School / Facility Radon Testing Report Form

Instructions: *Submit one testing report form per-facility per-round of testing. 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.

School Year: **23-24**

Facility:	Sargent Shriver Elementary School
Address:	12518 Greenly Drive
	Silver Spring, MD 20906

Reason for Testing:	☒ Scheduled Re-Testing (2 or 5-year schedule) ☐ Clearance Testing (Post-Mitigation) ☐ System(s) Performance Testing (Post-Mitigation) ☐ New Construction/Facility
Facility Current Radon Status:	☒ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested
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 or Considered ☐ Required (>8.0-pCi/L) ☐ Required (≥4.0-pCi/L) ☐ Consider (≥2.0 & <4.0-pCi/L)	☒ No Change in Status ☐ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)

Detector and Deployment

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

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

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

Testing

☒ Short-Term ☐ Long-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	02/12/2024
				02/15/2024
Does the test period include weekends, school breaks or holidays?				☐ Yes ☒ No
*If "**Yes**" please explain/detail in the space below:*				
Was HVAC operating under occupied conditions?				☒ Yes ☐ No
*If "**No**" please explain/detail in the space below:*				

Testing (continued)

	Detectors Deployed		
	Ground-Contact	**Upper-Level(s)**	**Total**
Test Locations[1]	70	2	72
Duplicates[2]	7	0	7
Field Blanks[3]	4	1	5
		Grand Total	84

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.

Spike Samples[1]	6	Trip Blank(s)[2]	2	Office Blank(s)[3,4]	2

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.

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 QA plan previously submitted?	☒ Yes ☐ No

Quality Assurance / Quality Control (QA/QC) (continued)

*If "**No**" to either, please describe any QC measurements that were missing or outside of control tolerances established in the QAP here:*

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

	Ground-Contact	Upper-Level(s)	Total
Number of test locations:	70	2	72
Number of locations ≥8.0-pCi/L:	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0
Number of locations ≥2.7 and ≤4-pCi/L:	0	0	0
Number of locations ≥2.0 and ≤4-pCi/L:	0	0	0
Number of missing required test locations[3]:	0	0	0
Percentage of missing test locations for the facility[4,5]:	0	0	0

1 – for locations with multiple test results, report consistent with Section 7.2(When Two Test Results Disagree) and 8.1.2 (Averaging) of ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings;
2 - the allowance is to be calculated individually for Ground-Contact and Upper-Level(s) Test Locations;
3 – includes missed or inaccessible locations upon deployment or retrieval, damaged (not able to analyze) and missing detectors upon retrieval;
4 – if all valid measurements are <4.0-pCi/L and the total number of test locations are ≥18, there is an allowance of ≤33%. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023;
5 – if any valid measurements are ≥4.0-pCi/L and the total number of test locations are ≥20, there is an allowance of ≤25% of the total locations tested. If less than 20 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023.

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

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
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
***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 there sufficient valid measurements obtained?[1,2] ***If Yes** – then Testing Status - '**No Further Testing Needed**' complete Conclusion section* ***If No**, then Testing Status - '**Follow-up Testing Required**' continue below*	☐ 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.

- **If 'No Further Testing Needed'** complete conclusions section on first page.
- **If 'Follow-up Testing Required'** – complete Follow-up Testing described below and the conclusion section on the first page for only the valid measurements/results obtained

Follow-Up Testing (if required)

Required if –

1- Not enough valid results were obtained from a facility (table above);
2- Any results ≥ 4.0 – pCi/L; and
3- At the discretion of MCPS IAQ Staff

Follow-up Testing:

1- If an insufficient number of valid measurements obtained during initial round:
   - return to facility to test locations that require valid measurements
2- Follow-up Testing for valid measurements ≥ 4.0-pCi/L

Initial Result(s)	Procedure	Follow-up Result	Conclusion
≥ 4.0-pCi/L	1- Short-term follow-up test 2- Average the results of the two tests	≥4.0	Mitigation Required
		<4.0 but >2.0	Consider Mitigation
		<2.0	Not Required or Considered

- **Complete second School/Facility Radon Testing Report Form for only Follow-up Testing locations.**

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Sargent Shriver Elementary School		
Test Period: 02/12/2024 - 02/15/2024		
Kit Number	Room / Area	Result
11478407	1001	0.5
11478415	1001	< 0.3
11478406	1002	< 0.3
11478412	1004	< 0.3
11478463	1005	< 0.3
11478408	1007	0.7
11478403	1008	< 0.3
11478409	1009	0.7
11478402	1010	0.5
11478411	1011	0.8
11478440	1014	0.8
11482754	1014	< 0.3
11478410	1015	< 0.3
11478434	1019	0.5
11478441	1019	0.7
11478453	1023	0.5
11478425	1101	0.5
11478426	1105	0.7
11478401	1108	< 0.3
11478494	1109	< 0.3
11478029	1112	< 0.3
11478424	1114	< 0.3
11478489	1118	< 0.3
11478491	1118	0.5
11478421	1200	< 0.3
11478443	1204	< 0.3
11478419	1206	< 0.3
11478429	1209	< 0.3
11482762	1209	< 0.3
11478420	1210	< 0.3
11478433	1212	< 0.3
11478438	1213	< 0.3
11478455	1219	< 0.3
11478461	1222	< 0.3
11478462	1223	< 0.3
11478445	1300	0.7
11478427	1301	< 0.3
11478437	1305	< 0.3

Table 1- Radon Testing Results		
Sargent Shriver Elementary School		
Test Period: 02/12/2024 - 02/15/2024		
Kit Number	Room / Area	Result
11478430	1307	< 0.3
11478446	1311	< 0.3
11478475	1400	< 0.3
11478444	1500	< 0.3
11478432	1502	< 0.3
11478439	1502	< 0.3
11478435	1506	< 0.3
11478449	1600	< 0.3
11478452	1601	0.5
11478447	1605	< 0.3
11478450	1607	< 0.3
11478451	1607	0.6
11478482	1609	< 0.3
11478481	1612	< 0.3
11478473	1613	< 0.3
11478483	1615	0.6
11478484	1619	< 0.3
11478464	2013	< 0.3
11482768	2013	< 0.3
11478448	2025	< 0.3
11478422	1000 MAIN	1.1
11478418	1000A	0.8
11478414	1000B	1.0
11478416	1000C	0.9
11478405	1000E	1.1
11478423	1002A	0.7
11478417	1002D	< 0.3
11478404	1008B	< 0.3
11478436	1200 FC MANAGER	< 0.3
11478428	1200 HAILY	< 0.3
11478431	1200 HAILY	< 0.3
11478413	1200 JOCELYN	< 0.3
11478465	1404 MEDIA	0.5
11478466	1404 MEDIA	0.7
11478454	1404A	< 0.3
11478467	1404A	0.7
11478460	APR	< 0.3
11478476	APR	< 0.3

Table 1- Radon Testing Results		
Sargent Shriver Elementary School		
Test Period: 02/12/2024 - 02/15/2024		
Kit Number	Room / Area	Result
11463994	APR	< 0.3
11478067	APR	< 0.3
11478459	BS OFFICE	1.1
11478492	GYM	< 0.3
11478493	GYM	< 0.3
11478474	GYM OFFICE	< 0.3
11478468	KITCHEN OFFICE	0.8
11478490	STAGE	0.7

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Sargent Shriver Elementary School							
Test Period: 02/12/2024 - 02/15/2024							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	**Result**	**Room / Area**	**Result**	**Room / Area**	**Result**	**Room / Area**	**Result**
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Sargent Shriver Elementary School			
Test Period: 02/12/2024 - 02/15/2024			
Kit Number	**QC Type**	**Room / Area**	**Result**
11478407	D	1001	0.5
11482754	D	1014	< 0.3
11478434	FB	1019	0.5
11478489	D	1118	< 0.3
11482762	D	1209	< 0.3
11478439	D	1502	< 0.3
11478450	D	1607	< 0.3
11482768	FB	2013	< 0.3
11478428	FB	1200 Haily	< 0.3
11478454	FB	1404A	< 0.3
11463994	D	APR	< 0.3
11478067	FB	APR	< 0.3
11284661	OB	OFFICE BLANK	< 0.3
11284664	TB	TRAVEL BLANK	< 0.3

Table 4 - Summary of Invalid Measurement Locations		
Sargent Shriver Elementary School		
Test Period: 02/12/24 - 02/15/24		
Kit Number	**Room/Area**	**Result**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

