 1- Radon Testing Results		
Viers Mill ES RT		
Test Period: 03/29/2022 - 04/01/2022		
Kit Number	Room / Area	Result
11140022	506E	< 0.3
11140023	506E	1.5
11140033	506E	1.9

Table 2- Radon Testing Results			
Viers Mill ES RT			
Test Period: 03/29/2022 - 04/01/2022			
Kit Number	QC Type	Room / Area	Result
11140023	D	506e	1.5
11140022	FB	506e	< 0.3
11139883	OB	OFFICE BLANK	< 0.3
11139841	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Viers Mill ES RT		
Test Period: 03/29/22 - 04/01/22		
Kit Number	Room/Area	Result
	NA	

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

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

April 4, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
VIEWS MILL ES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11140022	506E	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	< 0.3	2022-04-04
11140023	506E	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	1.5 ± 0.3	2022-04-04
11140033	506E	2022-03-29 @ 10:00 am	2022-04-01 @ 10:00 am	1.9 ± 0.3	2022-04-04

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204620

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

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

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

March 30, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

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

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

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KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – March 2022 Schools – Retesting

Name of Schools:

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

	Date	Initials
Radon Test Kits Deployed	03/29/2022	BMM
Radon Test Kits Collected	04/01/2022	BMM
Radon Test Kits Shipped to Lab*	04/01/2022	BMM
Radon Test Kits Received by Lab*	04/04/2022	BMM

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

KCI TECHNOLOGIES

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MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Viers Mill Elementary School
Date of Test Report	5/11/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	102
# Rooms ≥ 4.0 pCi/L	1
Lowest Value	<0.3 pCi/L
Highest Value	4.2 pCi/L

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

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May 11, 2022

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

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

Location: Viers Mill Elementary School
11711 Joseph Mill Rd.
Silver Spring, MD 20906

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 Viers Mill Elementary School, located at 11711 Joseph Mill Rd. Silver Spring, MD 20906 (subject site).

Scope of Services:

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

KCI visited the site on March 15, 2022 and deployed one hundred fifteen (115) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

KCI returned to the site on March 18, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a

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

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the low 20s and high temperatures ranged from the mid 70s to the high 50s Fahrenheit. Maximum sustained winds ranged from 0-32 miles per hour. Average humidity was around 61% with 0.1 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	506E	4.2
<4.0 piC/L	See Attachment B	

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

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

Table 1- Radon Testing Results		
Viers Mill ES		
Test Period: 03/15/2022 - 03/18/2022		
Kit Number	Room / Area	Result
11134085	101	1.2
11134083	102	0.5
11134084	103	1.1
11134056	104	1.1
11134062	105	0.9
11134003	106	1.1
11134100	107	1.2
11139056	199	1.1
11139058	201	0.5
11139051	202	0.7
11139057	202	< 0.3
11139065	203	0.9
11139052	204	0.7
11139066	205	0.7
11139064	206	0.9
11139047	207	1.0
11139050	208	2.0
11139010	210	< 0.3
11139025	214	0.8
11139026	214	< 0.3
11139027	214	< 0.3
11134013	216	0.5
11134079	218	0.5
11139045	300	1.0
11139053	301	0.9
11139004	302	1.5
11139054	302	< 0.3
11139068	302	1.7
11139061	303	1.9
11139062	304	1.3
11139073	304	1.2
11139074	305	1.2
11139063	306	1.5
11139075	307	2.2
11139003	308	0.9
11139007	309	1.4
11139033	310	1.1
11139021	311	1.1
11139043	312	1.0
11139044	312	0.7
11139014	313	2.0
11139019	314	2.2

Table 1- Radon Testing Results		
Viers Mill ES		
Test Period: 03/15/2022 - 03/18/2022		
Kit Number	Room / Area	Result
11139036	315	2.1
11139006	400	1.3
11139037	401	1.1
11139012	402	0.8
11139030	403	2.0
11139008	404	2.5
11139038	405	0.5
11139011	406	0.6
11139039	407	0.9
11139048	407	< 0.3
11139049	407	< 0.3
11139024	408	0.7
11139009	409	0.5
11139018	409	< 0.3
11139055	409	< 0.3
11139028	411	0.6
11139015	413	1.2
11139016	415	0.8
11139059	504	1.3
11139060	504	1.4
11139071	505	1.3
11134096	507	1.2
11139029	601	0.6
11139013	604	1.6
11139032	605	2.3
11139005	607	1.4
11139034	611	1.7
11139035	612	1.5
11139022	613	1.5
11139023	613	< 0.3
11139031	613	1.5
11139001	616	1.3
11139020	617	1.3
11139042	617	1.9
11139041	618	1.0
11139040	622	1.4
11134064	623	< 0.3
11134078	628	< 0.3
11134063	632	< 0.3
11139067	504 OFFICE	1.3
11139076	505C	0.8
11139083	505D	1.2

Table 1- Radon Testing Results		
Viers Mill ES		
Test Period: 03/15/2022 - 03/18/2022		
Kit Number	Room / Area	Result
11134093	506A	1.2
11134094	506B	1.4
11134098	506C	1.6
11134099	506D	1.8
11134097	506E	4.2
11134076	619A	< 0.3
11134075	619B	0.5
11134074	619C	< 0.3
11134071	625B	< 0.3
11134072	625C	0.7
11134077	625G	0.7
11134065	625H	< 0.3
11134092	625H	0.7
11134090	625J	1.1
11139072	APR	1.0
11139081	APR	1.0
11139082	APR	1.1
11134080	BE OFFICE	0.8
11134082	BE OFFICE	0.8
11134095	BSO	0.9
11139046	COM	2.1
11134081	ELECTRICAL	0.5
11134087	GYM	1.2
11134089	GYM	0.9
11134086	GYM OFFICE	0.9
11134088	GYM OFFICE	0.5
11134091	GYM OFFICE	< 0.3
11134073	HR	0.5
11139002	KITCHEN OFFICE	1.6
11134055	STAFF WORK ROOM	1.5
11139080	STAGE	1.3

Table 2- Radon Testing Results			
Viers Mill ES			
Test Period: 03/15/2022 - 03/18/2022			
Kit Number	QC Type	Room / Area	Result
11134082	D	BE office	0.8
11134088	D	Gym office	0.5
11134065	D	625h	< 0.3
11139025	D	214	0.8
11139026	FB	214	< 0.3
11139009	D	409	0.5
11139031	D	613	1.5
11139023	FB	613	< 0.3
11139048	D	407	< 0.3
11139049	FB	407	< 0.3
11139057	D	202	< 0.3
11139068	D	302	1.7
11139081	D	APR	1.0
11138953	OB	OFFICE BLANK	< 0.3
11138945	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Viers Mill ES		
Test Period: 03/15/22 - 03/18/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Viers Mill ES		
Test Period: 03/15/22 - 03/18/22		
Kit Number	Room/Area	Result
11134097	506E	4.2

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 22, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11134085	101	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11134083	102	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.5 ± 0.3	2022-03-21
11134084	103	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.1 ± 0.3	2022-03-21
11134056	104	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.1 ± 0.3	2022-03-21
11134062	105	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.9 ± 0.3	2022-03-21
11134003	106	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.1 ± 0.3	2022-03-21
11134100	107	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11139056	199	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21
11139058	201	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11139051	202	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11139057	202	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139065	203	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139052	204	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11139066	205	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11139064	206	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139047	207	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.0 ± 0.3	2022-03-21
11139050	208	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	2.0 ± 0.3	2022-03-21
11139010	210	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139026	214	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139027	214	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139025	214	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.8 ± 0.3	2022-03-21
11134013	216	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11134079	218	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11139045	300	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.0 ± 0.3	2022-03-21
11139053	301	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139054	302	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139068	302	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.7 ± 0.3	2022-03-21
11139004	302	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139061	303	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.9 ± 0.3	2022-03-21
11139073	304	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.2 ± 0.3	2022-03-21
11139062	304	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.3 ± 0.3	2022-03-21
11139074	305	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.2 ± 0.3	2022-03-21
11139063	306	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139075	307	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	2.2 ± 0.3	2022-03-21
11139003	308	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139007	309	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.4 ± 0.3	2022-03-21
11139033	310	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21

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March 22, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139021	311	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21
11139044	312	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11139043	312	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.0 ± 0.3	2022-03-21
11139014	313	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	2.0 ± 0.3	2022-03-21
11139019	314	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	2.2 ± 0.3	2022-03-21
11139036	315	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	2.1 ± 0.3	2022-03-21
11139006	400	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.3 ± 0.3	2022-03-21
11139037	401	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21
11139012	402	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.8 ± 0.3	2022-03-21
11139030	403	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	2.0 ± 0.3	2022-03-21
11139008	404	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	2.5 ± 0.3	2022-03-21
11139038	405	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11139011	406	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.6 ± 0.3	2022-03-21
11139049	407	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139039	407	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	0.9 ± 0.3	2022-03-21
11139048	407	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139024	408	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.7 ± 0.3	2022-03-21
11139009	409	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.5 ± 0.3	2022-03-21
11139018	409	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139055	409	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11139028	411	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.6 ± 0.3	2022-03-21
11139015	413	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11139016	415	2022-03-15 @ 9:00 am	2022-03-18 @ 9:00 am	0.8 ± 0.3	2022-03-21
11139059	504	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.3 ± 0.3	2022-03-21
11139060	504	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.4 ± 0.3	2022-03-21
11139067	504 OFFICE	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.3 ± 0.3	2022-03-21
11139071	505	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.3 ± 0.3	2022-03-21
11139076	505C	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	0.8 ± 0.3	2022-03-21
11139083	505D	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11134093	506A	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11134094	506B	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.4 ± 0.3	2022-03-21
11134098	506C	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.6 ± 0.3	2022-03-21
11134099	506D	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.8 ± 0.3	2022-03-21
11134097	506E	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	4.2 ± 0.4	2022-03-21
11134096	507	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11139029	601	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.6 ± 0.3	2022-03-21
11139013	604	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.6 ± 0.3	2022-03-21

