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:	Sligo Creek Elementary School
Address:	500 Schuyler Road
	Silver Spring, MD 20910

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
Tyler McCleaf	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]	30	5	35
Duplicates[2]	3	0	3
Field Blanks[3]	1	0	1
		Grand Total	39

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]	1	Office Blank(s)[3,4]	1

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:	30	5	35
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		
Sligo Creek Elementary School		
Test Period: 02/12/2024 - 02/15/2024		
Kit Number	Room / Area	Result
11478334	10	< 0.3
11478333	12	< 0.3
11478325	17	< 0.3
11478372	18	0.6
11478363	20	< 0.3
11478377	20	< 0.3
11478365	21	< 0.3
11478378	22	0.7
11478383	24	< 0.3
11478362	25	1.4
11478368	25	1.7
11478370	26	< 0.3
11478382	27	0.6
11478381	29	< 0.3
11478371	31	0.5
11478349	104	< 0.3
11478342	106	0.5
11478347	106	< 0.3
11478341	108	< 0.3
11478352	114	< 0.3
11478359	116	< 0.3
11478351	117	< 0.3
11478353	125	< 0.3
11478360	211	< 0.3
11478354	110A	0.5
11478355	110B	0.5
11478367	APR	< 0.3
11478373	APR	0.9
11478369	BS LOUNGE	1.4
11478374	BS MAIN	< 0.3
11478375	BS MAIN	1.4
11478358	BSO	1.7
11478348	GYM	0.8
11478350	GYM	0.7
11478357	GYM OFFICE	1.2
11478356	IMC	< 0.3
11478361	IMC	0.8
11478366	KITCHEN OFFICE	1.1
11478376	MAIN OFFICE	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Sligo Creek 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			
Sligo Creek Elementary School			
Test Period: 02/12/2024 - 02/15/2024			
Kit Number	**QC Type**	**Room / Area**	**Result**
11478363	D	20	< 0.3
11478362	D	25	1.4
11478342	D	106	0.5
11478374	FB	BS Main	< 0.3
11284661	OB	OFFICE BLANK	< 0.3
11284664	TB	TRAVEL BLANK	< 0.3

Table 4 - Summary of Invalid Measurement Locations		
Sligo Creek 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 21, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
SLIGO CREEK ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11478334	10	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478349	104	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478342	106	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	0.5 ± 0.3	2024-02-19
11478347	106	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478341	108	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478354	110A	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	0.5 ± 0.3	2024-02-19
11478355	110B	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	0.5 ± 0.3	2024-02-19
11478352	114	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478359	116	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478351	117	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478333	12	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478353	125	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478325	17	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478372	18	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	0.6 ± 0.3	2024-02-19
11478377	20	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478363	20	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478365	21	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478360	211	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478378	22	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	0.7 ± 0.3	2024-02-19
11478383	24	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478368	25	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	1.7 ± 0.4	2024-02-19
11478362	25	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	1.4 ± 0.4	2024-02-19
11478370	26	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478382	27	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	0.6 ± 0.3	2024-02-19
11478381	29	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478371	31	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	0.5 ± 0.3	2024-02-19
11478367	APR	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478373	APR	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	0.9 ± 0.3	2024-02-19
11478369	BS LOUNGE	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	1.4 ± 0.3	2024-02-19
11478374	BS MAIN	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478375	BS MAIN	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	1.4 ± 0.4	2024-02-19
11478358	BSO	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	1.7 ± 0.4	2024-02-19
11478348	GYM	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	0.8 ± 0.3	2024-02-19
11478350	GYM	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	0.7 ± 0.3	2024-02-19
11478357	GYM OFFICE	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	1.2 ± 0.4	2024-02-19
11478356	IMC	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	< 0.3	2024-02-19
11478361	IMC	2024-02-12 @ 10:00 am	2024-02-15 @ 10:00 am	0.8 ± 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 21, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
SLIGO CREEK ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11478366	KITCHEN OFFICE	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 am	1.1 ± 0.3	2024-02-19
11478376	MAIN OFFICE	2024-02-12 @ 11:00 am	2024-02-15 @ 10:00 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 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

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

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

Attachment 3:

Sampling Location Map

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	Sligo Creek 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	32
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.9 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: Sligo Creek Elementary School
500 Schuyler Rd.
Silver Spring, MD 20910

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the Sligo Creek Elementary School, located at 500 Schuyler Rd. Silver Spring, MD 20910 (subject site).

Scope of Services:

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

KCI visited the site on March 14, 2022 and deployed thirty-six (36) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

KCI returned to the site on March 17, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a

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

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to 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 20s and high temperatures ranged from the mid 70s to the high 50s Fahrenheit. Maximum sustained winds ranged from 0-32 miles per hour. Average humidity was around 61% with 0.1 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