February 19, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11478422	1000 MAIN	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	1.1 ± 0.3	2024-02-19
11478418	1000A	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.8 ± 0.3	2024-02-19
11478414	1000B	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	1.0 ± 0.3	2024-02-19
11478416	1000C	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.9 ± 0.3	2024-02-19
11478405	1000E	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	1.1 ± 0.3	2024-02-19
11478415	1001	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478407	1001	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.5 ± 0.3	2024-02-19
11478406	1002	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478423	1002A	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19
11478417	1002D	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478412	1004	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478463	1005	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478408	1007	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19
11478403	1008	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478404	1008B	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478409	1009	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19
11478402	1010	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.5 ± 0.3	2024-02-19
11478411	1011	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.8 ± 0.3	2024-02-19
11478440	1014	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.8 ± 0.3	2024-02-19
11478410	1015	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478441	1019	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19
11478434	1019	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.5 ± 0.3	2024-02-19
11478453	1023	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.5 ± 0.3	2024-02-19
11478425	1101	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	0.5 ± 0.3	2024-02-19
11478426	1105	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19
11478401	1108	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478494	1109	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478029	1112	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478424	1114	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478491	1118	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	0.5 ± 0.3	2024-02-19
11478489	1118	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478421	1200	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478436	1200 FC MANAGER	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478428	1200 HAILY	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478431	1200 HAILY	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478413	1200 JOCELYN	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478443	1204	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19

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

February 19, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11478419	1206	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478429	1209	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478420	1210	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478433	1212	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478438	1213	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478455	1219	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478461	1222	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478462	1223	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478445	1300	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19
11478427	1301	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478437	1305	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478430	1307	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478446	1311	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478475	1400	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478465	1404 MEDIA	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	0.5 ± 0.3	2024-02-19
11478466	1404 MEDIA	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19
11478467	1404A	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19
11478454	1404A	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478444	1500	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478439	1502	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478432	1502	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478435	1506	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478449	1600	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478452	1601	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	0.5 ± 0.3	2024-02-19
11478447	1605	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478450	1607	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478451	1607	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	0.6 ± 0.3	2024-02-19
11478482	1609	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478481	1612	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478473	1613	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478483	1615	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	0.6 ± 0.3	2024-02-19
11478484	1619	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478464	2013	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478448	2025	2024-02-12 @ 12:00 pm	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478460	APR	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478476	APR	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478459	BS OFFICE	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	1.1 ± 0.3	2024-02-19

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

February 19, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11478493	GYM	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478492	GYM	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478474	GYM OFFICE	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-19
11478468	KITCHEN OFFICE	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	0.8 ± 0.3	2024-02-19
11478490	STAGE	2024-02-12 @ 11:00 am	2024-02-15 @ 11:00 am	0.7 ± 0.3	2024-02-19

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

March 6, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

SARGENT SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11463994	APR	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05
11478067	APR	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05
11482754	1014	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05
11482762	1209	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05
11482768	2013	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05

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March 6, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

SARGENT SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11463994	APR	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05
11478067	APR	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05
11482754	1014	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05
11482762	1209	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05
11482768	2013	2024-02-27 @ 9:00 am	2024-03-01 @ 1:00 pm	< 0.3	2024-03-05

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

January 29, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
STORAGE
KCI

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11635097	Storage	2024-01-07 @ 9:00 am	2024-01-11 @ 9:00 am	< 0.3	2024-01-15

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

February 20, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE BLANK
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11284661	OB	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-20
11284674	OB	2024-02-13 @ 10:00 am	2024-02-16 @ 11:00 am	< 0.3	2024-02-20

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

February 20, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRAVEL BLANK
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11284664	TB	2024-02-12 @ 10:00 am	2024-02-15 @ 11:00 am	< 0.3	2024-02-20
11285521	TB	2024-02-13 @ 10:00 am	2024-02-16 @ 11:00 am	< 0.3	2024-02-20

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

March 5, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
KCI
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11284001	OB	2024-02-26 @ 8:00 am	2024-02-29 @ 1:00 pm	< 0.3	2024-03-04
11482791	TB	2024-02-26 @ 8:00 am	2024-02-29 @ 1:00 pm	< 0.3	2024-03-04

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 213819

NOMINAL Conditions: Radon Conc 50.0 pCi/L Rel. Hum 28.9 % Temp. 69.1 F

Date Start: 2/23/24 Date Stop: 2/26/24

Time Start: 0812 Time Stop: 0812

Device No.'s: (6) CHAR BAGS

11478400, 11477842, 11477845,

11477852, 11477996, 11477999

E3 Left

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

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

March 1, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
FEB SK
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11477842	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	50.3 ± 4.0	2024-03-01
11477845	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	55.3 ± 4.4	2024-03-01
11477852	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	49.4 ± 4.0	2024-03-01
11477996	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	49.8 ± 4.0	2024-03-01
11477999	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	55.4 ± 4.4	2024-03-01
11478400	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	47.0 ± 3.8	2024-03-01

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 – Testing February 12th – February 15th 2024

Name of Schools:

1. Montgomery Blair HS
2. Sargent Shriver ES
3. Southlake ES
4. Stonegate ES
5. Flora M. Singer ES
6. Sligo Creek ES
7. Travilah ES

	Date	Initials
Radon Test Kits Deployed	02/12/2024	
Radon Test Kits Collected	02/15/2024	
Radon Test Kits Shipped to Lab*	02/15/2024	
Radon Test Kits Received by Lab*	02/19/2024	

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

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 27th to March 1st 2024

Name of Schools:

1. Montgomery Blair HS
2. Cloverly ES
3. John T. Baker MS
4. Sargent Shriver ES
5. Travilah ES
6. Rosa Parks MS
7. Carver Educational Center

	Date	Initials
Radon Test Kits Deployed	02/27/2024	
Radon Test Kits Collected	03/01/2024	
Radon Test Kits Shipped to Lab*	03/01/2024	
Radon Test Kits Received by Lab*	03/04/2024	

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

Attachment 3:

Sampling Location Map

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	Sargent Shriver 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	67
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.2 pCi/L

Project Status:
Initial testing completed; No further action needed

KCI TECHNOLOGIES

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

May 11, 2022

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

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

Location: Sargent Shriver Elementary School
12518 Greenly Drive
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 Sargent Shriver Elementary School, located at 12518 Greenly Drive, 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 21, 2022 and deployed seventy-six (76) 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 24, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a

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

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to post-mitigation biennial testing.

These tests were conducted to:

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

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the low 40s and high temperatures ranged from the low 70s to the low 50s Fahrenheit. Maximum sustained winds ranged from 0-25 miles per hour. Average humidity was around 56% with 0.5 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

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

Table 1- Radon Testing Results		
Sargent Shriver ES		
Test Period: 03/21/2022 - 03/24/2022		
Kit Number	Room / Area	Result
11124095	1000	< 0.3
11113643	1002	< 0.3
11113602	1004	< 0.3
11132462	1005	< 0.3
11132454	1007	< 0.3
11132461	1007	< 0.3
11132500	1008	< 0.3
11124098	1009	< 0.3
11132499	1010	0.6
11124100	1011	< 0.3
11132477	1014	< 0.3
11132479	1014	< 0.3
11113605	1015	< 0.3
11139135	1019	0.7
11139136	1023	0.6
11139149	1023	< 0.3
11139181	1101	< 0.3
11139169	1105	< 0.3
11139161	1108	< 0.3
11139151	1109	< 0.3
11139164	1112	< 0.3
11139182	1114	< 0.3
11139189	1117	< 0.3
11139190	1117	< 0.3
11139162	1118	< 0.3
11139175	1118	< 0.3
11132469	1126	1.2
11139158	1200	< 0.3
11139170	1200	< 0.3
11139138	1204	< 0.3
11139137	1206	< 0.3
11139145	1209	< 0.3
11139159	1210	< 0.3
11139174	1212	< 0.3
11139146	1213	< 0.3
11139157	1213	< 0.3
11139167	1219	< 0.3
11139165	1222	1.1
11139166	1222	0.9
11139168	1223	0.5
11139172	1223	0.9
11132480	1300	< 0.3