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March 22, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139032	605	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	2.3 ± 0.3	2022-03-21
11139005	607	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.4 ± 0.3	2022-03-21
11139034	611	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.7 ± 0.3	2022-03-21
11139035	612	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139031	613	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139023	613	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139022	613	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.5 ± 0.3	2022-03-21
11139001	616	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.3 ± 0.3	2022-03-21
11139042	617	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.9 ± 0.3	2022-03-21
11139020	617	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.3 ± 0.3	2022-03-21
11139041	618	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.0 ± 0.3	2022-03-21
11134076	619A	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134075	619B	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11134074	619C	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139040	622	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.4 ± 0.3	2022-03-21
11134064	623	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134071	625B	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134072	625C	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11134077	625G	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11134065	625H	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134092	625H	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.7 ± 0.3	2022-03-21
11134090	625J	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	1.1 ± 0.3	2022-03-21
11134078	628	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11134063	632	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	< 0.3	2022-03-21
11139072	APR	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.0 ± 0.3	2022-03-21
11139082	APR	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.1 ± 0.3	2022-03-21
11139081	APR	2022-03-15 @ 10:00 am	2022-03-18 @ 9:00 am	1.0 ± 0.3	2022-03-21
11134082	BE OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.8 ± 0.3	2022-03-21
11134080	BE OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.8 ± 0.3	2022-03-21
11134095	BSO	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.9 ± 0.3	2022-03-21
11139046	COM	2022-03-15 @ 10:00 am	2022-03-18 @ 8:00 am	2.1 ± 0.3	2022-03-21
11134081	ELECTRICAL	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.5 ± 0.3	2022-03-21
11134087	GYM	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.2 ± 0.3	2022-03-21
11134089	GYM	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.9 ± 0.3	2022-03-21
11134086	GYM OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.9 ± 0.3	2022-03-21
11134088	GYM OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	0.5 ± 0.3	2022-03-21

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

March 22, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11134091	GYM OFFICE	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	< 0.3	2022-03-21
11134073	HR	2022-03-15 @ 9:00 am	2022-03-18 @ 8:00 am	0.5 ± 0.3	2022-03-21
11139002	KITCHEN OFFICE	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.6 ± 0.3	2022-03-21
11134055	STAFF WORK ROOM	2022-03-15 @ 8:00 am	2022-03-18 @ 9:00 am	1.5 ± 0.3	2022-03-21
11139080	STAGE	2022-03-15 @ 11:00 am	2022-03-18 @ 9:00 am	1.3 ± 0.3	2022-03-21

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204620

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

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

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

March 30, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

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

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – March 2022 Schools

Name of Schools:

1. Singer, Flora M. ES
2. Sligo MS
3. Spring Mill Center
4. Fairland ES
5. Bel Pre ES
6. Shriver, Sargent ES
7. Strathmore ES
8. Viers Mill ES
9. Piney Branch ES

	Date	Initials
Radon Test Kits Deployed	03/15/2022	
Radon Test Kits Collected	03/18/2022	
Radon Test Kits Shipped to Lab*	03/18/2022	
Radon Test Kits Received by Lab*	03/20/2022	

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

KCI TECHNOLOGIES
ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS
936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Viers Mill Elementary School
Date of Report	2/3/2020
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	88
# Rooms ≥4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	2.1 pCi/L

Project Status

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

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2/3/2020

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: Viers Mill Elementary School
11711 Joseph Mill Road
Silver Spring, Maryland 20906

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 Viers Mill Elementary School, located at 11711 Joseph Mill Road in Silver Spring, Maryland 20906 (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 Provider (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 12/17/2019 and deployed One-Hundred (100) 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 12/20/2019 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 National Radon Safety Board (NRSB) radon measurement provider and is a 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 lower-20s and high temperatures were in the lower-40s. Maximum sustained winds ranged from 12-26 miles per hour. Average humidity was around 67%. 0.54 inches of precipitation (rain and snow) 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 piC/L	None	N/A
≤4.0 piC/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		
Viers Mill Elementary School		
Test Period: 12/17/2019-12/20/2019		
Kit Number	Room / Area	Result
9339308	MAIN	1.5
9339309	CONF ROOM 2	1.4
9339310	ASSN PRIN	2
9339311	CONF ROOM 1	1.8
9339312	PRINCIPAL	2
9339313	101	1.3
9339314	102	0.9
9339316	BUILDING SERVICES	1
9339317	GUIDANCE OFFICE	1.4
9339318	WORK ROOM	1.5
9339319	GYM	0.9
9339320	107	1
9339321	105	1
9339322	100 CLASS	1.1
9339324	100 CONF	1.4
9339325	100 OFFICE	1
9341401	GYM	0.8
9341402	GYM OFFICE	0.8
9341403	404	1.1
9341404	204	0.8
9341405	408	< 0.3
9341406	408	0.8
9341407	408	0.9
9341408	406	0.7
9341409	208	1.2
9341410	206	0.8
9341411	202	0.7
9341412	201	0.9
9341413	COMPUTER LAB	1.2
9341414	COMPUTER LAB	1.2
9341415	199	0.7
9341416	203	1
9341417	205	0.7
9341418	207	0.9
9341419	409	0.6
9341420	411	1
9341421	413	0.7
9341422	415	0.6
9341423	106	1
9341424	103	1.2
9341425	106	1.1
9341426	104	0.6
9341427	106	< 0.3
9341428	BRIGHT EYES STAFF	1.3
9341429	HEALTH ROOM	< 0.3
9341430	623	< 0.3
9341431	619A	0.7
9341432	619C	< 0.3
9341433	619A	0.5
9341434	216	< 0.3

9341436	218	< 0.3
9341437	628	0.8
9341438	632	0.8
9341440	210	0.6
9341441	210A	< 0.3
9341442	STAFF LOUNGE	< 0.3
9341443	KITCHEN OFFICE	1.9
9341444	APR	1
9341445	APR	< 0.3
9341446	APR	1
9341447	APR	0.9
9341448	300	0.8
9341449	301	0.7
9341450	303	1.5
9341451	305	1.2
9341452	307	1
9341453	403	1.7
9341454	401	1.3
9341455	403	2.1
9341456	405	1.1
9341457	407	< 0.3
9341458	400	1.5
9341459	402	1
9341460	308	0.5
9341461	306	0.9
9341462	304	0.8
9341463	302	1.2
9341464	MEFIA CENTER	< 0.3
9341467	MEDIA CENTER	1.8
9341468	MEDIA CENTER OFFICE	2
9341469	622	0.6
9341470	618	0.6
9341471	616	< 0.3
9341472	612	0.7
9341473	602	< 0.3
9341474	314	0.7
9341476	312	0.8
9341477	310	0.7
9341478	309	0.6
9341479	311	0.8
9341480	313	0.6
9341481	315	< 0.3
9341482	317	0.7
9341483	601	0.6
9341484	601	< 0.3
9341486	605	< 0.3
9341487	607	< 0.3
9341488	611	< 0.3
9341489	613	< 0.3
9341490	617	0.5
9339315	100 CONF	1.4
9339780	OFFICE BLANK	< 0.3
9341435	619B	0.6
9341439	212/214	< 0.3
9341465	MEDIA CENTER	1.8

9341466	MEDIA CENTER	1.7
9341475	314	0.6
9341485	605	< 0.3

Table 2- Radon Testing Results			
Viers Mill Elementary School			
Test Period: 12/16/2019-12/19/2019			
Kit Number	QC Type	Room / Area	Result
9339324	D	100 CONF	1.4
9341406	D	408	0.8
9341405	FB	408	<0.3
9341413	D	COMPUTER LAB	1.2
9341423	D	106	1
9341427	FB	106	<0.3
9341433	D	619A	0.5
9341444	D	APR	1
9341445	FB	APR	<0.3
9341453	D	403	1.7
9341465	D	MEDIA CENTER	1.8
9341464	FB	MEDIA CENTER	<0.3
9341474	D	314	0.7
9341485	FB	605	<0.3
9341484	D	601	<0.3
9341377	TRANSIT BLANK	NA	0.5
9341379	TRANSIT BLANK	NA	< 0.3
9341380	TRANSIT BLANK	NA	< 0.3
9341398	TRANSIT BLANK	NA	< 0.3

Summary of Missed Locations		
Viers Mill Elementary School		
Test Period: 12/17/2019 - 12/20/2019		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Viers Mill Elementary School		
Test Period: 12/17/2019-12/20/2019		
Kit Number	Room/Area	Result
	NA	