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

Table 1- Radon Testing Results		
Sligo Creek ES		
Test Period: 03/14/2022 - 03/17/2022		
Kit Number	Room / Area	Result
11139143	10	1.0
11139140	12	1.0
11139128	17	0.9
11139123	18	0.9
11139112	20	< 0.3
11139125	22	0.8
11139126	22	< 0.3
11139121	24	1.0
11139113	25	1.0
11139122	26	0.6
11139114	27	< 0.3
11139120	29	< 0.3
11139111	31	1.0
11139124	31	< 0.3
11139104	100	1.0
11139101	102	0.7
11139102	104	0.7
11139108	106	0.5
11139109	108	< 0.3
11139107	115	0.6
11139119	117	< 0.3
11139117	119	< 0.3
11139118	121	< 0.3
11139139	208	0.8
11139150	213	0.8
11139105	102A	< 0.3
11139106	102E	0.6
11139103	102F	< 0.3
11139110	108 A	0.6
11139133	BUILDING SERVICES	1.8
11139134	BUILDING SERVICES	1.9
11139127	CAFETERIA	1.0
11139132	CAFETERIA	0.9
11139131	CAFETERIA KITCHEN OFFICE	0.8
11139115	MEDIA CENTER	< 0.3
11139116	MEDIA CENTER	< 0.3

Table 2- Radon Testing Results			
Sligo Creek ES			
Test Period: 03/14/2022 - 03/17/2022			
Kit Number	QC Type	Room / Area	Result
11139116	D	Media center	< 0.3
11139111	D	31	1.0
11139126	FB	22	< 0.3
11139134	D	Building services	1.9
11138932	OB	OFFICE BLANK	< 0.3
11138946	TB	TRAVEL BLANK	< 0.3

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

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Sligo Creek ES		
Test Period: 03/14/22 - 03/17/22		
Kit Number	Room/Area	Result
	NA	

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

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

Radon test result report for:
SLIGO CREEK ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11139143	10	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	1.0 ± 0.3	2022-03-21
11139104	100	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	1.0 ± 0.3	2022-03-21
11139101	102	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	0.7 ± 0.3	2022-03-21
11139105	102A	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139106	102E	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	0.6 ± 0.3	2022-03-21
11139103	102F	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139102	104	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	0.7 ± 0.3	2022-03-21
11139108	106	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	0.5 ± 0.3	2022-03-21
11139109	108	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139110	108 A	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	0.6 ± 0.3	2022-03-21
11139107	115	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	0.6 ± 0.3	2022-03-21
11139119	117	2022-03-14 @ 11:00 am	2022-03-17 @ 11:00 am	< 0.3	2022-03-21
11139117	119	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139140	12	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	1.0 ± 0.3	2022-03-21
11139118	121	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139128	17	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	0.9 ± 0.3	2022-03-21
11139123	18	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	0.9 ± 0.3	2022-03-21
11139112	20	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139139	208	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	0.8 ± 0.3	2022-03-21
11139150	213	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	0.8 ± 0.3	2022-03-21
11139125	22	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	0.8 ± 0.3	2022-03-21
11139126	22	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139121	24	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	1.0 ± 0.3	2022-03-21
11139113	25	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	1.0 ± 0.3	2022-03-21
11139122	26	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	0.6 ± 0.3	2022-03-21
11139114	27	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139120	29	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139124	31	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139111	31	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	1.0 ± 0.3	2022-03-21
11139133	BUILDING SERVICES	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	1.8 ± 0.4	2022-03-21
11139134	BUILDING SERVICES	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	1.9 ± 0.3	2022-03-21
11139127	CAFETERIA	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	1.0 ± 0.3	2022-03-21
11139132	CAFETERIA	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	0.9 ± 0.3	2022-03-21
11139131	CAFETERIA KITCHEN OFFICE	2022-03-14 @ 12:00 pm	2022-03-17 @ 12:00 pm	0.8 ± 0.3	2022-03-21
11139116	MEDIA CENTER	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21
11139115	MEDIA CENTER	2022-03-14 @ 11:00 am	2022-03-17 @ 12:00 pm	< 0.3	2022-03-21

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204620

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

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

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

March 30, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

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

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – March 2022 Schools

Name of Schools:

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

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

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

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
Sligo Creek Elementary School

500 Schuyler Road
Silver Spring, MD 20910

Date of Test Report:	12/18/2018
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:	43
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	2.6

Project Status

Initial testing complete: No further action at this time

December 18, 2018

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

Re: Radon Testing Services

Location: Sligo Creek Elementary School
500 Schuyler Road
Silver Spring, MD 20910

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for Sligo Creek Elementary School, located at 500 Schuyler Road, Silver Spring, MD 20910 (subject site).

Scope of Services:

PSI 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. PSI 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 #14SS007) 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.

PSI visited the site on November 13, 2018 and deployed fifty-six (56) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on November 16, 2018 to retrieve the radon sampling test kits. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, PSI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, PSI submitted ten (10) 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.

PSI 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 located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007) and 2 Saber Way, Haverhill, Massachusetts (certification # ARL0017).

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.

PSI 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.

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	None	NA
≤ 4.0 pCi/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 (703) 698-9300.