Table 1- Radon Testing Results		
Sargent Shriver ES		
Test Period: 03/21/2022 - 03/24/2022		
Kit Number	Room / Area	Result
11132485	1301	< 0.3
11132478	1305	1.1
11132463	1307	0.8
11139129	1311	0.7
11132470	1400	0.7
11139180	1404	0.6
11139183	1404	< 0.3
11139173	1500	0.5
11139147	1502	< 0.3
11139148	1502	< 0.3
11139160	1506	< 0.3
11139141	1600	< 0.3
11139171	1601	0.5
11139154	1605	< 0.3
11139155	1609	< 0.3
11139144	1612	< 0.3
11139153	1613	< 0.3
11139156	1615	< 0.3
11139142	1619	< 0.3
11139193	2001	0.8
11139194	2004	0.6
11124093	1000A	0.7
11113606	1000B	< 0.3
11113601	1000C	< 0.3
11124097	1000E	< 0.3
11113608	1002A	< 0.3
11139152	1117 OFFICE	< 0.3
11139163	1117 OFFICE	< 0.3
11139130	1300A	< 0.3
11139179	1404A	< 0.3
11132471	CAFETERIA	< 0.3
11132472	CAFETERIA	0.7
11139197	CAFETERIA	< 0.3
11139198	KITCHEN	1.0

Table 2- Radon Testing Results			
Sargent Shirver ES			
Test Period: 03/21/2022 - 03/24/2022			
Kit Number	QC Type	Room / Area	Result
11132461	D	1007	< 0.3
11132477	D	1014	< 0.3
11139149	FB	1023	< 0.3
11139148	D	1502	< 0.3
11139168	FB	1223	0.5
11139146	D	1213	< 0.3
11139162	D	1118	< 0.3
11139163	FB	1117 office	< 0.3
11132472	D	Cafeteria	0.7
11139902	OB	OFFICE BLANK	< 0.3
11139928	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Sargent Shriver ES		
Test Period: 03/21/22 - 03/24/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Sargent Shriver ES		
Test Period: 03/21/22 - 03/24/22		
Kit Number	Room/Area	Result
	NA	

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 28, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

SARGENT SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11124095	1000	2022-03-21 @ 8:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11124093	1000A	2022-03-21 @ 8:00 am	2022-03-24 @ 9:00 am	0.7 ± 0.3	2022-03-28
11113606	1000B	2022-03-21 @ 8:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11113601	1000C	2022-03-21 @ 8:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11124097	1000E	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11113643	1002	2022-03-21 @ 8:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11113608	1002A	2022-03-21 @ 8:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11113602	1004	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132462	1005	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132461	1007	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132454	1007	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132500	1008	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11124098	1009	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132499	1010	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.6 ± 0.3	2022-03-28
11124100	1011	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132477	1014	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132479	1014	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11113605	1015	2022-03-21 @ 8:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139135	1019	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.7 ± 0.3	2022-03-28
11139136	1023	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.6 ± 0.3	2022-03-28
11139149	1023	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139181	1101	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139169	1105	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139161	1108	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139151	1109	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139164	1112	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139182	1114	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139190	1117	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139189	1117	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139163	1117 OFFICE	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139152	1117 OFFICE	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139162	1118	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139175	1118	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11132469	1126	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	1.2 ± 0.3	2022-03-28
11139170	1200	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139158	1200	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139138	1204	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28

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

March 28, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
SARGENT SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139137	1206	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139145	1209	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139159	1210	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139174	1212	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139157	1213	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139146	1213	2022-03-21 @ 9:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139167	1219	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139166	1222	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.9 ± 0.3	2022-03-28
11139165	1222	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	1.1 ± 0.3	2022-03-28
11139168	1223	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.5 ± 0.3	2022-03-28
11139172	1223	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.9 ± 0.3	2022-03-28
11132480	1300	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139130	1300A	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132485	1301	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11132478	1305	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	1.1 ± 0.3	2022-03-28
11132463	1307	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.8 ± 0.3	2022-03-28
11139129	1311	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.7 ± 0.3	2022-03-28
11132470	1400	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	0.7 ± 0.3	2022-03-28
11139183	1404	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139180	1404	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	0.6 ± 0.3	2022-03-28
11139179	1404A	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11139173	1500	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.5 ± 0.3	2022-03-28
11139148	1502	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139147	1502	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139160	1506	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139141	1600	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139171	1601	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	0.5 ± 0.3	2022-03-28
11139154	1605	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139155	1609	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139144	1612	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139153	1613	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139156	1615	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139142	1619	2022-03-21 @ 9:00 am	2022-03-24 @ 10:00 am	< 0.3	2022-03-28
11139193	2001	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	0.8 ± 0.3	2022-03-28
11139194	2004	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	0.6 ± 0.3	2022-03-28
11139197	CAFETERIA	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28
11132471	CAFETERIA	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	< 0.3	2022-03-28

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

March 28, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
SARGENT SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11132472	CAFETERIA	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	0.7 ± 0.3	2022-03-28
11139198	KITCHEN	2022-03-21 @ 10:00 am	2022-03-24 @ 9:00 am	1.0 ± 0.3	2022-03-28

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. Shriver, Sargent ES

	Date	Initials
Radon Test Kits Deployed	03/21/2022	BMM
Radon Test Kits Collected	03/24/2022	BMM
Radon Test Kits Shipped to Lab*	03/25/2022	BMM
Radon Test Kits Received by Lab*	03/28/2022	BMM

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

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Sargent Shriver 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	64
# Rooms ≥4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.5 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: Sargent Shriver Elementary School
12518 Greenly Drive
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 Sargent Shriver Elementary School, located at 12518 Greenly Drive 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 seventy-eight (78) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

A floor plan map of the building with the test locations is included as 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		
Sargent Shriver Elementary School		
Test Period: 12/17/2019-12/20/2019		
Kit Number	Room / Area	Result
9340528	1126	0.9
9340529	1117	< 0.3
9340530	1117	< 0.3
9340531	1117	< 0.3
9340532	1117A	< 0.3
9340533	1118	< 0.3
9340534	1109	0.6
9340535	1114	< 0.3
9340536	1112	< 0.3
9340537	1108	< 0.3
9340538	1105	< 0.3
9340539	1101	< 0.3
9340540	1101	< 0.3
9340541	1005	< 0.3
9340542	1005	< 0.3
9340543	1007	< 0.3
9340544	1009	< 0.3
9340545	1011	0.5
9340546	1004	0.8
9340547	1200	0.5
9340548	1200A	0.5
9340549	1200B	0.6
9340550	1200C	< 0.3
9340551	1200C	0.8
9340552	1209	< 0.3
9340553	1213	< 0.3
9340554	1204	0.6
9340555	1206	0.7
9340556	1401	< 0.3
9340557	1401	< 0.3
9340558	1404	0.5
9340559	1404A	< 0.3
9340560	1404A	< 0.3
9340561	1400	< 0.3
9340562	1400	< 0.3
9340563	1210	< 0.3
9340564	1212	< 0.3
9340565	1500	0.6
9340566	1502	< 0.3
9340567	1506	< 0.3
9340568	1619	0.7
9340569	1615	0.9
9340570	1615	0.5
9340571	1612	0.9
9340572	1613	1
9340573	1609	0.6
9340574	1605	< 0.3
9340575	1600	< 0.3
9340576	1601	0.8
9340577	1222	1.5

9340578	1223	1.4
9340579	1219	1
9340580	1219	0.7
9340581	2001	0.6
9340582	2001	< 0.3
9340583	2019	< 0.3
9340584	1311	< 0.3
9340585	1307	< 0.3
9340586	1305	< 0.3
9340587	1301	< 0.3
9340588	1023	0.8
9340589	1014	0.7
9340590	1014	1.2
9340591	1300	1
9340592	1010	0.6
9340593	1019	0.9
9340594	1015	0.5
9340595	1008	1
9340596	1000	0.7
9340597	1000C	< 0.3
9340598	1000B	< 0.3
9340599	1000E	< 0.3
9340600	1000E	< 0.3
9340601	1002	< 0.3
9340602	1002	< 0.3
9340603	1002A	< 0.3
9340604	1002D	< 0.3
9340605	1000A	0.8
9341386	OFFICE BLANK	< 0.3