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 24, 2019 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9339322	100 CLASS	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.1 ± 0.4	2019-12-24
9339324	100 CONF	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.4 ± 0.4	2019-12-24
9339325	100 OFFICE	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.0 ± 0.4	2019-12-24
9339313	101	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	1.3 ± 0.4	2019-12-24
9339314	102	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.9 ± 0.3	2019-12-24
9341424	103	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.2 ± 0.4	2019-12-24
9341426	104	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.3	2019-12-24
9339321	105	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	1.0 ± 0.4	2019-12-24
9341425	106	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.1 ± 0.4	2019-12-24
9341423	106	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.0 ± 0.4	2019-12-24
9341427	106	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9339320	107	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	1.0 ± 0.4	2019-12-24
9341415	199	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.3	2019-12-24
9341412	201	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.9 ± 0.3	2019-12-24
9341411	202	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341416	203	2019-12-17 @ 10:00 am	2019-12-20 @ 11:00 am	1.0 ± 0.4	2019-12-24
9341404	204	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.8 ± 0.3	2019-12-24
9341417	205	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.4	2019-12-24
9341410	206	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.8 ± 0.4	2019-12-24
9341418	207	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.9 ± 0.4	2019-12-24
9341409	208	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	1.2 ± 0.4	2019-12-24
9341440	210	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9341441	210A	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341434	216	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341436	218	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341448	300	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	0.8 ± 0.4	2019-12-24
9341449	301	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	0.7 ± 0.4	2019-12-24
9341463	302	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	1.2 ± 0.3	2019-12-24
9341450	303	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	1.5 ± 0.4	2019-12-24
9341462	304	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	0.8 ± 0.4	2019-12-24
9341451	305	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	1.2 ± 0.4	2019-12-24
9341461	306	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	0.9 ± 0.4	2019-12-24
9341452	307	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	1.0 ± 0.4	2019-12-24
9341460	308	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	0.5 ± 0.4	2019-12-24
9341478	309	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9341477	310	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341479	311	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.8 ± 0.3	2019-12-24

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

December 24, 2019 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341476	312	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.8 ± 0.4	2019-12-24
9341480	313	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.3	2019-12-24
9341474	314	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341481	315	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341482	317	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341458	400	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	1.5 ± 0.4	2019-12-24
9341454	401	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	1.3 ± 0.4	2019-12-24
9341459	402	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	1.0 ± 0.3	2019-12-24
9341455	403	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	2.1 ± 0.4	2019-12-24
9341453	403	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	1.7 ± 0.4	2019-12-24
9341403	404	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	1.1 ± 0.4	2019-12-24
9341456	405	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	1.1 ± 0.4	2019-12-24
9341408	406	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.4	2019-12-24
9341457	407	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341406	408	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.8 ± 0.4	2019-12-24
9341407	408	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.9 ± 0.4	2019-12-24
9341405	408	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9341419	409	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9341420	411	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.0 ± 0.4	2019-12-24
9341421	413	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.3	2019-12-24
9341422	415	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9341484	601	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341483	601	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.3	2019-12-24
9341473	602	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341486	605	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341487	607	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341488	611	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341472	612	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341489	613	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341471	616	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341490	617	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.5 ± 0.4	2019-12-24
9341470	618	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9341433	619A	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.5 ± 0.3	2019-12-24
9341431	619A	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341432	619C	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341469	622	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9341430	623	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24

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December 24, 2019 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341437	628	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.8 ± 0.3	2019-12-24
9341438	632	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	0.8 ± 0.3	2019-12-24
9341447	APR	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	0.9 ± 0.4	2019-12-24
9341445	APR	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341446	APR	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	1.0 ± 0.4	2019-12-24
9341444	APR	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	1.0 ± 0.4	2019-12-24
9339310	ASSN PRIN SCHWARZ	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	2.0 ± 0.4	2019-12-24
9341428	BRIGHT EYES STAFF	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.3 ± 0.4	2019-12-24
9339316	BUILDING SERVICES	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.0 ± 0.4	2019-12-24
9341413	COMPUTER LAB	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	1.2 ± 0.4	2019-12-24
9341414	COMPUTER LAB	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	1.2 ± 0.3	2019-12-24
9339311	CONF ROOM 1	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.8 ± 0.4	2019-12-24
9339309	CONF ROOM 2	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.4 ± 0.3	2019-12-24
9339317	GUIDANCE OFFICE	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.4 ± 0.4	2019-12-24
9341401	GYM	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.8 ± 0.3	2019-12-24
9339319	GYM	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.9 ± 0.4	2019-12-24
9341402	GYM OFFICE	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.8 ± 0.4	2019-12-24
9341429	HEALTH ROOM	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341443	KITCHEN OFFICE	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	1.9 ± 0.4	2019-12-24
9339308	MAIN	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.5 ± 0.4	2019-12-24
9341467	MEDIA CENTER	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	1.8 ± 0.4	2019-12-24
9341468	MEDIA CENTER OFFICE	2019-12-17 @ 11:00 am	2019-12-20 @ 11:00 am	2.0 ± 0.4	2019-12-24
9341464	MEFIA CENTER	2019-12-17 @ 11:00 am	2019-12-20 @ 1:00 pm	< 0.3	2019-12-24
9339312	PRINCIPAL	2019-12-17 @ 9:00 am	2019-12-20 @ 11:00 am	2.0 ± 0.4	2019-12-24
9341442	STAFF LOUNGE	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9339318	WORK ROOM	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	1.5 ± 0.4	2019-12-24

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc Job Number 193598

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

Temp °F 70.1 RH % 50.1 Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0815 Time Stop: 0815

(Group 1)

Device No.'s: (20) Char. Bags -

9340001 thru 9340020

55

Temp °F 70.1 RH % 50.1 Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0829 Time Stop: 0820

(Group 2)

Device No.'s: (20) Char. Bags -

9340021 thru 9340040

54

Temp °F 70.1 RH % 50.1 Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0825 Time Stop: 0823

(Group 3)

Device No.'s: (20) Char. Bags -

9340041 thru 9340060

53

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

January 3, 2020

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340067	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340035	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	22.5 ± 2.3 D	2020-01-03
9340003	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 ± 2.4 D	2020-01-03
9340089	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	23.3 ± 2.3 D	2020-01-03
9340072	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	18.3 ± 2.0 D	2020-01-03
9340040	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 ± 2.6 D	2020-01-03
9340008	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.8 ± 2.5 D	2020-01-03
9340094	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.7 ± 2.5 D	2020-01-03
9340099	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.5 ± 2.6 D	2020-01-03
9340077	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.2 ± 2.5 D	2020-01-03
9340045	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.7 ± 2.4 D	2020-01-03
9340013	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.9 ± 2.6 D	2020-01-03
9340018	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	29.1 ± 2.8 D	2020-01-03
9341704	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340050	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.2 ± 2.6 D	2020-01-03
9340023	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.2 ± 2.7 D	2020-01-03
9341709	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.5 ± 2.4 D	2020-01-03
9340055	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.8 ± 2.6 D	2020-01-03
9340060	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 ± 2.5 D	2020-01-03
9340028	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.9 ± 2.3 D	2020-01-03
9341714	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.3 ± 2.7 D	2020-01-03
9340082	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.4 ± 2.6 D	2020-01-03
9340065	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.2 ± 2.4 D	2020-01-03
9340033	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.2 ± 2.5 D	2020-01-03
9341719	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.7 ± 2.5 D	2020-01-03
9340001	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.3 ± 2.5 D	2020-01-03
9340087	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.8 ± 2.4 D	2020-01-03
9340070	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	19.5 ± 2.4 D	2020-01-03
9340038	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.7 ± 2.3 D	2020-01-03
9340006	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 ± 2.4 D	2020-01-03
9340092	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	31.4 ± 2.8 D	2020-01-03
9340097	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.7 ± 2.5 D	2020-01-03
9340075	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	29.6 ± 2.6 D	2020-01-03
9340043	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.1 ± 2.6 D	2020-01-03
9340011	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.8 ± 2.5 D	2020-01-03
9340016	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.2 ± 2.4 D	2020-01-03
9341702	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 ± 2.5 D	2020-01-03

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January 3, 2020

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
S
N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340048	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.5 ± 2.4 D	2020-01-03
9340021	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.7 ± 2.6 D	2020-01-03
9341707	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.8 ± 2.4 D	2020-01-03
9340053	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.8 ± 2.5 D	2020-01-03
9340058	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.5 ± 2.7 D	2020-01-03
9340026	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.9 ± 2.4 D	2020-01-03
9341712	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.3 ± 2.4 D	2020-01-03
9340080	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340063	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.8 ± 2.5 D	2020-01-03
9340031	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.9 ± 2.4 D	2020-01-03
9341717	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.7 ± 2.4 D	2020-01-03
9340085	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.5 D	2020-01-03
9340068	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.2 ± 2.5 D	2020-01-03
9340036	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.6 ± 2.3 D	2020-01-03
9340004	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.6 D	2020-01-03
9340090	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.3 ± 2.5 D	2020-01-03
9340073	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 ± 2.5 D	2020-01-03
9340041	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.6 ± 2.4 D	2020-01-03
9340009	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.1 ± 2.4 D	2020-01-03
9340095	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.2 ± 2.5 D	2020-01-03
9340100	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.5 ± 2.4 D	2020-01-03
9340078	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.0 ± 2.4 D	2020-01-03
9340046	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.0 ± 2.6 D	2020-01-03
9340014	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	21.8 ± 2.8 D	2020-01-03
9340019	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.0 ± 2.5 D	2020-01-03
9341705	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.8 ± 2.6 D	2020-01-03
9340051	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.5 ± 2.4 D	2020-01-03
9340056	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.7 ± 2.6 D	2020-01-03
9340024	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.3 ± 2.5 D	2020-01-03
9341710	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.2 ± 2.3 D	2020-01-03
9340061	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.9 ± 2.6 D	2020-01-03
9340029	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.0 ± 2.3 D	2020-01-03
9341715	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.0 ± 2.5 D	2020-01-03
9340083	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.9 ± 2.4 D	2020-01-03
9340066	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340034	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.4 ± 2.5 D	2020-01-03
9341720	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.3 ± 2.5 D	2020-01-03