Respectfully Submitted,

INTERTEK-PSI

Nand Kaushik, P.E.
Department Manager, Environmental Services
Nand.Kaushik@intertek.com

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

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
Sligo Creek Elementary School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3918695	10	1.2
3918694	12	0.7
3881259	14	0.9
3918693	17	0.5
3918699	18	1.0
3918702	20	0.5
3918706	21	1.4
3918700	22	1.1
3918741	24	0.7
3918704	25	2.6
3918703	26	0.5
3918681	27	0.6
3918705	29	0.9
3918711	31	0.9
3918888	100	0.5
3918751	101	0.7
3918698	102	0.7
3918910	103	0.8
3918710	104	< 0.4
3918708	106	0.5
3918908	108	0.5
3918920	110	0.6
3918918	114	< 0.4
3918903	115	0.6
3918917	116	0.4
3918919	119	< 0.4
3918911	121	0.4
3918915	122	0.5
3918914	124	0.6
3918913	125	0.6
3918912	129	0.5
3916515	202	0.7
3916321	211	0.5
3918701	102G	0.5
3918907	108A	0.5
3918904	110A	0.9
3918905	110B	0.8
3918697	Building Services	0.9
3916311	D201	0.5
3881221	105A (Gym)	0.8
3881211	105A (Gym)	0.4
3918906	Gym Office	1.2
3918696	014C (Kitchen)	1.5

Radon Testing Results		
Sligo Creek Elementary School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3918692	Kitchen Office	1.2

Radon Testing Results		
Sligo Creek Elementary School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	**QC Type**	**Result (pCi/L)**
3881260	14 (D)	0.5
3918682	21 (D)	1.1
3918707	102G (D)	0.5
3918909	108 (D)	0.4
3918902	110 (D)	0.6
3918901	110 (D)	0.6
3918916	122 (D)	0.6
3918691	014C (Kitchen) (D)	1.5
3918900	Field Blank	< 0.4
3918891	Field Blank	< 0.4
3917873	Office Blank	< 0.4
3918890	Trip Blank	< 0.4

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey - Sligo Creek ES
Not Indicated
Silver Spring MD 20910

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195735	3918697	11/13/2018 7:38 pm	11/16/2018 1:46 pm	Floor Lower Room Building Services Office	0.9
3195736	3918704	11/13/2018 7:40 pm	11/16/2018 1:47 pm	Unit 025 Floor Lower	2.6
3195737	3918706	11/13/2018 7:41 pm	11/16/2018 1:48 pm	Unit 021 Floor Lower	1.4
3195738	3918681	11/13/2018 7:42 pm	11/16/2018 1:49 pm	Unit 027 Floor Lower	0.6
3195739	3918705	11/13/2018 7:43 pm	11/16/2018 1:50 pm	Unit 029 Floor Lower	0.9
3195740	3918711	11/13/2018 7:45 pm	11/16/2018 1:51 pm	Unit 031 Floor Lower	0.9
3195741	3918699	11/13/2018 7:50 pm	11/16/2018 1:52 pm	Unit 018 Floor Lower	1.0
3195742	3918702	11/13/2018 7:51 pm	11/16/2018 1:53 pm	Unit 020 Floor Lower	0.5
3195743	3918700	11/13/2018 7:52 pm	11/16/2018 1:54 pm	Unit 022 Floor Lower	1.1
3195744	3918741	11/13/2018 7:53 pm	11/16/2018 1:55 pm	Unit 024 Floor Lower	0.7

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, 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.

NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey - Sligo Creek ES
Not Indicated
Silver Spring MD 20910

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195745	3918703	11/13/2018 7:54 pm	11/16/2018 1:56 pm	Unit 026 Floor Lower	0.5
3195746	3916321	11/13/2018 7:38 pm	11/16/2018 1:38 pm	Unit 211 Floor Second	0.5
3195747	3916515	11/13/2018 7:40 pm	11/16/2018 1:39 pm	Unit 202 Floor Second	0.7
3195748	3916311	11/13/2018 7:44 pm	11/16/2018 1:40 pm	Unit D201 Floor Second	0.5
3195749	3918682	11/13/2018 7:41 pm	11/16/2018 12:40 pm	Unit 021 Floor Lower	1.1
3195750	3918693	11/13/2018 8:06 pm	11/16/2018 12:43 pm	Unit 17 Floor Lower	0.5
3195751	3918694	11/13/2018 8:07 pm	11/16/2018 12:44 pm	Unit 12 Floor Lower	0.7
3195752	3918695	11/13/2018 8:08 pm	11/16/2018 12:45 pm	Unit 10 Floor Lower	1.2
3195753	3918692	11/13/2018 8:02 pm	11/16/2018 12:46 pm	Unit 014C Floor Lower	1.2
3195754	3918696	11/13/2018 8:03 pm	11/16/2018 12:48 pm	Unit 014C Floor Lower	1.5

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, 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.

NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey - Sligo Creek ES
Not Indicated
Silver Spring MD 20910

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195755	3918691	11/13/2018 8:03 pm	11/16/2018 12:48 pm	Unit 014C Floor Lower Duplicate	1.5
3195756	3918912	11/13/2018 8:13 pm	11/16/2018 12:49 pm	Unit 129 First Floor	0.5
3195757	3918913	11/13/2018 8:15 pm	11/16/2018 12:50 pm	Unit 125 First Floor	0.6
3195758	3918914	11/13/2018 8:15 pm	11/16/2018 12:51 pm	Unit 124 First Floor	0.6
3195759	3918915	11/13/2018 8:15 pm	11/16/2018 12:52 pm	Unit 122 First Floor	0.5
3195760	3918916	11/13/2018 8:20 pm	11/16/2018 12:52 pm	Unit 122 First Floor Duplicate	0.6
3195761	3918917	11/13/2018 8:25 pm	11/16/2018 12:54 pm	Unit 116 First Floor	0.4
3195762	3918918	11/13/2018 8:26 pm	11/16/2018 12:55 pm	Unit 114 First Floor	< 0.4
3195763	3918911	11/13/2018 8:28 pm	11/16/2018 12:56 pm	Unit 121 First Floor	0.4
3195764	3918919	11/13/2018 8:29 pm	11/16/2018 12:57 pm	Unit 119 First Floor	< 0.4