Table 2- Radon Testing Results			
Shriver Elementary School			
Test Period: 12/16/2019-12/19/2019			
Kit Number	QC Type	Room / Area	Result
9340530	D	1117	<0.3
9340540	D	1101	<0.3
9340542	FB	1005	<0.3
9340551	D	1200C	0.8
9340560	D	1404A	<0.3
9340562	FB	1400	<0.3
9340570	D	1615	0.5
9340580	D	1219	0.7
9340582	FB	2001	<0.3
9340590	D	1014	1.2
9340600	D	1000E	<0.3
9340602	FB	1002	<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		
Sargent Shriver 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		
Sargent Shriver 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:
SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340596	1000	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9340605	1000A	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	0.8 ± 0.4	2019-12-24
9340598	1000B	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340597	1000C	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340599	1000E	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340600	1000E	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340601	1002	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340602	1002	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340603	1002A	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340604	1002D	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340546	1004	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	0.8 ± 0.4	2019-12-24
9340542	1005	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340541	1005	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340543	1007	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340595	1008	2019-12-17 @ 11:00 am	2019-12-20 @ 8:00 am	1.0 ± 0.4	2019-12-24
9340544	1009	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340592	1010	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	0.6 ± 0.3	2019-12-24
9340545	1011	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	0.5 ± 0.4	2019-12-24
9340589	1014	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9340590	1014	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	1.2 ± 0.4	2019-12-24
9340594	1015	2019-12-17 @ 11:00 am	2019-12-20 @ 8:00 am	0.5 ± 0.4	2019-12-24
9340593	1019	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	0.9 ± 0.4	2019-12-24
9340588	1023	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	0.8 ± 0.3	2019-12-24
9340539	1101	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340540	1101	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340538	1105	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340537	1108	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340534	1109	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.6 ± 0.4	2019-12-24
9340536	1112	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340535	1114	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340529	1117	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340530	1117	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340531	1117	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340532	1117A	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340533	1118	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340528	1126	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.9 ± 0.4	2019-12-24
9340547	1200	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	0.5 ± 0.4	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:
SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340548	1200A	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	0.5 ± 0.4	2019-12-24
9340549	1200B	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9340551	1200C	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	0.8 ± 0.4	2019-12-24
9340550	1200C	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340554	1204	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9340555	1206	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.4	2019-12-24
9340552	1209	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340563	1210	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340564	1212	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340553	1213	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340579	1219	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.0 ± 0.4	2019-12-24
9340580	1219	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.4	2019-12-24
9340577	1222	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.5 ± 0.4	2019-12-24
9340578	1223	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.4 ± 0.4	2019-12-24
9340591	1300	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	1.0 ± 0.4	2019-12-24
9340587	1301	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340586	1305	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340585	1307	2019-12-17 @ 11:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340584	1311	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340561	1400	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340562	1400	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340556	1401	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340557	1401	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340558	1404	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	0.5 ± 0.4	2019-12-24
9340559	1404A	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340560	1404A	2019-12-17 @ 9:00 am	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340565	1500	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9340566	1502	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340567	1506	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340575	1600	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340576	1601	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.8 ± 0.3	2019-12-24
9340574	1605	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340573	1609	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9340571	1612	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.9 ± 0.4	2019-12-24
9340572	1613	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	1.0 ± 0.4	2019-12-24
9340569	1615	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.9 ± 0.4	2019-12-24
9340570	1615	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.5 ± 0.4	2019-12-24

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

Radon test result report for:
SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340568	1619	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.3	2019-12-24
9340581	2001	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.3	2019-12-24
9340582	2001	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340583	2019	2019-12-17 @ 10:00 am	2019-12-20 @ 10:00 am	< 0.3	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

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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
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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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 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

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	Sargent Shriver Elementary School
Date of Report	March 13, 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	8
# Rooms ≥4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.8 pCi/L

Project Status

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

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

March 13, 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: Sargent Shriver Elementary School
12518 Greenly Dr
Silver Spring, Maryland 20905

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 Sargent Shriver Elementary School, located at 12518 Greenly Dr in Silver Spring, Maryland 20905 (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 ten (10) 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		
Sargent Shriver Elementary School		
Test Period: 02/13/18-02/16/18		
Kit Number	**Room / Area**	**Result**
7986833	1607	0.6
7986828	2018	< 0.3
7986829	2021	< 0.3
7986832	2025	< 0.3
7986839	1000D	0.8
7986835	* AP ROOM (Missing)	-
7986842	KITCHEN	0.6
7986834	KITCHEN OFFICE	1.8

Table Note:
* Missing or Compromised Sample

Table 2 - Radon Testing Results		
Sargent Shriver Elementary School		
Test Period: 02/13/18-02/16/18		
Kit Number	**QC Type**	**Result**
7986830	D (1607)	0.6
7986831	FB (2018)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

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

Radon test result report for:

SARGENT SHRIVER ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7986839	1000D	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	0.8 ± 0.4	2018-02-20
7986833	1607	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	0.6 ± 0.3	2018-02-20
7986830	1607	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	0.6 ± 0.3	2018-02-20
7986828	2018	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	< 0.3	2018-02-20
7986831	2018	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	< 0.3	2018-02-20
7986829	2021	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	< 0.3	2018-02-20
7986832	2025	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	< 0.3	2018-02-20
7986835	AP ROOM	@	@		
7986842	KITCHEN	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	0.6 ± 0.3	2018-02-20
7986834	KITCHEN OFFICE	2018-02-13 @ 10:00 am	2018-02-16 @ 10:00 am	1.8 ± 0.4	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

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

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

Radon test result report for:
TRANSIT BLANKS

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

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

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

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within ±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	Sargent Shriver Elementary School
Date of Report	January 30, 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	61
# Rooms ≥4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	1.3 pCi/L

Project Status

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

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January 30, 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: Sargent Shriver Elementary School
12518 Greenly Dr.
Silver Spring, Maryland 20905

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 Sargent Shriver Elementary School, located at 12518 Greenly Dr. in Silver Spring, Maryland 20905 (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 27, 2017 and deployed seventy-four (74) 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 November 30, 2017 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 (Attachement 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 blank, and lab transit blank 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,

Unknown User
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		
Sargent Shriver Elementary School		
Test Period: 11/27/17-11/30/17		
Kit Number	**Room / Area**	**Result**
7977354	1004	0.5
7977350	1005	< 0.3
7977352	1007	< 0.3
7977358	1008	0.5
7977351	1009	< 0.3
7977359	1010	1.0
7977344	1011	0.7
7977365	1014	0.8
7977357	1015	< 0.3
7977363	1019	0.9
7977364	1023	0.6
7977681	1101	< 0.3
7977700	1105	< 0.3
7977625	1108	< 0.3
7977698	1109	0.5
7977319	1112	< 0.3
7977320	1114	0.5
7977318	1118	< 0.3
7977696	1126	< 0.3
7977373	1200	< 0.3
7977361	1204	< 0.3
7977322	1206	< 0.3
7977328	1209	< 0.3
7977323	1210	0.6
7977375	1212	< 0.3
7977327	1213	< 0.3
7977362	1219	< 0.3
7977333	1222	1.2
7977329	1223	1.3
7977356	1300	1.2
7977377	1301	< 0.3
7977301	1305	< 0.3
7977349	1307	< 0.3
7977355	1311	0.6
7977380	1400	< 0.3
7977376	1500	< 0.3
7977303	1502	< 0.3
7977302	1506	< 0.3
7977371	1600	0.6
7977334	1601	0.5
7977306	1605	< 0.3
7977307	1609	0.5
7977368	1612	< 0.3
7977367	1613	0.6
7977308	1615	< 0.3
7977309	1619	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Sargent Shriver Elementary School		
Test Period: 11/27/17-11/30/17		
Kit Number	**Room / Area**	**Result**
7977321	2001	0.6
7977370	2005	0.7
7977379	2006	< 0.3
7977341	1000A	0.6
7977342	1000B	0.7
7977343	1000C	0.6
7977346	* 1000D (Missing)	-
7977345	1000E	0.8
7977348	1002A	< 0.3
7977312	1404A	< 0.3
7977315	AP ROOM	< 0.3
7977311	* AP ROOM (Missing)	-
7977347	HEALTH SUITE	< 0.3
7977340	MAIN OFFICE	0.7
7977313	MEDIA CENTER	0.6
7977314	MEDIA CENTER	< 0.3
7977316	PE	0.9
7977317	PE	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Sargent Shriver Elementary School		
Test Period: 11/27/17-11/30/17		
Kit Number	**QC Type**	**Result**
7977353	* D (1007:Missing)	-
7977369	D (1014)	0.7
7977339	D (1101)	0.6
7977305	D (1126)	0.5
7977374	D (1212)	< 0.3
7977335	D (1223)	1.3
7977310	D (1619)	0.8
7977697	FB (1118)	< 0.3
7977304	FB (1209)	< 0.3
7975662	OB (OB)	< 0.3