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January 3, 2020

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
S
N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340002	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.7 ± 2.5 D	2020-01-03
9340088	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.4 ± 2.5 D	2020-01-03
9340071	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.9 ± 2.4 D	2020-01-03
9340039	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.5 D	2020-01-03
9340007	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.4 D	2020-01-03
9340093	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.5 D	2020-01-03
9340098	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 ± 2.5 D	2020-01-03
9340076	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.5 D	2020-01-03
9340044	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 ± 2.5 D	2020-01-03
9340012	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	22.5 ± 2.2 D	2020-01-03
9340017	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.3 ± 2.5 D	2020-01-03
9341703	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.0 ± 2.5 D	2020-01-03
9340049	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.0 ± 2.5 D	2020-01-03
9340022	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.6 ± 2.6 D	2020-01-03
9341708	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.8 ± 2.8 D	2020-01-03
9340054	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.8 ± 2.5 D	2020-01-03
9340059	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.5 ± 2.6 D	2020-01-03
9340027	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.6 ± 2.5 D	2020-01-03
9341713	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340081	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	18.4 ± 2.1 D	2020-01-03
9340064	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340032	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.1 ± 2.4 D	2020-01-03
9341718	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	23.7 ± 2.4 D	2020-01-03
9340086	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.6 D	2020-01-03
9340069	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.6 ± 2.5 D	2020-01-03
9340037	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.4 ± 2.6 D	2020-01-03
9340005	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	???? DIF1	2020-01-03
9340091	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340096	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.2 ± 2.5 D	2020-01-03
9340074	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.7 ± 2.5 D	2020-01-03
9340042	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.6 ± 2.5 D	2020-01-03
9340010	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.5 ± 2.5 D	2020-01-03
9341701	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	22.9 ± 2.3 D	2020-01-03
9340047	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.7 ± 2.5 D	2020-01-03
9340015	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.4 ± 2.5 D	2020-01-03
9340020	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.1 ± 2.4 D	2020-01-03
9341706	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	31.0 ± 2.7 D	2020-01-03

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

January 3, 2020 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
S
N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340052	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.4 ± 2.6 D	2020-01-03
9340057	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 ± 2.5 D	2020-01-03
9340025	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.1 ± 2.4 D	2020-01-03
9341711	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	22.5 ± 2.2 D	2020-01-03
9340079	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.5 D	2020-01-03
9340062	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.6 ± 2.5 D	2020-01-03
9340030	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.0 ± 2.4 D	2020-01-03
9341716	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340084	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.5 ± 2.3 D	2020-01-03

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Radon Test Kit Chain of Custody

Project Name: MCPS Radon 2019 Week 2

Name of Schools:

1. Argyle M.S.
2. Banneker M.S.
3. Bel Pre E.S.
4. Bells Mill E.S.
5. Bethesda Maintenance Depot
6. Beverly Farms E.S.
7. Blake H.S.
8. Dufief E.S.
9. Briggs Chaney M.S.
10. Brookhaven E.S.
11. Burtonsville E.S.
12. Cabin John M.S.
13. Candelwood E.S.
14. Drew E.S.
15. Fallsmead E.S.
16. Farquhar M.S.
17. Kennedy H.S.
18. Luxmanor E.S.
19. Magruder H.S.
20. Redland M.S.
21. Shriver E.S.
22. Smith Center
23. Viers Mill E.S.
24. Wheaton H.S.

	Date	Initials
Radon Test Kits Deployed	12/16/19 to 12/17/19	
Radon Test Kits Collected	12/19/19 to 12/20/19	
Radon Test Kits Shipped to Lab*	12/20/19	
Radon Test Kits Received by Lab*	12/23/19	

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

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MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Viers Mill Elementary School
Date of Report	March 14, 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	24
# Rooms ≥4.0 pCi/L	0
Lowest Value	0.6 pCi/L
Highest Value	3.0 pCi/L

Project Status

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

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March 14, 2018

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

Re: Radon Testing Services

KCI Job #1214634188

Location: Viers Mill Elementary School
11711 Joseph Mill Rd.
Silver Spring, Maryland 20906

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 Viers Mill Elementary School, located at 11711 Joseph Mill Rd. in Silver Spring, Maryland 20906 (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 13, 2018 and deployed twenty-eight (28) 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 piC/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 16, 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 10-18 miles per hour. Average humidity was around 73%. 0.30 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.

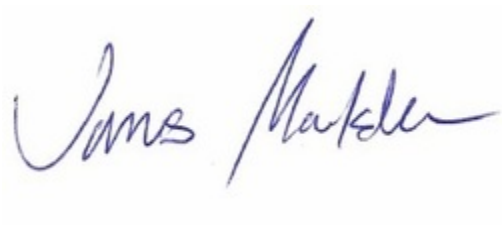
The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	None	N/A
≤4.0 piC/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		
Viers Mill Elementary School		
Test Period: 02/13/18-02/16/18		
Kit Number	**Room / Area**	**Result**
7986937	220	2.1
7986955	613	2.2
7986956	619C	0.6
7986930	BS	1.3
7986923	BS FILE	1.5
7986952	CR103	1.2
7986966	CR206	1.2
7986941	CR315	2.2
7986935	CR403	2.3
7986954	CR503	3.0
7986961	CR632	1.4
7986959	DAY CARE KITCHEN	1.0
7986967	ESOL216	1.4
7986946	GYM416	0.6
7986960	HE625	0.7
7986972	KITCHEN	2.8
7986968	OFFICE 218	1.5
7986962	OFFICE 619A	0.9
7986929	SR200	2.0
7986931	SR202	1.1
7986936	SR215	1.4
7986949	SR402	2.4
7986943	SR405	2.0
7986942	SR407	1.4

Table Note:
* Missing or Compromised Sample

Table 2 - Radon Testing Results		
Viers Mill Elementary School		
Test Period: 02/13/18-02/16/18		
Kit Number	**QC Type**	**Result**
7986947	D (CR206)	1.4
7986973	D (KITCHEN)	2.6
7986948	D (SR405)	2.4
7986953	FB (CR206)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 27, 2018 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

VIERS MILL ELEMENTARY SCHOOL
1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7986937	220	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	2.1 ± 0.4	2018-02-20
7986955	613	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	2.2 ± 0.4	2018-02-20
7986956	619C	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	0.6 ± 0.3	2018-02-20
7986930	BS	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	1.3 ± 0.3	2018-02-20
7986923	BS FILE	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	1.5 ± 0.3	2018-02-20
7986952	CR103	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	1.2 ± 0.3	2018-02-20
7986966	CR206	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	1.2 ± 0.3	2018-02-20
7986953	CR206	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	< 0.3	2018-02-20
7986947	CR206	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	1.4 ± 0.3	2018-02-20
7986941	CR315	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	2.2 ± 0.4	2018-02-20
7986935	CR403	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	2.3 ± 0.4	2018-02-20
7986954	CR503	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	3.0 ± 0.4	2018-02-20
7986961	CR632	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	1.4 ± 0.3	2018-02-20
7986959	DAY CARE KITCHEN	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	1.0 ± 0.3	2018-02-20
7986967	ESOL216	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	1.4 ± 0.3	2018-02-20
7986946	GYM416	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	0.6 ± 0.3	2018-02-20
7986960	HE625	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	0.7 ± 0.3	2018-02-20
7986972	KITCHEN	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	2.8 ± 0.4	2018-02-20
7986973	KITCHEN	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	2.6 ± 0.4	2018-02-20
7986968	OFFICE 218	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	1.5 ± 0.4	2018-02-20
7986962	OFFICE 619A	2018-02-13 @ 1:00 pm	2018-02-16 @ 11:00 am	0.9 ± 0.3	2018-02-20
7986929	SR200	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	2.0 ± 0.4	2018-02-20
7986931	SR202	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	1.1 ± 0.3	2018-02-20
7986936	SR215	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	1.4 ± 0.3	2018-02-20
7986949	SR402	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	2.4 ± 0.4	2018-02-20
7986948	SR405	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	2.4 ± 0.4	2018-02-20
7986943	SR405	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	2.0 ± 0.4	2018-02-20
7986942	SR407	2018-02-13 @ 12:00 pm	2018-02-16 @ 11:00 am	1.4 ± 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

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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

Names of Schools:

1. Westbrook Elementary School
2. Westland Middle School
3. Walt Whitman High School
4. Cloverly Elementary School
5. Sligo Middle School
6. Flora Singer Elementary School
7. Albert Einstein High School
8. Roscoe Nix Elementary School
9. Mario Loiederman Middle School
10. Sargent Shriver Elementary School
11. Whetstone Elementary School
12. Brooke Grove Elementary School
13. Clearspring Elementary School
14. Beall Elementary School
15. Maryvale Elementary School
16. Lathrop E. Smith Center
17. Laytonsville Elementary School
18. Germantown Elementary School
19. Spring Mill Center
20. Northwood High School
21. E. Silver Spring Elementary School
22. Silver Spring Int. Middle School
23. Clarksburg High School
24. Rosa Parks Middle School
25. Greenwood Elementary School
26. Montgomery Knolls Elem. School
27. Watkins Mill Elementary School
28. Gaithersburg Elementary School
29. Viers Mill Elementary School
30. Rock View Elementary School

	Date	Initials
Radon Test Kits Deployed	2/13/18	JM
Radon Test Kits Collected	2/16/18	JM
Radon Test Kits Shipped to Lab*	2/16/18	JM
Radon Test Kits Received by Lab*	2/20/18	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

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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

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February 28, 2018 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within ±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: 2/16/18 Date Stop: 2/19/18	Date Start: _____ Date Stop: _____
Time Start: 1052 Time Stop: 1052	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags-	Device No.'s: _____
7984181, 7986621, 7985683,	_____
7984168, 7986618, 7984169	_____
G3 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 µR/h Elevation = 820 ft

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MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Viers Mill Elementary School
Date of Report	January 31, 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	88
# Rooms ≥4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	3.0 pCi/L

Current Project Status at this time: Results Satisfactory to date; missed locations and missing/ compromised tests to be sampled.