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, 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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NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey - Sligo Creek ES
Not Indicated
Silver Spring MD 20910

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195765	3918920	11/13/2018 8:30 pm	11/16/2018 12:58 pm	Unit 110 First Floor	0.6
3195766	3918901	11/13/2018 8:35 pm	11/16/2018 12:59 pm	Unit 110 First Floor Duplicate	0.6
3195767	3918902	11/13/2018 8:35 pm	11/16/2018 12:59 pm	Unit 110 First Floor	0.6
3195768	3918903	11/13/2018 8:40 pm	11/16/2018 1:01 pm	Unit 115 First Floor	0.6
3195769	3918904	11/13/2018 8:41 pm	11/16/2018 1:02 pm	Unit 110B First Floor	0.9
3195770	3918905	11/13/2018 8:42 pm	11/16/2018 1:03 pm	Unit 110B First Floor	0.8
3195771	3918906	11/13/2018 8:44 pm	11/16/2018 1:06 pm	Unit 105A First Floor	1.2
3195772	3918907	11/13/2018 8:53 pm	11/16/2018 1:07 pm	Unit 108A First Floor	0.5
3195773	3918908	11/13/2018 8:53 pm	11/16/2018 1:08 pm	Unit 108 First Floor	0.5
3195774	3918909	11/13/2018 8:53 pm	11/16/2018 1:09 pm	Unit 108 First Floor Duplicate	0.4

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey - Sligo Creek ES
Not Indicated
Silver Spring MD 20910

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195775	3918910	11/13/2018 8:55 pm	11/16/2018 1:10 pm	Unit 103 First Floor	0.8
3195776	3918708	11/13/2018 8:56 pm	11/16/2018 1:11 pm	Unit 106 First Floor	0.5
3195777	3918710	11/13/2018 8:58 pm	11/16/2018 1:12 pm	Unit 104 First Floor	< 0.4
3195778	3918751	11/13/2018 9:00 pm	11/16/2018 1:13 pm	Unit 101 First Floor	0.7
3195779	3918701	11/13/2018 9:02 pm	11/16/2018 1:15 pm	Unit 102G First Floor	0.5
3195780	3918707	11/13/2018 9:02 pm	11/16/2018 1:15 pm	Unit 102G First Floor Duplucate	0.5
3195781	3918698	11/13/2018 9:04 pm	11/16/2018 1:16 pm	Unit 102 First Floor	0.7
3195782	3918888	11/13/2018 9:08 pm	11/16/2018 1:17 pm	Unit 100 First Floor	0.5
3195783	3917873	11/13/2018 6:00 am	11/16/2018 4:00 pm	Floor NA Room Office Office Blank	< 0.4
3195784	3918890	11/13/2018 6:00 am	11/16/2018 4:00 pm	Floor NA Trip Blank	< 0.4

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey - Sligo Creek ES
Not Indicated
Silver Spring MD 20910

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3195785	3918900	11/13/2018 7:38 am	11/16/2018 1:17 pm	Floor NA Field Blank	< 0.4
3195786	3918891	11/13/2018 7:38 am	11/16/2018 1:17 pm	Floor NA Field Blank	< 0.4

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/17/2018 Date Reported: 11/28/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
NRSB Device Code 12193

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1

MCPS Radon Survey
Sligo Creek ES
Silver Spring MD 20910

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
2393052	3881211	11/13/2018	8:44 pm	11/16/2018	1:05 pm	Floor First Room 105A	0.4
2393053	3881221	11/13/2018	8:44 pm	11/16/2018	1:04 pm	Floor First Room 105A	0.8
2393054	3881259	11/13/2018	7:57 pm	11/16/2018	12:42 pm	Floor Lower Room 014	0.9
2393055	3881260	11/13/2018	7:57 pm	11/16/2018	12:42 pm	Floor Lower Room 014	0.5

Comment: A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 11/17/2018 Date Logged: 11/17/2018 Date Analyzed: 11/19/2018 Date Reported: 12/17/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

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AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007
Ohio RL41

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

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested:

MCPS Radon Survey
4514 Taylorsville Road
Dayton OH 45424

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3204125	3926831	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	36.1
3204126	3926832	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.8
3204127	3926833	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	33.7
3204128	3926834	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	35.8
3204129	3926835	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	35.0
3204130	3926836	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.5
3204131	3926837	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.6
3204132	3926838	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.3
3204133	3926839	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	33.2
3204134	3926840	12/07/2018	9:47 am	12/10/2018	9:47 am	Spike	34.0

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Test Performed By: Unknown

Distributed by: Intertek-PSI (VA)

Date Received: 12/12/2018 Date Logged: 12/12/2018 Date Analyzed: 12/12/2018 Date Reported: 12/13/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Intertek - PSI Job Number 187732