Table Note:
* Missing or Compromised Sample

Summary of Missed Locations		
Sargent Shriver Elementary School		
Test Period: 11/27/17-12/01/17		
Kit Number	**Room / Area**	**Result**
-	1607 (Missed location)	-
-	2018 (Missed location)	-
-	2021 (Missed location)	-
-	2025 (Missed location)	-
-	Kitchen (Missed location)	-
-	Kitchen Office (Missed location)	-

Summary of Missing, Compromised and ≥4 piC/L Tests			
Sargent Shriver Elementary School			
Test Period: 11/27/17-11/30/17			
Kit Number		**Room / Area**	**Result**
7977346	*	1000D (Missing)	-
7977311	*	AP ROOM (Missing)	-
7977353	*	D (1007:Missing)	-

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

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

Radon test result report for:
SARGENT SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7977341	1000A	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977342	1000B	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.7 ± 0.3	2017-12-04
7977343	1000C	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977345	1000E	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.8 ± 0.3	2017-12-04
7977348	1002A	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977354	1004	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.5 ± 0.3	2017-12-04
7977350	1005	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977352	1007	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977358	1008	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.5 ± 0.3	2017-12-04
7977351	1009	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977359	1010	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	1.0 ± 0.3	2017-12-04
7977344	1011	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.7 ± 0.3	2017-12-04
7977365	1014	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.8 ± 0.3	2017-12-04
7977369	1014	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.7 ± 0.3	2017-12-04
7977357	1015	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977363	1019	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.9 ± 0.3	2017-12-04
7977364	1023	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977681	1101	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977339	1101	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977700	1105	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977625	1108	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977698	1109	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	0.5 ± 0.3	2017-12-04
7977319	1112	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977320	1114	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	0.5 ± 0.3	2017-12-04
7977697	1118	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977318	1118	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977696	1126	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977305	1126	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	0.5 ± 0.3	2017-12-04
7977373	1200	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977361	1204	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977322	1206	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977304	1209	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977328	1209	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977323	1210	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977374	1212	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977375	1212	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977327	1213	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04

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

Radon test result report for:
SARGENT SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7977362	1219	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977333	1222	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	1.2 ± 0.3	2017-12-04
7977329	1223	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	1.3 ± 0.3	2017-12-04
7977335	1223	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	1.3 ± 0.4	2017-12-04
7977356	1300	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	1.2 ± 0.3	2017-12-04
7977377	1301	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977301	1305	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977349	1307	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977355	1311	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977380	1400	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977312	1404A	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977376	1500	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977303	1502	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977302	1506	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977371	1600	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977334	1601	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	0.5 ± 0.3	2017-12-04
7977306	1605	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977307	1609	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	0.5 ± 0.3	2017-12-04
7977368	1612	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977367	1613	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977308	1615	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977309	1619	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977310	1619	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	0.8 ± 0.3	2017-12-04
7977321	2001	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977370	2005	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	0.7 ± 0.3	2017-12-04
7977379	2006	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977315	AP ROOM	2017-11-27 @ 1:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977347	HEALTH SUITE	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7977340	MAIN OFFICE	2017-11-27 @ 12:00 pm	2017-11-30 @ 11:00 am	0.7 ± 0.3	2017-12-04
7977313	MEDIA CENTER	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	0.6 ± 0.3	2017-12-04
7977314	MEDIA CENTER	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7975662	OB	2017-11-27 @ 1:00 pm	2017-11-30 @ 1:00 pm	< 0.3	2017-12-04
7977316	PE	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	0.9 ± 0.3	2017-12-04
7977317	PE	2017-11-27 @ 2:00 pm	2017-11-30 @ 11:00 am	< 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 21, 2017 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
SARGENT SHRIVER ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7977346	1000D	@	@		
7977353	1007	@	@		
7977311	AP ROOM	@	@		

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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. Montgomery Knolls Elementary School
2. New Hampshire Estates Elementary School
3. Montgomery Blair High School
4. Silver Creek Middle School
5. Sligo Creek Elementary School
6. East Silver Spring Elementary School
7. Silver Spring International Middle School
8. Woodlin Elementary School
9. Northwood High School
10. Spring Mill Center
11. Westbrook Elementary School
12. Westland Middle School
13. Cloverly Elementary School
14. Flora Singer Elementary School
15. Sligo Middle School
16. Mario Loiederman Middle School
17. Roscoe Nix Elementary School
18. Sargent Shriver Elementary School
19.
20.
21.
22.
23.
24.
25.
26.

	Date	Initials
Radon Test Kits Deployed	11/27/17	JM
Radon Test Kits Collected	11/30/17	JM
Radon Test Kits Shipped to Lab*	11/30/17	JM
Radon Test Kits Received by Lab*	12/04/17	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: Sargent Shriver Elementary School

Date of Test Report:	10/20/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	19
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	0.7

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: Sargent Shriver Elementary School
12518 Greenly Street
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 Sargent Shriver Elementary School, located at 12518 Greenly Street 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 twenty-two (22) 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		
Shriver Elementary School		
Test Period: 09/26/16-09/29/16		
Kit Number	**Room / Area**	**Result**
7802430	1004	< 0.3
7802420	1005	< 0.3
7802429	1007	< 0.3
7802425	1009	< 0.3
7802446	1010	< 0.3
7802445	1011	0.6
7802424	1014	< 0.3
7802443	1019	< 0.3
7802423	1023	< 0.3
7802422	1200	< 0.3
7802421	1204	< 0.3
7802437	1206	0.5
7802448	1212	< 0.3
7802442	1300	0.5
7802436	1500	0.5
7802441	1502	< 0.3
7802413	1000A	0.5
7802484	1002A	< 0.3
7802449	LOUNGE	0.5

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Shriver Elementary School		
Test Period: 09/26/16-09/29/16		
Kit Number	**QC Type**	**Result**
7802450	D (1002A)	0.7
7802444	D (1200)	< 0.3
7802419	FB (LOUNGE)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

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

Radon test result report for:
SHRIVER ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7802413	1000A	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	0.5 ± 0.3	2016-10-03
7802450	1002A	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	0.7 ± 0.3	2016-10-03
7802484	1002A	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802430	1004	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802420	1005	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802429	1007	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802425	1009	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802446	1010	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802445	1011	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	0.6 ± 0.3	2016-10-03
7802424	1014	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802443	1019	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802423	1023	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802422	1200	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802444	1200	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802421	1204	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802437	1206	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	0.5 ± 0.3	2016-10-03
7802448	1212	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802442	1300	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	0.5 ± 0.3	2016-10-03
7802436	1500	2016-09-26 @ 11:00 am	2016-09-29 @ 8:00 am	0.5 ± 0.3	2016-10-03
7802441	1502	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802419	LOUNGE	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	< 0.3	2016-10-03
7802449	LOUNGE	2016-09-26 @ 10:00 am	2016-09-29 @ 8:00 am	0.5 ± 0.3	2016-10-03

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

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

Radon test result report for:

MCPS Radon
Phase 18 Office Blanks

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

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

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

Radon test result report for:

MCPS Radon
Phase 18 Transit Blanks

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

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

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

Radon test result report for:
MCPS Radon
Spike Sample Results

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 176788

NOMINAL Conditions: Radon Conc 26.1 pCi/L Rel. Hum 49.6 % Temp. 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 SARGENT SHRIVER ELEMENTARY SCHOOL

12518 Greenly Street, Silver Spring, Maryland 20906

EXECUTIVE SUMMARY

Date of Test Report:	4/11/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	13
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	1.6
High Value:	3.4
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	1

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 2/26/16 Initial	Result (pCi/L) 4/11/16 Follow-Up	Average Result (pCi/L)
1014	5.7	2.1	3.9
1019	4.6	3.4	4.0
1000A	3.3	2.0	2.7
1002A	3.4	2.2	2.8
1004	3.8	1.6	2.7
1007	3.5	1.9	2.7
1009	3.8	2.1	3.0
1010	3.9	2.4	3.2
1023	3.8	2.4	3.1
1200	3.5	2.3	2.9
1206	3.4	2.4	2.9
1212	3.6	2.7	3.2
1500	3.9	2.6	3.3

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

MCPS RADON TESTING

Executive Summary: Sargent Shriver Elementary School

Date of Test Report:	4/11/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	13
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	1.6
High Value:	3.4

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

April 11, 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 # 12146341.32

Location: Sargent Shriver Elementary School
12518 Greenly Street
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 Sargent Shriver Elementary School, located at 12518 Greenly Street 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 March 14, 2016 and deployed fourteen (14) 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 TCS Industries Inc. as spike samples. The spiked tests were exposed to a known radon concentration by TCS prior to being returned to the laboratory for analysis.