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January 31, 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: Viers Mill Elementary School
11711 Joseph Mill Rd.
Silver Spring, Maryland 20906

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 Viers Mill Elementary School, located at 11711 Joseph Mill Rd. in Silver Spring, Maryland 20906 (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 28, 2017 and deployed one-hundred-eight (108) 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 1, 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 30s and high temperatures ranged from the low-50s to mid-60s. Maximum sustained winds ranged from 8-15 miles per hour. Average humidity was around 65%. 0.02 Inches of precipitation was recorded during the testing period.

A magnitude 4.1 earthquake was reported on Thursday, November 30 near Dover, Delaware approximately 95 miles east of Gaithersburg, Maryland. The earthquake occurred during or just after the radon testing period for this facility. In general, enhanced radon emissions have been observed prior to earthquakes and this has been recorded all over the world, according to the research article entitled *Radon-222: A Potential Short-Term Earthquake Precursor,* published June 30, 2015 in the Journal of Earth Science and Climate

Change. The nearby earthquake, which occurred during or prior to the testing period, may have resulted in higher-than-normal radon test results for this facility.

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.

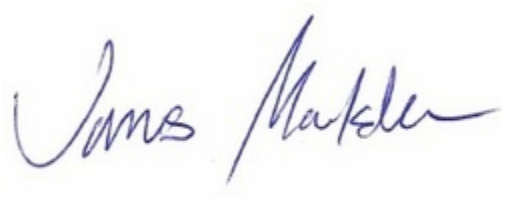
The results of the radon test analysis indicated the following:

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

Quality Control Samples	
Results of Blank Canisters:	The field blanks, 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,



James Moulsdale, 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		
Viers Mill Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	**Room / Area**	**Result**
7977285	100	1.8
7977265	210	1.0
7977279	405	1.7
7978066	407	1.5
7978029	628	0.9
7978056	100A	2.3
7977293	212/214	0.9
7978002	625B	1.8
7978010	625C	1.1
7978005	625G	0.8
7978060	625H	1.0
7978022	625J	0.8
7978019	625K	1.2
7978021	625L	0.6
7978020	625M	0.8
7978014	625N	1.4
7978065	APR	1.7
7978070	APR	1.3
7978089	CONF RM	2.5
7978088	CONF RM B	2.2
7977262	CPU LAB	2.1
7975531	CR101	1.7
7975524	CR102	1.3
7975691	* CR103 (Open Door)	1.6
7975686	CR104	1.8
7977260	CR105	1.4
7977261	CR106	1.7
7977256	CR107	1.5
7977289	CR199	1.6
7978067	CR203	2.4
7978004	CR204	1.2
7978027	CR205	1.6
7978095	* CR206 (Open Window)	1.5
7975523	CR207	1.5
7977264	CR208	1.5
7977288	CR218	1.7
7978015	CR218	0.6
7977275	CR219	2.1
7978069	CR301	1.0
7978052	CR302	1.7
7978051	CR303	1.4
7978063	CR304	1.5
7978045	CR305	1.6
7978046	CR306	1.3
7978047	CR307	1.2
7978040	CR308	1.0

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Viers Mill Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	**Room / Area**	**Result**
7978041	CR309	1.0
7978054	CR310	1.3
7978049	CR311	1.1
7978048	CR312	1.0
7978044	CR313	1.5
7978038	CR314	1.0
7978036	CR317	0.6
7978055	CR400	1.7
7978061	CR401	2.1
7978037	CR415	1.3
7978039	CR601	1.3
7978031	CR607	1.2
7978034	CR612	1.6
7978025	CR616	1.0
7978023	CR617	1.0
7978017	CR622	1.4
7978008	CR623	0.8
7978018	CR628	1.1
7977273	DAY CARE OFF	1.4
7975540	GYM 416	1.5
7978100	* GYM 416 (Missing)	-
7975549	GYM OFFICE 416A	0.8
7978058	IMC A	2.5
7978064	IMC B	2.4
7978082	MAIN OFFICE	2.3
7978081	PRINC OFF	2.0
7978003	SR2	1.1
7977268	SR201	0.8
7977274	SR216	0.8
7978016	SR216	0.8
7978057	SR217	1.4
7977281	SR220	1.3
7977287	SR221	1.4
7978028	SR222	1.2
7978075	SR300	1.1
7978050	SR403	2.4
7978035	SR604	1.3
7978033	SR605	1.0
7978026	SR611	0.7
7978024	SR618	0.8
7978009	SR619A	0.7
7978007	SR619B	1.0
7978013	SR632	1.1
7978083	STAFF LOUNGE	0.9
7978076	STAFF WORK ROOM	1.5
7978087	VP RM	3.0

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Viers Mill Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	**QC Type**	**Result**
7977269	D (212/214)	1.1
7978006	D (625B)	3.0
7975532	D (CR104)	2.0
7978059	D (CR301)	1.0
7978042	D (CR309)	1.2
7978032	D (CR601)	0.8
7977267	D (SR201)	1.7
7978001	D (SR216)	0.6
7977280	D (SR220)	1.2
7978077	D (STAFF LOUNGE)	1.2
7975539	FB (CR104)	< 0.3
7977263	FB (SR201)	< 0.3
7978030	FB (SR216)	< 0.3
7978071	FB (STAFF LOUNGE)	< 0.3
7975550	OB (OB)	< 0.3
7977996	OB (OB)	< 0.3

Table Note:
* Missing or Compromised Sample

Summary of Missed Locations		
Viers Mill Elementary School		
Test Period: 11/28/17-12/02/17		
Kit Number	**Room / Area**	**Result**
-	BS (Missed location)	-
-	619C (Missed location)	-
-	220 (Missed location)	-
-	CR 220 (Missed location)	-
-	CR 315 (Missed location)	-
-	CR 403 (Missed location)	-
-	CR503 (Missed location)	-
-	CR 632 (Missed location)	-
-	ESOL 216 (Missed location)	-
-	HE 625 (Missed location)	-
-	OFFICE 218 (Missed location)	-
-	OFFICE 613 (Missed location)	-
-	OFFICE619a (Missed location)	-
-	RECEPTION ROOM (Missed location)	-
-	SR 200 (Missed location)	-
-	SR202 (Missed location)	-
-	SR 215 (Missed location)	-
-	SR402 (Missed location)	-
-	SR405 (Missed location)	-
-	SR407 (Missed location)	-
-	SR609 (Missed location)	-
-	SR614 (Missed location)	-
-	KITCHEN (Missed location)	-
-	613 (Missed location)	-

Summary of Missing, Compromised and ≥4 piC/L Tests			
Viers Mill Elementary School			
Test Period: 11/28/17-12/01/17			
Kit Number		**Room / Area**	**Result**
7975691	*	CR103 (Open Door)	1.6
7978095	*	CR206 (Open Window)	1.5
7978100	*	GYM 416 (Missing)	-

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 19, 2017 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIM

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978070	APR	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.3 ± 0.3	2017-12-04
7978065	APR	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.7 ± 0.4	2017-12-04
7978089	CONF RM	2017-11-28 @ 11:00 am	2017-12-01 @ 10:00 am	2.5 ± 0.4	2017-12-04
7978088	CONF RM B	2017-11-28 @ 11:00 am	2017-12-01 @ 10:00 am	2.2 ± 0.3	2017-12-04
7978069	CR301	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.3	2017-12-04
7978059	CR301	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.3	2017-12-04
7978052	CR302	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.7 ± 0.4	2017-12-04
7978051	CR303	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.4 ± 0.4	2017-12-04
7978063	CR304	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.5 ± 0.3	2017-12-04
7978045	CR305	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.6 ± 0.3	2017-12-04
7978046	CR306	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.3 ± 0.3	2017-12-04
7978047	CR307	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.2 ± 0.4	2017-12-04
7978040	CR308	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.3	2017-12-04
7978041	CR309	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.3	2017-12-04
7978042	CR309	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.2 ± 0.3	2017-12-04
7978054	CR310	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.3 ± 0.3	2017-12-04
7978049	CR311	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.1 ± 0.4	2017-12-04
7978048	CR312	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.3	2017-12-04
7978044	CR313	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.5 ± 0.4	2017-12-04
7978038	CR314	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.3	2017-12-04
7978036	CR317	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	0.6 ± 0.3	2017-12-04
7978037	CR415	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.3 ± 0.3	2017-12-04
7978058	IMC A	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	2.5 ± 0.4	2017-12-04
7978064	IMC B	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	2.4 ± 0.4	2017-12-04
7978081	PRINC OFF	2017-11-28 @ 11:00 am	2017-12-01 @ 10:00 am	2.0 ± 0.3	2017-12-04
7978075	SR300	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.1 ± 0.3	2017-12-04
7978071	STAFF LOUNGE	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	< 0.3	2017-12-04
7978083	STAFF LOUNGE	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	0.9 ± 0.3	2017-12-04
7978077	STAFF LOUNGE	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.2 ± 0.3	2017-12-04
7978076	STAFF WORK ROOM	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.5 ± 0.3	2017-12-04
7978087	VP RM	2017-11-28 @ 11:00 am	2017-12-01 @ 10:00 am	3.0 ± 0.4	2017-12-04