NOMINAL Conditions: Radon Conc 32.6 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/7/18 Date Stop: 12/10/18	Date Start: _____ Date Stop: _____
Time Start: 0947 Time Stop: 0947	Time Start: _____ Time Stop: _____
Device No.'s: (10) Char. Cans -	Device No.'s: _____
3926831 thru 3926840	_____
_____	_____
Gx 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

intertek
psi

Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

1. Highland View ES
2. Kemp Mill ES
3. Sligo Creek ES
4. Highland ES
5. Kennedy HS
6. EB Lee MS
7. Forest Knolls ES
8. Galway ES
9. Wheaton HS
10. Briggs Chaney MS
11. Cannon Rd ES
12. Cloverly ES
13. Springbrook HS

	Date	Initials
Radon Test Kits Deployed	11/13/2018	NL
Radon Test Kits Sampled	11/16/2018	NL
Radon Test Kits Shipped to Lab*	11/16/2018	NL
Radon Test Kits Received by Lab*	11/17/2018; 11/18/2018; 11/20/2018	NL

*All samples sent to AccuStar Laboratories, 929 Mount Zion Road, Lebanon, PA 17046 and 2 Saber Way, Haverhill, MA 01835

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	Sligo Creek 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	16
# Rooms ≥4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	1.9 pCi/L

Project Status

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

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March 13, 2018

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

Re: Radon Testing Services

KCI Job #1214694188

Location: Sligo Creek Elementary School
500 Schuyler Rd.
Silver Spring, Maryland 20910

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 Sligo Creek Elementary School, located at 500 Schuyler Rd. in Silver Spring, Maryland 20910 (subject site).

SCOPE OF SERVICES

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

KCI visited the site on February 12, 2018 and deployed eighteen (18) 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 15, 2018 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to post-mitigation biennial testing.

These tests were conducted to:

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

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

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

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

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

RESULTS

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

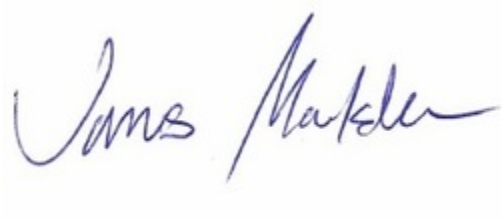
The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 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,



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		
Sligo Creek Elementary School		
Kit Number	**Room / Area**	**Result**
7986483	102	0.7
7986438	105	0.8
7986479	105	0.7
7986790	106	0.7
7986484	115	< 0.3
7986489	123	0.8
7986492	102A	< 0.3
7986493	102F	< 0.3
7986435	102G	0.8
7986788	10A	1.6
7986490	110A	0.7
7986491	110B	1.1
7986464	115-1	< 0.3
7986786	BS	1.9
7986481	GYM OFFICE	1.4
7986789	KITCHEN	0.7
7986785	PRINCIPAL	< 0.3

Table Note:
* Missing or Compromised Sample

Table 2 - Radon Testing Results		
Test Period: 02/12/18-02/15/18		
Kit Number	**QC Type**	**Result**
7986487	D (102A)	0.7

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

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

Radon test result report for:
SLIGO CREEK ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7986483	102	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	0.7 ± 0.3	2018-02-19
7986492	102A	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	< 0.3	2018-02-19
7986487	102A	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	0.7 ± 0.3	2018-02-19
7986493	102F	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	< 0.3	2018-02-19
7986435	102G	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	0.8 ± 0.3	2018-02-19
7986438	105	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	0.8 ± 0.3	2018-02-19
7986479	105	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	0.7 ± 0.3	2018-02-19
7986790	106	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	0.7 ± 0.3	2018-02-19
7986788	10A	2018-02-12 @ 7:00 pm	2018-02-15 @ 2:00 pm	1.6 ± 0.3	2018-02-19
7986490	110A	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	0.7 ± 0.4	2018-02-19
7986491	110B	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	1.1 ± 0.3	2018-02-19
7986484	115	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	< 0.3	2018-02-19
7986464	115-1	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	< 0.3	2018-02-19
7986489	123	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	0.8 ± 0.3	2018-02-19
7986786	BS	2018-02-12 @ 7:00 pm	2018-02-15 @ 2:00 pm	1.9 ± 0.4	2018-02-19
7986481	GYM OFFICE	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	1.4 ± 0.3	2018-02-19
7986789	KITCHEN	2018-02-12 @ 7:00 pm	2018-02-15 @ 2:00 pm	0.7 ± 0.3	2018-02-19
7986785	PRINCIPAL	2018-02-12 @ 6:00 pm	2018-02-15 @ 2:00 pm	< 0.3	2018-02-19

Air Chek, Inc. 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

Names of Schools:

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

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

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

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

Radon test result report for:
OFFICE BLANKS

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

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

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

Radon test result report for:
TRANSIT BLANKS

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

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

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

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within ±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

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	Sligo Creek 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	31
# Rooms ≥4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	3 pCi/L

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

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January 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: Sligo Creek Elementary School
500 Schuyler Rd.
Silver Spring, Maryland 20910

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 Sligo Creek Elementary School, located at 500 Schuyler Rd. in Silver Spring, Maryland 20910 (subject site).