KCI returned to the site on March 17, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis (certification # ARL0007) located at 929 Mount

Zion Road, Lebanon, Pennsylvania.

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	NA
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

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

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

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (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 12 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
Shriver ES		
Test Period: 03/14/16-03/17/16		
Kit Number	**Room / Area**	**Result**
3028846	1004	1.6
3028843	1007	1.9
3028848	1009	2.1
3028841	1010	2.4
3028723	1014	2.1
3028847	1019	3.4
3028842	1023	2.4
3028850	1200	2.3
3028781	1206	2.4
3028785	1212	2.7
3028782	1500	2.6
3028844	1000A	2.0
3028845	1002A	2.2

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Shriver ES		
Test Period: 03/14/16-03/17/16		
Kit Number	**QC Type**	**Result**
3028849	D (1009)	1.8

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Property Tested: Project # 12146341

Shriver ES
12518 Greenly Drive
Silver Spring MD 20906

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3017645	3028844	03/14/2016 12:45 pm	03/17/2016 10:49 am	Room 1000A	2.0
3017646	3028845	03/14/2016 12:50 pm	03/17/2016 10:49 am	Room 1002A	2.2
3017647	3028846	03/14/2016 12:54 pm	03/17/2016 10:53 am	Room 1004	1.6
3017648	3028843	03/14/2016 12:57 pm	03/17/2016 10:52 am	Room 1007	1.9
3017649	3028849	03/14/2016 1:02 pm	03/17/2016 10:53 am	Room 1009	1.8
3017650	3028848	03/14/2016 1:02 pm	03/17/2016 10:53 am	Room 1009	2.1
3017651	3028847	03/14/2016 1:05 pm	03/17/2016 10:56 am	Room 1019	3.4
3017652	3028841	03/14/2016 1:10 pm	03/17/2016 10:56 am	Room 1010	2.4
3017653	3028723	03/14/2016 1:13 pm	03/17/2016 10:58 am	Room 1014	2.1
3017654	3028842	03/14/2016 1:16 pm	03/17/2016 10:58 am	Room 1023	2.4

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/21/2016 Date Logged: 03/21/2016 Date Analyzed: 03/21/2016 Date Reported: 03/22/2016

Report Reviewed By: Grace E Hebner Jr Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Property Tested: Project # 12146341

Shriver ES
12518 Greenly Drive
Silver Spring MD 20906

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3017655	3028850	03/14/2016 1:20 pm	03/17/2016 10:59 am	Room 1200	2.3
3017656	3028781	03/14/2016 1:22 pm	03/17/2016 11:02 am	Room 1206	2.4
3017657	3028785	03/14/2016 1:27 pm	03/17/2016 11:04 am	Room 1212	2.7
3017658	3028782	03/14/2016 1:31pm	03/17/2016 10:04 am	Room 1500	2.6

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/21/2016 Date Logged: 03/21/2016 Date Analyzed: 03/21/2016 Date Reported: 03/22/2016

Report Reviewed By: Grace E Hebner Jr Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

AccuStar
Professional Radon Laboratory Services Since 1984

AccuStar Labs
11 Awl Street
Medway MA 02053

888-480-8812
www.accustarlabs.com

Radon Device Type Open Face Canister

pg 1/2

Send Written Report To:

Name	KCI Technologies, Inc
Address	936 Ridgebrook Road
Address	
City / Town	Sparks
State/Province Postal Code	MD 21152
Report Country	Baltimore County
Email Address	tehsin@kci.com

Site Tested:

Site Name	Shriver ES
Address	12518 Greenly Dr
Address	
City / Town	Silver Spring
State/Province Postal Code	MD 20906
Test Country	Montgomery County
Project Number	12146341

Contact Information:

Contact	Tehsin Aurangabadwala
Telephone	410-891-1726
Technician	A.I
Cert. Number	
Signature	

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room / Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	3028844				1000A 72	3/14/16	12.45 pm	3/17	10.49 am	
	3028845				1002A		12.50		10.49	
	3028846				1004		12.54		10.53	
	3028843				1007		12.57		10.52	
	3028849				1009		1.02		10.53	
	3028848				1009		1.02		10.53	
	3028847				1019		1.05		10.56	
	3028841				1010		1.10		10.56	
	3028723				1014		1.13		10.58	
	3028842				1023		1.16		10.58	

AccuStar
Professional Radon Laboratory Services Since 1984

AccuStar Labs
11 Awl Street
Medway MA 02053

888-480-8812
www.accustarlabs.com

Radon Device Type Open Face Canister

pg 2/2

Send Written Report To:

Name	KCI Technologies, Inc
Address	936 Ridgebrook Road
Address	
City / Town	Sparks
State/Province Postal Code	MD 21152
Report Country	Baltimore County
Email Address	tehsin@kci.com

Site Tested:

Site Name	Sharon ES
Address	12518 Greenly Dr
Address	
City / Town	Silver Spring
State/Province Postal Code	MD 20906
Test Country	Montgomery County
Project Number	12146341

Contact Information:

Contact	Tehsin Aurangabadwala
Telephone	410-891-1726
Technician	Arm Islam
Cert. Number	
Signature	

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room / Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	3028850				1200 72	3/14/16	1.20 pm	3/17	10,59 am	
	3028781				1206		1,22		11,02	
	3028785				1212		1,27		11,04	
	3028782				1360		1,31		10.04	

Test must start before the expiration date sh on your device or test results will be invalid

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Property Tested: Project # 12146341

MCPS Radon Phase 12 Office Blank

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3017546	3029151	03/14/2016 9:30 am	03/17/2016 9:30 am	Unit # 0 Office First Floor	<0.4

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/21/2016 Date Logged: 03/21/2016 Date Analyzed: 03/21/2016 Date Reported: 03/22/2016

Report Reviewed By: Grace Ebenezer Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

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AccuStar
Professional Radon Laboratory Services Since 1984

AccuStar Labs
11 Awl Street
Medway MA 02053
888-480-8812
www.accustarlabs.com

Radon Device Type Open Face Canister

Send Written Report To:

Name	KCI Technologies, Inc
Address	936 Ridgebrook Road
Address	
City / Town	Sparks
State/Province Postal Code	MD 21152
Report Country	Baltimore County
Email Address	tehsin@kci.com

Site Tested:

Site Name	KCI OFFICE
Address	936 RIDGEBROOK RD.
Address	
City / Town	SPARKS
State/Province Postal Code	MD 21152
Test Country	Montgomery County
Project Number	12146341

Contact Information:

Contact	Tehsin Aurangabadwala
Telephone	410-891-1726
Technician	
Cert. Number	
Signature	

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room / Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	3029151		0	1	OFFICE 70°	3/14/16	9:30AM	3/17/16	9:30AM	

Rev E1512

Test must start before the expiration date sh on your device or test results will be invalid

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Property Tested: Project # 12146341

MCPS Radon Phase 12 Office Blank

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3017545	3029152	03/15/2016 9:30 am	03/18/2016 9:30 am	Unit # 0 Office First Floor	<0.4

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/21/2016 Date Logged: 03/21/2016 Date Analyzed: 03/21/2016 Date Reported: 03/22/2016

Report Reviewed By: Grace E. Hebner

Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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Professional Radon Laboratory Services Since 1984

AccuStar Labs
11 Awl Street
Medway MA 02053
888-480-8812
www.accustarlabs.com

Radon Device Type Open Face Canister

Send Written Report To:

Name	KCI Technologies, Inc
Address	936 Ridgebrook Road
Address	
City / Town	Sparks
State/Province Postal Code	MD 21152
Report Country	Baltimore County
Email Address	tehsin@kci.com

Site Tested:

Site Name	KCI OFFICE
Address	936 RIDGEBROOK RD.
Address	
City / Town	SPARKS
State/Province Postal Code	MD 21152
Test Country	Montgomery County
Project Number	12146341

Contact Information:

Contact	Tehsin Aurangabadwala
Telephone	410-891-1726
Technician	
Cert. Number	
Signature	

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	302915		01	1	OFFICE 4c°	3/15/16	9:30 AM	3/18/16	9:30AM	

Test must start before the expiration date sh on your device or test results will be invalid

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Property Tested:

MCPS
Transit Blanks

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3010588	3028953	01/19/2016 1:00 pm	01/22/2016 9:30 am	1	< 0.4
3010589	3028955	01/19/2016 1:00 pm	01/22/2016 9:30 am	2	< 0.4
3010590	3028954	01/19/2016 1:00 pm	01/22/2016 9:30 am	3	< 0.4
3010591	3028997	01/19/2016 1:00 pm	01/22/2016 9:30 am	4	< 0.4

Comment: AMENDED REPORT for 3028953-8955, 3028997 on 2/22/16 to add all missing information from the blank datasheet. A copy of this report was emailed to james.moulsdale@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 01/27/2016 Date Logged: 01/27/2016 Date Analyzed: 01/28/2016 Date Reported: 01/28/2016

Report Reviewed By: Crystal Bates Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

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Return canisters for analysis to:
AccuStar Labs
929 Mt. Zion Rd., Lebanon, PA 17046
800-523-4964

RECEIVED JAN 27 2016

AccuStar Labs – Lebanon, PA
INFORMATION FORM - Large Buildings - Projects - Apartments

Instructions on back of form
Read instructions carefully
Discrepancies will invalidate tests

Do not use this form in New Jersey or Florida Call for correct forms.