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

December 19, 2017 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7977285	100	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.8 ± 0.3	2017-12-04
7978056	100A	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	2.3 ± 0.4	2017-12-05
7977265	210	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.0 ± 0.3	2017-12-04
7977269	212/214	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.1 ± 0.3	2017-12-04
7977293	212/214	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	0.9 ± 0.3	2017-12-04
7977279	405	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.7 ± 0.4	2017-12-05
7978066	407	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.5 ± 0.3	2017-12-04
7978006	625B	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	3.0 ± 0.4	2017-12-04
7978002	625B	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	1.8 ± 0.4	2017-12-04
7978010	625C	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	1.1 ± 0.3	2017-12-04
7978005	625G	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	0.8 ± 0.3	2017-12-04
7978060	625H	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	1.0 ± 0.3	2017-12-04
7978022	625J	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	0.8 ± 0.3	2017-12-04
7978019	625K	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.2 ± 0.3	2017-12-04
7978021	625L	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	0.6 ± 0.3	2017-12-04
7978020	625M	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	0.8 ± 0.3	2017-12-04
7978014	625N	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.4 ± 0.4	2017-12-05
7978029	628	2017-11-28 @ 1:00 pm	2017-12-01 @ 11:00 am	0.9 ± 0.4	2017-12-04
7977262	CPU LAB	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	2.1 ± 0.4	2017-12-04
7975531	CR101	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.7 ± 0.3	2017-12-04
7975524	CR102	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.3 ± 0.4	2017-12-04
7975691	CR103	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.6 ± 0.4	2017-12-04
7975539	CR104	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7975686	CR104	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.8 ± 0.4	2017-12-05
7975532	CR104	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	2.0 ± 0.4	2017-12-05
7977260	CR105	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.4 ± 0.4	2017-12-04
7977261	CR106	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.7 ± 0.4	2017-12-04
7977256	CR107	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.5 ± 0.4	2017-12-05
7977289	CR199	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.6 ± 0.4	2017-12-04
7978067	CR203	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	2.4 ± 0.4	2017-12-05
7978004	CR204	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.2 ± 0.3	2017-12-04
7978027	CR205	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.6 ± 0.4	2017-12-04
7978095	CR206	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.5 ± 0.3	2017-12-04
7975523	CR207	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.5 ± 0.3	2017-12-04
7977264	CR208	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.5 ± 0.3	2017-12-04
7978015	CR218	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	0.6 ± 0.3	2017-12-04
7977288	CR218	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.7 ± 0.4	2017-12-05

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December 19, 2017 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7977275	CR219	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	2.1 ± 0.4	2017-12-04
7978055	CR400	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.7 ± 0.3	2017-12-04
7978061	CR401	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	2.1 ± 0.4	2017-12-04
7978039	CR601	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.3 ± 0.3	2017-12-04
7978032	CR601	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	0.8 ± 0.3	2017-12-04
7978031	CR607	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	1.2 ± 0.3	2017-12-04
7978034	CR612	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	1.6 ± 0.4	2017-12-04
7978025	CR616	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.3	2017-12-04
7978023	CR617	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.4	2017-12-05
7978017	CR622	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	1.4 ± 0.4	2017-12-04
7978008	CR623	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	0.8 ± 0.4	2017-12-04
7978018	CR628	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	1.1 ± 0.4	2017-12-04
7977273	DAY CARE OFF	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.4 ± 0.4	2017-12-04
7975540	GYM 416	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.5 ± 0.4	2017-12-04
7975549	GYM OFFICE 416A	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	0.8 ± 0.3	2017-12-04
7978082	MAIN OFFICE	2017-11-28 @ 11:00 am	2017-12-01 @ 10:00 am	2.3 ± 0.4	2017-12-04
7977996	OB	2017-11-28 @ 12:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7975550	OB	2017-11-28 @ 12:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978003	SR2	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.1 ± 0.4	2017-12-05
7977267	SR201	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	1.7 ± 0.3	2017-12-04
7977268	SR201	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	0.8 ± 0.3	2017-12-04
7977263	SR201	2017-11-28 @ 3:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7978001	SR216	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	0.6 ± 0.3	2017-12-04
7978030	SR216	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	< 0.3	2017-12-04
7978016	SR216	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	0.8 ± 0.4	2017-12-04
7977274	SR216	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	0.8 ± 0.3	2017-12-05
7978057	SR217	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.4 ± 0.3	2017-12-04
7977281	SR220	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.3 ± 0.3	2017-12-04
7977280	SR220	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.2 ± 0.3	2017-12-04
7977287	SR221	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.4 ± 0.4	2017-12-05
7978028	SR222	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.2 ± 0.4	2017-12-05
7978050	SR403	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	2.4 ± 0.4	2017-12-05
7978035	SR604	2017-11-28 @ 12:00 pm	2017-12-01 @ 10:00 am	1.3 ± 0.3	2017-12-04
7978033	SR605	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.3	2017-12-04
7978026	SR611	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	0.7 ± 0.4	2017-12-05
7978024	SR618	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	0.8 ± 0.3	2017-12-04
7978009	SR619A	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	0.7 ± 0.3	2017-12-04

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

December 19, 2017 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978007	SR619B	2017-11-28 @ 1:00 pm	2017-12-01 @ 10:00 am	1.0 ± 0.4	2017-12-04
7978013	SR632	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	1.1 ± 0.4	2017-12-05

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December 21, 2017 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
VIERS MILL ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978100	GYM 416	@	@		

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KCI TECHNOLOGIES

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase

Names of Schools:

1. Chevy Chase Elementary School
2. Greencastle Elementary School
3. English Manor
4. Rock View Elementary School
5. Wheaton Woods Elementary School
6. Sequoyah Elementary School
7. Fallsmead Elementary School
8. Beall Elementary School
9. Stephen Knolls School
10. Maryvale Elementary School
11. Redland Middle School
12. Walt Whitman High School
13. Springbrook High School
14. Blair G. Ewing Center
15. Viers Mill Elementary School
16. Albert Einstein High School
17. Wayside Elementary School
18. Thomas S. Wootton High School
19. Highland Elementary School
20. Bethesda Transportation Depot
21. Bethesda Maintenance Depot
22. Travilah Elementary School
23. Lathrop E. Smith Center

	Date	Initials
Radon Test Kits Deployed	11/28/17	JM
Radon Test Kits Collected	12/01/17	JM
Radon Test Kits Shipped to Lab*	12/01/17	JM
Radon Test Kits Received by Lab*	12/05/17	JM

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

December 19, 2017 **** LABORATORY ANALYSIS REPORT ****

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

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December 19, 2017 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within ±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 ± 0.7	2017-12-07
7975064	S2	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	27.4 ± 0.8	2017-12-07
7975063	S3	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	26.3 ± 0.7	2017-12-07
7975065	S4	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	23.0 ± 0.7	2017-12-07
7975069	S5	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	25.6 ± 0.7	2017-12-07
7975070	S6	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	23.0 ± 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

Time Start: 1049 Time Stop: 1049

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

7975075, 7975064, 7975063,

7975065, 7975069, 7975070

F4 Right

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

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

KCI TECHNOLOGIES

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MCPS RADON TESTING

Executive Summary: Viers Mill Elementary School

Date of Test Report:	10/20/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	10
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.8

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

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October 20, 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: Viers Mill Elementary School
11711 Joseph Mill Road
Silver Spring, MD 20906

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 Viers Mill Elementary School, located at 11711 Joseph Mill Road in Silver Spring, Maryland 20906 (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 26, 2016 and deployed thirteen (13) 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 29, 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 piC/L	none	n/a
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Veirs Mill Elementary School		
Test Period: 09/26/16-09/29/16		
Kit Number	**Room / Area**	**Result**
7802440	623	< 0.3
7802416	625	< 0.3
7802447	625B	0.7
7802478	ASSIS. PRINCIPAL	1.8
7802406	CONF. RM. M OFFI	1.1
7802407	GYM	0.5
7802462	GYM	< 0.3
7802415	GYM OFFICE	0.7
7802426	HEALTH	< 0.3
7802475	MAIN OFFICE	1.1
7802476	PRINCIPAL OFF.	1.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Veirs Mill Elementary School		
Test Period: 09/26/16-09/29/16		
Kit Number	**QC Type**	**Result**
7802409	D (CONF. RM M. OFFI)	1.2
7802433	FB (CONF RM M. OFFIC)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

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

Radon test result report for:

VEIRS MILL ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802440	623	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	< 0.3	2016-10-03
7802416	625	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	< 0.3	2016-10-03
7802447	625B	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	0.7 ± 0.3	2016-10-03
7802478	ASSIS. PRINCIPAL	2016-09-26 @ 11:00 am	2016-09-29 @ 9:00 am	1.8 ± 0.3	2016-10-03
7802433	CONF RM M. OFFIC	2016-09-26 @ 11:00 am	2016-09-29 @ 9:00 am	< 0.3	2016-10-03
7802409	CONF. RM M. OFFI	2016-09-26 @ 11:00 am	2016-09-29 @ 9:00 am	1.2 ± 0.3	2016-10-03
7802406	CONF. RM. M OFFI	2016-09-26 @ 11:00 am	2016-09-29 @ 9:00 am	1.1 ± 0.3	2016-10-03
7802462	GYM	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	< 0.3	2016-10-03
7802407	GYM	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	0.5 ± 0.3	2016-10-03
7802415	GYM OFFICE	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	0.7 ± 0.3	2016-10-03
7802426	HEALTH	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	< 0.3	2016-10-03
7802475	MAIN OFFICE	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	1.1 ± 0.3	2016-10-03
7802476	PRINCIPAL OFF.	2016-09-26 @ 12:00 pm	2016-09-29 @ 9:00 am	1.3 ± 0.3	2016-10-03

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

Radon test result report for:

MCPS Radon
Phase 18 Office Blanks

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

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

Radon test result report for:

MCPS Radon
Phase 18 Transit Blanks

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

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

Radon test result report for:
MCPS Radon
Spike Sample Results

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 176788

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

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 18

Name of Schools:

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

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 18

Name of Schools:

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

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

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

RADON SCREENING SURVEY – FOLLOW-UP VIERS MILL ELEMENTARY SCHOOL

117111 Joseph Mill Road, Silver Spring, Maryland 20906

EXECUTIVE SUMMARY

Date of Test Report:	3/8/16
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	4
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.7
High Value:	2.3
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	1

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 3/1/16 (Rev 2) Initial	Result (pCi/L) 3/8/16	Average Result (pCi/L)
Gym Office 416A	6.3	1.9	4.1
625B	4.2	2.0	3.1
Gym	3.4	2.3	2.9
	Result (pCi/L) 12/14/15		
Conference Room	5.5	0.7	3.1

KCI TECHNOLOGIES

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MCPS RADON TESTING

Executive Summary: Viers Mill Elementary School

Date of Test Report:	3/8/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	4
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.7
High Value:	2.3

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

KCI TECHNOLOGIES

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

March 8, 2016

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

Re: **Radon Testing Services**
KCI Job # 12146341.28

Location: Viers Mill Elementary School
11711 Joseph Mill Road
Silver Spring, MD 20906

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 Viers Mill Elementary School, located at 117111 Joseph Mill Road in Silver Spring, Maryland 20906 (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 8, 2016 and deployed six (6) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

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

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

The field 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. Moulsdale
Radon Measurement Specialist
KCI Technologies, Inc.

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

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

Radon Testing Results		
Viers Mill Elementary School		
Test Period: 02/08/16-02/11/16		
Kit Number	**Room / Area**	**Result**
7730161	625B	2.0
7730282	CONF ROOM	0.7
7730160	GYM	2.3
7730159	GYM OFFICE 416A	1.9

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Viers Mill Elementary School		
Test Period: 02/08/16-02/11/16		
Kit Number	**QC Type**	**Result**
7730286	D (CONF ROOM)	1.0
7730158	FB (CONF ROOM)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 25, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

VIERS MILL ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7730161	625B	2016-02-08 @ 11:00 am	2016-02-11 @ 10:00 am	2.0 ± 0.4	2016-02-15
7730158	CONF ROOM	2016-02-08 @ 11:00 am	2016-02-11 @ 10:00 am	< 0.3	2016-02-15
7730282	CONF ROOM	2016-02-08 @ 11:00 am	2016-02-11 @ 10:00 am	0.7 ± 0.3	2016-02-15
7730286	CONF ROOM	2016-02-08 @ 11:00 am	2016-02-11 @ 10:00 am	1.0 ± 0.3	2016-02-15
7730160	GYM	2016-02-08 @ 11:00 am	2016-02-11 @ 10:00 am	2.3 ± 0.4	2016-02-15
7730159	GYM OFFICE 416A	2016-02-08 @ 11:00 am	2016-02-11 @ 10:00 am	1.9 ± 0.4	2016-02-15

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

February 25, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS RADON
PHASE 8
OFFICE BLANKS

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

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

February 23, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT- PHASE 7, 8, 9
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7734937	1	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734946	10	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734955	11	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734956	12	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734959	13	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734930	14	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734953	15	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734954	16	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734940	17	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734949	18	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734948	19	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734939	2	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734942	20	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734929	21	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734933	22	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734934	23	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734936	24	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734943	25	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734944	26	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734935	27	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734928	28	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734952	29	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734947	3	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734931	30	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734932	31	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718520	32	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718523	33	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718522	34	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718521	35	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734945	4	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734960	5	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734958	6	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734951	7	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734957	8	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734938	9	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 8

Name of Schools:

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

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

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

KCI TECHNOLOGIES

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MCPS RADON TESTING

Executive Summary: Viers Mill Elementary School

Date of Test Report:	3/1/2016 (Rev 2)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	97
# Rooms ≥ 4.0 pCi/L:	2
Low Value:	< 0.3
High Value:	6.3

Rooms with results ≥ 4.0 pCi/L:
Gym Office 416A (6.3 pCi/L), 625B (4.2 pCi/L)

Project Status:
Initial testing completed; re-test needed for results ≥ 4.0 pCi/L.

KCI TECHNOLOGIES

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

March 1, 2016 (Rev 2)

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

Re: **Radon Testing Services**
KCI Job # 12146341.19

Location: Viers Mill Elementary School
11711 Joseph Mill Road
Silver Spring, MD 20906

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 Viers Mill Elementary School, located at 11711 Joseph Mill Road in Silver Spring, Maryland 20906 (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 15, 2016 and deployed one-hundred seventeen (117) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on December 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:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	Gym Office 416A	6.3
	625B	4.2
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Viers Mill E.S		
Test Period: 12/15/15-12/18/15		
Kit Number	**Room / Area**	**Result**
7706449	100	1.9
7706450	100A	1.8
7706413	625B	4.2
7706499	625C	1.3
7706407	625G	1.1
7706415	625H	1.7
7706409	625J	1.3
7704460	625K	1.6
7704461	625L	0.7
7704451	625M	0.8
7704483	625N	1.0
7706451	BS	1.4
7704477	CONF RM	2.2
7704499	CONF RM B	2.1
7706420	CONF619C	< 0.3
7706445	CR101	2.2
7706441	CR102	1.3
7706444	CR103	1.2
7706440	CR104	1.5
7706436	CR105	1.0
7706443	CR106	1.2
7706435	CR107	1.4
7706486	CR199	< 0.3
7706485	CR203	1.2
7706483	CR204	0.8
7706487	CR205	1.0
7706488	CR206	0.9
7706489	CR207	0.9
7706490	CR208	2.0
7706430	CR218	2.8
7706431	CR219	1.8
7706437	CR220	1.6
7704486	CR301	0.8
7704480	CR302	1.8
7704278	CR303	2.1
7704489	CR304	1.5
7704277	CR305	1.3
7704500	CR306	1.4
7704484	CR307	0.9
7704473	CR308	0.9
7704497	CR309	< 0.3
7704494	CR310	1.2
7704447	CR311	0.6
7704448	CR312	0.9
7704280	CR313	0.6
7704487	CR314	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Viers Mill E.S		
Test Period: 12/15/15-12/18/15		
Kit Number	**Room / Area**	**Result**
7704279	CR315	0.7
7704490	CR317	< 0.3
7706476	CR400	1.4
7706473	CR401	1.1
7706477	CR403	2.0
7706479	CR503	1.8
7706405	CR601	< 0.3
7706401	CR607	0.8
7706428	CR611	0.5
7706402	CR612	< 0.3
7706433	CR616	< 0.3
7706412	CR617	< 0.3
7706422	CR622	< 0.3
7706424	CR623	< 0.3
7706419	CR628	0.6
7704459	CR632	0.5
7706448	DAY CARE OFF	1.2
7706418	ESLO216	< 0.3
7706434	GYM 416	3.2
7706447	GYM 416	3.4
7706442	GYM OFF 416A	6.3
7706414	HE625	0.9
7704495	IMCA	2.4
7704476	IMCB	2.7
7704478	MPR RM	2.1
7704488	MPR RM	1.5
7706417	OFF218	< 0.3
7706429	OFF613	< 0.3
7706404	OFF619A	0.7
7704276	PRINC OFF	2.5
7704264	RECEPTION RM	2.1
7706478	SR200	1.5
7706482	SR201	< 0.3
7706484	SR202	< 0.3
7706493	SR215	1.1
7706495	SR216	0.5
7706491	SR217	1.2
7706494	SR221	1.2
7706438	SR222	0.8
7704474	SR300	1.1
7706498	SR402	0.9
7706460	SR405	0.9
7706406	SR407	0.9
7704449	SR604	0.6
7706408	SR605	< 0.3
7706426	SR609	< 0.3
7706425	SR614	< 0.3
7706427	SR618	< 0.3
7706421	SR619B	1.2
7704263	STAFF LOUNGE	0.9

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Viers Mill E.S		
Test Period: 12/15/15-12/18/15		
Kit Number	**Room / Area**	**Result**
7704479	STAFF WORK RM	2.3
7706416	TOIL625	1.2
7704464	VP RM	2.8