SCOPE OF SERVICES

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon 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 forty (40) 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 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Post-mitigation biennial testing.

These tests were conducted to:

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

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 30s and high temperatures ranged from the low-50s to mid-60s. Maximum sustained winds ranged from 8-15 miles per hour. Average humidity was around 65%. 0.02 Inches of precipitation was recorded during the testing period.

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

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

RESULTS

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The quality control sample locations and analytical results are listed on Table 2 (Attachment B). Missing/compromised tests, missed rooms, and locked rooms are listed on Table 3 (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.

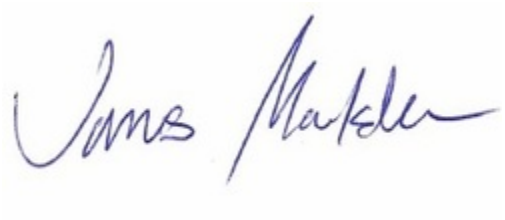
The results of the radon test analysis indicated the following:

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

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

Sincerely,



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

Attachments:

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Sligo Creek Elementary School		
Test Period: 11/27/17-12/01/17		
Kit Number	**Room / Area**	**Result**
7976531	10	0.9
7976522	12	< 0.3
7976532	114	0.7
7977163	14	0.7
7976529	17	0.5
7976530	18	1.0
7976534	20	1.1
7976505	21	1.9
7976511	22	1.6
7976517	24	0.9
7976504	25	3.0
7976524	26	0.9
7976525	27	0.7
7976518	29	0.8
7976523	31	0.8
7977197	100	< 0.3
7976512	101	0.7
7976509	103	1.3
7977429	104	< 0.3
7976527	106	0.7
7976521	108	0.9
7976508	110	1.1
7976528	116	0.8
7976501	117	0.9
7976510	119	< 0.3
7976507	121	0.7
7976513	208	0.8
7976526	213	1.0
7976561	105A	0.7
7976533	* 105A (Missing)	-
7976503	* 115 (Missing)	-
7977162	BS01	1.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Sligo Creek Elementary School		
Test Period: 11/27/17-11/30/17		
Kit Number	**QC Type**	**Result**
7976502	D (110)	< 0.3
7976506	D (25)	2.9
7976520	D (27)	0.6
7976515	D (29)	1.1
7976519	D (31)	1.2
7976514	FB (29)	< 0.3
7976516	FB (31)	< 0.3
7977271	OB (OB)	< 0.3

Table Note:
* Missing or Compromised Sample

Summary of Missed Locations		
Sligo Creek Elementary School		
Test Period: 11/27/17-12/01/17		
Kit Number	**Room / Area**	**Result**
-	102 (Missed location)	-
-	105 (Missed location)	-
-	102A (Missed location)	-
-	123 (Missed location)	-
-	210 (Missed location)	-
-	102G (Missed location)	-
-	102F (Missed location)	-
-	110A (Missed location)	-
-	110B (Missed location)	-
-	115-I (Missed location)	-
-	Gym Office (Missed location)	-
-	Prin (Missed location)	-
-	Conf (Missed location)	-
-	Admin Office (Missed location)	-
-	106 (Missed location)	-
-	12A (Missed location)	-

Summary of Missing, Compromised and ≥4 piC/L Tests		
Sligo Creek Elementary School		
Test Period: 11/27/17-12/01/17		
Kit Number	**Room / Area**	**Result**
7976533	* 105A (Missing)	-
7976503	* 115 (Missing)	-

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

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

Radon test result report for:
SLIGO CREEK ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7976531	10	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	0.9 ± 0.3	2017-12-05
7977197	100	2017-11-27 @ 6:00 pm	2017-11-30 @ 12:00 pm	< 0.3	2017-12-04
7976512	101	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	0.7 ± 0.3	2017-12-04
7976509	103	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	1.3 ± 0.4	2017-12-05
7977429	104	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-04
7976561	105A	2017-11-27 @ 6:00 pm	2017-11-30 @ 12:00 pm	0.7 ± 0.4	2017-12-05
7976527	106	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	0.7 ± 0.3	2017-12-05
7976521	108	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	0.9 ± 0.3	2017-12-05
7976508	110	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	1.1 ± 0.4	2017-12-05
7976502	110	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-05
7976528	116	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	0.8 ± 0.3	2017-12-04
7976501	117	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	0.9 ± 0.4	2017-12-05
7976510	119	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	< 0.3	2017-12-05
7976522	12	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	< 0.3	2017-12-05
7976507	121	2017-11-27 @ 6:00 pm	2017-11-30 @ 11:00 am	0.7 ± 0.3	2017-12-04
7976532	114	2017-11-27 @ 6:00 pm	2017-11-30 @ 12:00 pm	0.7 ± 0.3	2017-12-04
7977163	14	2017-11-27 @ 7:00 pm	2017-11-30 @ 12:00 pm	0.7 ± 0.3	2017-12-05
7976529	17	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	0.5 ± 0.3	2017-12-04
7976530	18	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	1.0 ± 0.3	2017-12-05
7976534	20	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	1.1 ± 0.4	2017-12-05
7976513	208	2017-11-27 @ 6:00 pm	2017-11-30 @ 12:00 pm	0.8 ± 0.3	2017-12-04
7976505	21	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	1.9 ± 0.4	2017-12-05
7976526	213	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	1.0 ± 0.3	2017-12-04
7976511	22	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	1.6 ± 0.3	2017-12-04
7976517	24	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	0.9 ± 0.3	2017-12-04
7976504	25	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	3.0 ± 0.4	2017-12-04
7976506	25	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	2.9 ± 0.4	2017-12-04
7976524	26	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	0.9 ± 0.3	2017-12-04
7976525	27	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	0.7 ± 0.3	2017-12-04
7976520	27	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	0.6 ± 0.3	2017-12-04
7976514	29	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	< 0.3	2017-12-04
7976515	29	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	1.1 ± 0.3	2017-12-04
7976518	29	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	0.8 ± 0.3	2017-12-04
7976516	31	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	< 0.3	2017-12-04
7976523	31	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	0.8 ± 0.3	2017-12-04
7976519	31	2017-11-27 @ 5:00 pm	2017-11-30 @ 12:00 pm	1.2 ± 0.3	2017-12-05
7977162	BS01	2017-11-27 @ 7:00 pm	2017-11-30 @ 12:00 pm	1.3 ± 0.4	2017-12-05