Test Site Info

Name of Building/Project or Owner Transit

Site Address: Transit

City: _____ State _____ Zip _____ County _____

Projects Contact Name: Jon Coale Phone: _____ Email: _____

Multi-Page Report Y-N

Detector Serial#	ROOM NAME & NUMBER - LOCATION OF DETECTOR IN ROOM (indicate duplicates and blanks)		Floor	Start Date	Start Time Include AM/PM	Stop Date	Stop Time Include AM/PM	LAB USE ONLY Wgt. Gain	LAB USE ONLY pCi/L
12 3028953	Transit	3010588	1	1/19/16	1:00pm	1/22/16	9:30am		<0.4
1 8955	Transit	3010589	1	1/19/16	↓	↓	↓		<0.4
2 8954	Transit	3010590	1	1/19/16					<0.4
3 8997	Transit	3010591	1	1/19/16					<0.4

KCI Technologies, Inc. 1/27/2016
3010588 **3028953** ACPC275B EXP12/31/2018

Structure Type: (circle one or more) Basement - Crawlspace - Slab on Grade - Other

Test Purpose: (Circle all that apply) Initial Screening - Follow Up Test - Post Mitigation - Real Estate - Other

Building Type: (Circle One) Residential - Non Residential; Private Day Care - Private School; Day Care in Public School - Public School

Both Placed by and Retrieved by signatures are required Certified Tester's Name #

Canisters placed by _____ #_____

Canisters retrieved by _____ #_____

Owner waives confidentiality by signing here _____ Date 1/22/16

Were general operating conditions maintained? Yes - No explain if NO

Were closed building conditions maintained? Yes - No explain if NO

Normal Temp. Yes - No
Normal Humidity Yes - No
Windy Y-N Rainy Y-N

Send Results To:

Company Name: KCI Tech Attention: James Moulsdale

Address: 936 Ridgebrook

City: Sparks State: MD Zip 21152

Phone: 410-584-3826 Fax:

EMAIL Results to: James.Moulsdale@kci.com

Make sure information is complete and correct.

If a recalculation is requested there is a $10.00 recalc fee PER Canister.

Mailing: PO Box 990 Jonestown, PA 17038
Shipping: 929 Mt Zion Road, Lebanon, PA 17046
800-523-4964 fax 717-274-5662
NEHA 10511AL NRSB ARL 0007

TCS INDUSTRIES, INC.

(717) 657-7032 RADON GAS DETECTION

www.radondetek.com 4326 Crestview Road, Harrisburg, PA 17112

James Moulsdale
KCI
936 Ridgebrook Rd.
Sparks, MD 21152

April 04, 2016

Dear Mr. Moulsdale:

The spike exposure data were:

Start 04/04/16 @ 1110 hrs EDT
End 04/06/16 @ 1113 hrs EDT

AC 3029218, 3029219, 3029220, 3029217, 3029214, 3029217, and 3029166

Average radon concentration was 10.6 pCi/L +/- 5%

Avg, Temp. was 71F
Avg. RH was 51%
Elevation was 490 feet above sea level

Sincerely,

Carl H. Distenfeld, CHP

****
TCS Radon Chamber NRSB CHM 0002
****

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Property Tested:

MCPS
Radon Spike Sample Laboratory Results

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3020102	3029166	04/04/2016 11:10 am	04/06/2016 11:13 am	Not Indicated	11.9
3020103	3029214	04/04/2016 11:10 am	04/06/2016 11:13 am	Not Indicated	11.5
3020104	3029217	04/04/2016 11:10 am	04/06/2016 11:13 am	Not Indicated	10.7
3020105	3029218	04/04/2016 11:10 am	04/06/2016 11:13 am	Not Indicated	11.3
3020106	3029219	04/04/2016 11:10 am	04/06/2016 11:13 am	Not Indicated	11.0
3020107	3029220	04/04/2016 11:10 am	04/06/2016 11:13 am	Not Indicated	10.5

Comment: A copy of this report was emailed to james.moulsdale@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 04/07/2016 Date Logged: 04/07/2016 Date Analyzed: 04/07/2016 Date Reported: 04/08/2016

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.

Report Reviewed By: _____ Report Approved By: _____

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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Professional Radon Laboratory Services Since 1984

AccuStar Labs
11 Awl Street
Medway MA 02053

888-480-8812
www.accustarlabs.com

Radon Device Type Open Face Canister

Send Written Report To:

Name	KCI Technologies, Inc
Address	936 Ridgebrook Road
Address	
City / Town	Sparks
State/Province Postal Code	MD 21152
Report Country	Baltimore County
Email Address	tehsin@kci.com

Site Tested:

Site Name	MCPS
Address	850 Hungerford Dr
Address	
City / Town	Rockville
State/Province Postal Code	MD 20850
Test Country	Montgomery County
Project Number	12146341

Contact Information:

Contact	Tehsin Aurangabadwala
Telephone	410-891-1726
Technician	
Cert. Number	
Signature	

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	3029166	1		1	1	4/4/16	11:10am	4/6/16	11:13am	
	3029214	1		1	2					
	3029217	1		1	3					
	3029218	1		1	4					
	3029219	1		1	5					
	3029220	1		1	6					

Rev E1512

Test must start before the expiration date shown on your device or test results will be invalid

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: Sargent Shriver Elementary School

Date of Test Report:	2/26/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	66
# Rooms ≥ 4.0 pCi/L:	2
Low Value:	< 0.3
High Value:	5.7

Rooms with results ≥ 4.0 pCi/L:
1014 (5.7 pCi/L), 1019 (4.6 pCi/L)

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

February 26, 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 # 12146341.26

Location: Sargent Shriver Elementary School
12518 Greenly Street
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 Sargent Shriver Elementary School, located at 12518 Greenly Street 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 1, 2016 and deployed seventy-six (76) 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 4, 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	1014	5.7
	1019	4.6
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

The field blank, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. The office blank had a low concentration of radon detected, (0.5 piC/L) suggesting the test kit seal may have been compromised or laboratory error. 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		
Sargent Shriver Elementary School		
Test Period: 02/01/16-02/04/16		
Kit Number	**Room / Area**	**Result**
7730781	1004	3.8
7730767	1005	2.6
7730768	1007	3.5
7730798	1008	2.7
7730761	1009	3.8
7730754	1010	3.9
7730785	1011	3.1
7730800	1014	5.7
7730787	1015	3.3
7730765	1019	4.6
7730799	1023	3.8
7730796	1101	1.9
7730711	1105	2.2
7730764	1108	2.2
7730751	1109	3.0
7730718	1112	2.3
7718677	1114	1.8
7730707	1118	1.7
7730757	1126	2.2
7730705	1200	3.5
7730734	1204	2.7
7730736	1206	3.4
7730708	1210	3.1
7730706	1212	3.6
7730710	1213	2.3
7730777	1219	2.8
7730758	1223	2.7
7730797	1300	1.3
7730759	1301	2.6
7730786	1305	2.4
7730794	1307	2.8
7730769	1311	2.4
7730743	1400	1.7
7730795	1400	1.5
7730729	1500	3.9
7730771	1502	2.7
7730770	1506	2.9
7730775	1601	2.6
7730778	1605	2.2
7730772	1607	2.7
7730766	1609	2.7
7730780	1612	2.1
7730733	1613	2.7
7730779	1615	2.2
7730792	1619	2.1
7730735	2018	2.0