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Viers Mill E.S		
Test Period: 12/15/15-12/18/15		
Kit Number	**QC Type**	**Result**
7706497	D (625B)	3.0
7706492	D (CR208)	2.1
7706432	D (CR220)	1.4
7704261	D (CR308)	0.6
7706481	D (CR503)	1.9
7706403	D (CR612)	< 0.3
7706410	D (CR617)	< 0.3
7706446	D (DAY CARE OFF)	1.4
7706411	D (HE625)	0.9
7704262	D (IMCA)	2.0
7706500	FB (625C)	< 0.3
7706439	FB (CR105)	< 0.3
7704472	FB (CR312)	< 0.3
7706423	FB (CR622)	< 0.3
7706480	FB (SR200)	< 0.3
7704462	FB (SR300)	< 0.3
7706496	FB (SR407)	< 0.3
7704359	OB (OFFICE BLANK)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 30, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

VIERS MILL E.S
MAIN FLOOR PLAN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7706449	100	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.9 ± 0.4	2015-12-22
7706450	100A	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.8 ± 0.4	2015-12-22
7706413	625B	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	4.2 ± 0.4	2015-12-22
7706497	625B	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	3.0 ± 0.4	2015-12-22
7706499	625C	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	1.3 ± 0.3	2015-12-22
7706500	625C	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706407	625G	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	1.1 ± 0.3	2015-12-22
7706415	625H	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	1.7 ± 0.3	2015-12-22
7706409	625J	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	1.3 ± 0.3	2015-12-22
7704460	625K	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	1.6 ± 0.3	2015-12-22
7704461	625L	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	0.7 ± 0.3	2015-12-22
7704451	625M	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	0.8 ± 0.3	2015-12-22
7704483	625N	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	1.0 ± 0.3	2015-12-22
7706451	BS	2015-12-15 @ 3:00 pm	2015-12-18 @ 12:00 pm	1.4 ± 0.4	2015-12-22
7704477	CONF RM	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.2 ± 0.4	2015-12-22
7704499	CONF RM B	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.1 ± 0.4	2015-12-22
7706420	CONF619C	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706445	CR101	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	2.2 ± 0.4	2015-12-22
7706441	CR102	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.3 ± 0.3	2015-12-22
7706444	CR103	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.2 ± 0.3	2015-12-22
7706440	CR104	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.5 ± 0.4	2015-12-22
7706436	CR105	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.0 ± 0.3	2015-12-22
7706439	CR105	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7706443	CR106	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.2 ± 0.3	2015-12-22
7706435	CR107	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.4 ± 0.3	2015-12-22
7706486	CR199	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7706485	CR203	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	1.2 ± 0.3	2015-12-22
7706483	CR204	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	0.8 ± 0.3	2015-12-22
7706487	CR205	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	1.0 ± 0.3	2015-12-22
7706488	CR206	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	0.9 ± 0.3	2015-12-22
7706489	CR207	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	0.9 ± 0.3	2015-12-22
7706490	CR208	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.0 ± 0.4	2015-12-22
7706492	CR208	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.1 ± 0.4	2015-12-22
7706430	CR218	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	2.8 ± 0.4	2015-12-22
7706431	CR219	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.8 ± 0.4	2015-12-22
7706432	CR220	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.4 ± 0.4	2015-12-22
7706437	CR220	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.6 ± 0.4	2015-12-22

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

December 30, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

VIERS MILL E.S
MAIN FLOOR PLAN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7704486	CR301	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	0.8 ± 0.3	2015-12-22
7704480	CR302	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	1.8 ± 0.3	2015-12-22
7704278	CR303	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	2.1 ± 0.3	2015-12-22
7704489	CR304	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	1.5 ± 0.3	2015-12-22
7704277	CR305	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	1.3 ± 0.3	2015-12-22
7704500	CR306	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	1.4 ± 0.4	2015-12-22
7704484	CR307	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	0.9 ± 0.3	2015-12-22
7704261	CR308	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	0.6 ± 0.3	2015-12-22
7704473	CR308	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	0.9 ± 0.3	2015-12-22
7704497	CR309	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7704494	CR310	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	1.2 ± 0.3	2015-12-22
7704447	CR311	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	0.6 ± 0.3	2015-12-22
7704448	CR312	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	0.9 ± 0.3	2015-12-22
7704472	CR312	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7704280	CR313	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	0.6 ± 0.3	2015-12-22
7704487	CR314	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7704279	CR315	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	0.7 ± 0.3	2015-12-22
7704490	CR317	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706476	CR400	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	1.4 ± 0.3	2015-12-22
7706473	CR401	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	1.1 ± 0.3	2015-12-22
7706477	CR403	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	2.0 ± 0.4	2015-12-22
7706479	CR503	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	1.8 ± 0.3	2015-12-22
7706481	CR503	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	1.9 ± 0.4	2015-12-22
7706405	CR601	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706401	CR607	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	0.8 ± 0.3	2015-12-22
7706428	CR611	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	0.5 ± 0.3	2015-12-22
7706402	CR612	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706403	CR612	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706433	CR616	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706410	CR617	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706412	CR617	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706422	CR622	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706423	CR622	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706424	CR623	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706419	CR628	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	0.6 ± 0.3	2015-12-22
7704459	CR632	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	0.5 ± 0.3	2015-12-22
7706446	DAY CARE OFF	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.4 ± 0.3	2015-12-22

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

December 30, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

VIERS MILL E.S
MAIN FLOOR PLAN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7706448	DAY CARE OFF	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.2 ± 0.3	2015-12-22
7706418	ESLO216	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706447	GYM 416	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	3.4 ± 0.4	2015-12-22
7706434	GYM 416	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	3.2 ± 0.4	2015-12-22
7706442	GYM OFF 416A	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	6.3 ± 0.5	2015-12-22
7706411	HE625	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	0.9 ± 0.3	2015-12-22
7706414	HE625	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	0.9 ± 0.3	2015-12-22
7704262	IMCA	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	2.0 ± 0.4	2015-12-22
7704495	IMCA	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	2.4 ± 0.4	2015-12-22
7704476	IMCB	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	2.7 ± 0.4	2015-12-22
7704478	MPR RM	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.1 ± 0.4	2015-12-22
7704488	MPR RM	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	1.5 ± 0.3	2015-12-22
7706417	OFF218	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706429	OFF613	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706404	OFF619A	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	0.7 ± 0.3	2015-12-22
7704359	OFFICE BLANK	2015-12-15 @ 2:00 pm	2015-12-18 @ 2:00 pm	< 0.3	2015-12-22
7704276	PRINC OFF	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.5 ± 0.4	2015-12-22
7704264	RECEPTION RM	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.1 ± 0.4	2015-12-22
7706478	SR200	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	1.5 ± 0.4	2015-12-22
7706480	SR200	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7706482	SR201	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7706484	SR202	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7706493	SR215	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.1 ± 0.3	2015-12-22
7706495	SR216	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	0.5 ± 0.3	2015-12-22
7706491	SR217	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.2 ± 0.3	2015-12-22
7706494	SR221	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	1.2 ± 0.3	2015-12-22
7706438	SR222	2015-12-15 @ 4:00 pm	2015-12-18 @ 12:00 pm	0.8 ± 0.3	2015-12-22
7704462	SR300	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	< 0.3	2015-12-22
7704474	SR300	2015-12-15 @ 6:00 pm	2015-12-18 @ 12:00 pm	1.1 ± 0.4	2015-12-22
7706498	SR402	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	0.9 ± 0.3	2015-12-22
7706460	SR405	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	0.9 ± 0.3	2015-12-22
7706406	SR407	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	0.9 ± 0.3	2015-12-22
7706496	SR407	2015-12-15 @ 8:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7704449	SR604	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	0.6 ± 0.3	2015-12-22
7706408	SR605	2015-12-15 @ 6:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706426	SR609	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706425	SR614	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22

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December 30, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

VIERS MILL E.S
MAIN FLOOR PLAN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7706427	SR618	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	< 0.3	2015-12-22
7706421	SR619B	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	1.2 ± 0.3	2015-12-22
7704263	STAFF LOUNGE	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	0.9 ± 0.3	2015-12-22
7704479	STAFF WORK RM	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.3 ± 0.4	2015-12-22
7706416	TOIL625	2015-12-15 @ 7:00 pm	2015-12-18 @ 1:00 pm	1.2 ± 0.3	2015-12-22
7704464	VP RM	2015-12-15 @ 5:00 pm	2015-12-18 @ 12:00 pm	2.8 ± 0.4	2015-12-22

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

December 29, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT DEC 14 2015
NONE

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

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December 23, 2015

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

COX E.S.
MAIN

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173224

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

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase I

Name of Schools:

1. Westland M.S.
2. East Silver Spring E.S.
3. Oakland Terrace E.S.
4. Rocking Horse Road E.S.
5. Beall E.S.
6. South Lake E.S.
7. Jones Lane E.S.
8. Quince Orchard H.S.
9. Damascus E.S.
10. Westbrooke E.S.
11. Highland View E.S.
12. Cresthaven E.S.
13. Viers Mill E.S.
14. Smith Center
15. Rosemont E.S.
16. Ridgeview M.S.
17. Rockwell E.S.
18. Oak View E.S.
19. Jackson Road E.S.
20. Highland E.S.
21. Watkins Mill E.S.

	Date	Initials
Radon Test Kits Deployed	12/15/15	KM
Radon Test Kits Collected	12/18/15	KM
Radon Test Kits Shipped to Lab*	12/18/15	KM
Radon Test Kits Received by Lab*	12/22/15	KM

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