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

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

Radon test result report for:
SLIGO CREEK ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7977271	OB	2017-11-27 @ 3:00 pm	2017-11-30 @ 8:00 am	< 0.3	2017-12-05

Air Chek, Inc. 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 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

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

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

Radon test result report for:

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

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: Sligo Creek Elementary School

Date of Test Report:	6/17/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	9
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.1

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

KCI TECHNOLOGIES

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

June 17, 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 # 12146341.40

Location: Sligo Creek Elementary School
500 Schuyler Road
Silver Spring, MD 20910

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 Sligo Creek Elementary School, located at 500 Schuyler Road in Silver Spring, Maryland 20910 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon 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 May 31, 2016 and deployed twelve (12) 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 June 03, 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 does not represent normal conditions when the building is significantly occupied due to the average outdoor temperatures being > 65° F. Based on the evaluation of test conditions, this test may not reasonably characterize radon hazards.

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

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

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

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

Sincerely,

James M. 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 17 testing.

Radon Testing Results		
Sligo Creek Elementary School		
Test Period: 05/31/16-06/03/16		
Kit Number	**Room / Area**	**Result**
7756814	100	0.6
7756806	102	0.9
7756837	104	0.9
7756829	106	1.0
7756830	115	1.1
7756813	102A-CONFERENCE	0.8
7756827	102A-HEALTH	0.7
7756807	102F	0.7
7756836	102G	0.9

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Sligo Creek Elementary School		
Test Period: 05/31/16-06/03/16		
Kit Number	**QC Type**	**Result**
7756824	D (102G)	0.7
7756822	FB (102A-HEALTH)	< 0.3
7756820	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

June 8, 2016

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

SLIGO CREEK ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7756820	0	2016-05-31 @ 9:00 am	2016-06-03 @ 10:00 am	< 0.3	2016-06-07
7756814	100	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	0.6 ± 0.3	2016-06-07
7756806	102	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	0.9 ± 0.3	2016-06-07
7756813	102A-CONFERENCE	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	0.8 ± 0.3	2016-06-07
7756822	102A-HEALTH	2016-05-31 @ 10:00 am	2016-06-03 @ 10:00 am	< 0.3	2016-06-07
7756827	102A-HEALTH	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	0.7 ± 0.3	2016-06-07
7756807	102F	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	0.7 ± 0.3	2016-06-07
7756824	102G	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	0.7 ± 0.3	2016-06-07
7756836	102G	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	0.9 ± 0.3	2016-06-07
7756837	104	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	0.9 ± 0.3	2016-06-07
7756829	106	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	1.0 ± 0.3	2016-06-07
7756830	115	2016-05-31 @ 10:00 am	2016-06-03 @ 9:00 am	1.1 ± 0.3	2016-06-07

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

May 25, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT BLANKS
Phase 17

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7756626	TRANSIT	2016-05-10 @ 11:00 am	2016-05-16 @ 11:00 am	< 0.3	2016-05-17
7756803	TRANSIT	2016-05-16 @ 9:00 am	2016-05-19 @ 9:00 am	< 0.3	2016-05-23

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

May 27, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS

Spike Sample Results

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7756802	1	2016-05-20 @ 10:00 am	2016-05-23 @ 10:00 am	22.0 ± 0.7	2016-05-25
7756804	2	2016-05-20 @ 10:00 am	2016-05-23 @ 10:00 am	23.7 ± 0.7	2016-05-25
7756805	3	2016-05-20 @ 10:00 am	2016-05-23 @ 10:00 am	22.9 ± 0.7	2016-05-25
7756809	4	2016-05-20 @ 10:00 am	2016-05-23 @ 10:00 am	24.3 ± 0.7	2016-05-25
7756810	5	2016-05-20 @ 10:00 am	2016-05-23 @ 10:00 am	25.1 ± 0.7	2016-05-25
7756811	6	2016-05-20 @ 10:00 am	2016-05-23 @ 10:00 am	22.4 ± 0.7	2016-05-25