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Sargent Shriver Elementary School		
Test Period: 02/01/16-02/04/16		
Kit Number	**Room / Area**	**Result**
7730701	2021	2.0
7730793	2025	2.2
7730783	1000A	3.3
7730784	1000B	2.6
7730788	1000C	2.7
7730791	1000E	2.8
7730782	1002A	3.4
7730713	CAFE	1.1
7730716	CAFE	1.0
7730773	GYM	1.4
7730774	GYM	1.4
7730760	HEALTH	3.1
7730789	MAIN OFFICE	2.6
7730712	MEDIA	2.6
7730715	MEDIA	2.3
7730714	ML 589	< 0.3
7730721	ML1034	< 0.3
7730756	* ML1038 (Missing)	-
7730719	ML577	< 0.3
7730717	ML635	< 0.3
7730741	ML936	< 0.3
7730752	ML947	< 0.3
7730763	ML966	< 0.3
7730720	ML975	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Sargent Shriver Elementary School		
Test Period: 02/01/16-02/04/16		
Kit Number	**QC Type**	**Result**
7730755	D (1005)	2.6
7730709	D (1206)	2.5
7730762	D (1305)	2.3
7730776	D (1605)	2.5
7730790	FB (MAIN OFFICE)	< 0.3
7729958	OB (0)	0.5

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 23, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

SARGENT SHRIVER ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7730713	CAFE	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	1.1 ± 0.3	2016-02-08
7729958	0	2016-02-01 @ 5:00 pm	2016-02-04 @ 2:00 pm	0.5 ± 0.3	2016-02-09
7730783	1000A	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	3.3 ± 0.5	2016-02-08
7730784	1000B	2016-02-01 @ 2:00 pm	2016-02-04 @ 1:00 pm	2.6 ± 0.5	2016-02-09
7730788	1000C	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	2.7 ± 0.5	2016-02-09
7730791	1000E	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	2.8 ± 0.5	2016-02-09
7730782	1002A	2016-02-01 @ 2:00 pm	2016-02-04 @ 1:00 pm	3.4 ± 0.5	2016-02-09
7730781	1004	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	3.8 ± 0.5	2016-02-09
7730755	1005	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	2.6 ± 0.4	2016-02-09
7730767	1005	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	2.6 ± 0.4	2016-02-09
7730768	1007	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	3.5 ± 0.5	2016-02-09
7730798	1008	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	2.7 ± 0.5	2016-02-09
7730761	1009	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	3.8 ± 0.5	2016-02-09
7730754	1010	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	3.9 ± 0.5	2016-02-09
7730785	1011	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	3.1 ± 0.5	2016-02-09
7730800	1014	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	5.7 ± 0.6	2016-02-09
7730787	1015	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	3.3 ± 0.5	2016-02-09
7730765	1019	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	4.6 ± 0.6	2016-02-09
7730799	1023	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	3.8 ± 0.5	2016-02-09
7730796	1101	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	1.9 ± 0.4	2016-02-09
7730711	1105	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.2 ± 0.5	2016-02-09
7730764	1108	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.2 ± 0.4	2016-02-09
7730751	1109	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	3.0 ± 0.5	2016-02-09
7730718	1112	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.3 ± 0.4	2016-02-08
7718677	1114	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	1.8 ± 0.4	2016-02-09
7730707	1118	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	1.7 ± 0.4	2016-02-09
7730757	1126	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	2.2 ± 0.4	2016-02-09
7730705	1200	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	3.5 ± 0.5	2016-02-09
7730734	1204	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.7 ± 0.5	2016-02-09
7730709	1206	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.5 ± 0.4	2016-02-08
7730736	1206	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	3.4 ± 0.5	2016-02-09
7730708	1210	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	3.1 ± 0.5	2016-02-09
7730706	1212	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	3.6 ± 0.5	2016-02-08
7730710	1213	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.3 ± 0.4	2016-02-09
7730777	1219	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.8 ± 0.4	2016-02-08
7730758	1223	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.7 ± 0.5	2016-02-09
7730797	1300	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	1.3 ± 0.4	2016-02-09

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:

SARGENT SHRIVER ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7730759	1301	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	2.6 ± 0.4	2016-02-09
7730762	1305	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	2.3 ± 0.4	2016-02-09
7730786	1305	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	2.4 ± 0.4	2016-02-09
7730794	1307	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	2.8 ± 0.5	2016-02-09
7730769	1311	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	2.4 ± 0.4	2016-02-09
7730743	1400	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	1.7 ± 0.3	2016-02-08
7730795	1400	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	1.5 ± 0.3	2016-02-08
7730729	1500	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	3.9 ± 0.5	2016-02-09
7730771	1502	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	2.7 ± 0.5	2016-02-09
7730770	1506	2016-02-01 @ 3:00 pm	2016-02-04 @ 12:00 pm	2.9 ± 0.5	2016-02-09
7730775	1601	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.6 ± 0.4	2016-02-09
7730776	1605	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.5 ± 0.5	2016-02-09
7730778	1605	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.2 ± 0.4	2016-02-09
7730772	1607	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.7 ± 0.5	2016-02-09
7730766	1609	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.7 ± 0.5	2016-02-09
7730780	1612	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.1 ± 0.4	2016-02-08
7730733	1613	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.7 ± 0.5	2016-02-09
7730779	1615	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.2 ± 0.4	2016-02-09
7730792	1619	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.1 ± 0.4	2016-02-08
7730701	2021	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.0 ± 0.4	2016-02-08
7730735	2018	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.0 ± 0.4	2016-02-08
7730793	2025	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.2 ± 0.4	2016-02-08
7730716	CAFE	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	1.0 ± 0.4	2016-02-09
7730773	GYM	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	1.4 ± 0.3	2016-02-08
7730774	GYM	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	1.4 ± 0.4	2016-02-09
7730760	HEALTH	2016-02-01 @ 2:00 pm	2016-02-04 @ 12:00 pm	3.1 ± 0.5	2016-02-09
7730789	MAIN OFFICE	2016-02-01 @ 2:00 pm	2016-02-04 @ 1:00 pm	2.6 ± 0.4	2016-02-08
7730790	MAIN OFFICE	2016-02-01 @ 2:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-09
7730712	MEDIA	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.6 ± 0.4	2016-02-08
7730715	MEDIA	2016-02-01 @ 3:00 pm	2016-02-04 @ 1:00 pm	2.3 ± 0.4	2016-02-09
7730714	ML 589	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-09
7730721	ML1034	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-09
7730756	ML1038	@	@		
7730719	ML577	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-09
7730717	ML635	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-09
7730741	ML936	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-09
7730752	ML947	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-08

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February 23, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

SARGENT SHRIVER ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7730763	ML966	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-09
7730720	ML975	2016-02-01 @ 4:00 pm	2016-02-04 @ 1:00 pm	< 0.3	2016-02-09

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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

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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 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 7 (2-1-2016)

Name of School/Facility:

1. Wyngate E.S.
2. Seven Locks E.S.
3. Takoma Park M.S.
4. Somerset E.S.
5. Silver Spring Int. M.S.
6. Sligo Creek E.S.
7. Tilden M.S.
8. Tilden Center
9. Bethesda Annex
10. Bethesda Depot
11. Bethesda Trans Depot
12. Sligo M.S.
13. Stonegate E.S.
14. Randolph Transportation
15. Earl B. Wood M.S.
16. Sargent Shriver E.S.
17. Thomas Wooten H.S.
18. Stone Mill E.S.
19. Strawberry Knoll E.S.
20. Shady Grove M.S.
21. Washington Grove E.S.
22. Sherwood E.S.
23. Woodfield E.S.
24. Taylor Learning Center
25. Kingsley Wilderness

	Date	Initials
Radon Test Kits Deployed	2/1/16	JM
Radon Test Kits Collected	2/4/16	JM
Radon Test Kits Shipped to Lab*	2/4/16	JM
Radon Test Kits Received by Lab*	2/8/16	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 7 (2-2-2016)

Name of School/Facility:

1. Concord Center
2. Lynnbrook Center
3. Carver (CESC)
4. Spring Mill (area 1 Office)
5. Wheaton H.S
6. Montrose Center
7. West Farm Trans Depot
8. Food & Nutritional Services
9. Fairland Center
10. Redland M.S. (retest)
11. Clarksburg Trans Depot
12. Clarksburg Main Depot
13. Clarksburg E.S.

	Date	Initials
Radon Test Kits Deployed	2/2/16	JM
Radon Test Kits Collected	2/5/16	JM
Radon Test Kits Shipped to Lab*	2/5/16	JM
Radon Test Kits Received by Lab*	2/9/16	JM

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