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 175202

NOMINAL Conditions: Radon Conc 25.6 pCi/L Rel. Hum 48.2 % Temp. 79.0 F

Date Start: 5/20/16 Date Stop: 5/23/16	Date Start: _____ Date Stop: _____
Time Start: 1026 Time Stop: 1026	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags:	Device No.'s: _____
7756802, 7756804, 7756805,	_____
7756809 thru 7756811	_____
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 17

Name of Schools:

1. Sligo Creek ES
2. Silver Spring International MS

	Date	Initials
Radon Test Kits Deployed	5/31/16	JM
Radon Test Kits Collected	6/3/16	JM
Radon Test Kits Shipped to Lab*	6/3/16	JM
Radon Test Kits Received by Lab*	6/7/16	JM

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

RADON SCREENING SURVEY – FOLLOW-UP SLIGO CREEK ELEMENTARY SCHOOL

500 Schuyler Road, Silver Spring, Maryland 20910

EXECUTIVE SUMMARY

Date of Test Report:	4/11/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	2
# Rooms ≥ 4.0 pCi/L:	1
Low Value:	1.6
High Value:	6.6
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	2

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 2/29/16 Initial	Result (pCi/L) 4/11/16 Follow-Up	Average Result (pCi/L)
115	8.8	6.6	7.7
102A-Health	7.8	1.6	4.7

KCI TECHNOLOGIES

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MCPS RADON TESTING

Executive Summary: Sligo Creek Elementary School

Date of Test Report:	4/11/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	2
# Rooms ≥ 4.0 pCi/L:	1
Low Value:	1.6
High Value:	6.6

Rooms with results ≥ 4.0 pCi/L:
115 (6.6 pCi/L),

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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: Sligo Creek Elementary School
500 Schuyler Road
Silver Spring, MD 20910

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 Sligo Creek Elementary School, located at 500 Schuyler Road in Silver Spring, Maryland 20910 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon 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 two (2) 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	115	6.6
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

The office blanks and lab transit blanks had test results of less than the laboratory detection limit of 0.4 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		
Sligo Creek ES		
Test Period: 03/14/16-03/17/16		
Kit Number	**Room / Area**	**Result**
3028751	102A Health	1.6
3028759	115 Assistant Principal	6.6

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

Sligo Creek ES
500 Schuyler Road
Silver Spring MD 20910

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3017494	3028759	03/14/2016 9:59 am	03/17/2016 7:20 am	Unit 115 Assistant Principal First Floor	6.6
3017495	3028751	03/14/2016 9:54 am	03/17/2016 7:18 am	Unit 102A Health First Floor	1.6

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 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.

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

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	Sligo Creek ES
Address	500 Schuyler Rd.
Address	
City / Town	Silver Spring
State/Province Postal Code	MD 20910
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
	8759		115	1	Assist. Principal 66°	3/14/16	09:59	3/17/16	07:20	
	8751		102-A	1	Health	3/14/16	09:54		07:18	

Rev E1512

Test must start before the expiration date shown 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 E. Heverly 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

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:

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
	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:

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	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: Sligo Creek Elementary School

Date of Test Report:	2/29/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	39
# Rooms ≥ 4.0 pCi/L:	2
Low Value:	< 0.3
High Value:	8.8

Rooms with results ≥ 4.0 pCi/L:
Room 115 (8.8 pCi/L), Room 102A-Health (7.8 pCi/L)

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

February 29, 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: Sligo Creek Elementary School
500 Schuyler Road
Silver Spring, MD 20910

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 Sligo Creek Elementary School, located at 500 Schuyler Road in Silver Spring, Maryland 20910 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon 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 forty-eight (48) 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	115	8.8
	102A-Health	7.8
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Sligo Creek Elementary School		
Test Period: 02/01/16-02/04/16		
Kit Number	**Room / Area**	**Result**
7729746	10	1.3
7729745	12	1.0
7729741	14	0.7
7729744	17	1.0
7729733	18	1.6
7729731	20	0.8
7729734	22	1.6
7729735	24	2.0
7729740	25	1.9
7729736	26	1.0
7729739	27	1.2
7729738	29	1.3
7729737	31	1.3
7729714	100	1.1
7729710	101	1.4
7729701	102	2.0
7729709	103	0.9
7729713	104	1.2
7729715	105	0.7
7729716	105	1.2
7729712	106	1.4
7729718	110	0.9
7729727	114	0.9
7729708	115	8.8
7729728	116	< 0.3
7729724	117	1.5
7729725	119	0.6
7729726	121	1.0
7729730	123	1.1
7729747	210	0.7
7729748	213	0.7
7729705	102A	1.9
7729711	102A-HEALTH	7.8
7729707	102F	2.1
7729704	102G	1.9
7729717	105A	1.7
7729719	110A	0.9
7729720	110B	1.2
7729721	115-1	1.1
7729743	BSO1	2.0

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Sligo Creek Elementary School		
Test Period: 02/01/16-02/04/16		
Kit Number	**QC Type**	**Result**
7729702	D (102)	2.1
7729706	D (102A)	2.3
7729722	D (115-1)	0.7
7729729	D (116)	0.8
7729732	D (20)	1.3
7729703	FB (102)	< 0.3
7729723	FB (115-1)	< 0.3
7729855	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 23, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

SLIGO CREEK ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7729855	0	2016-02-01 @ 11:00 am	2016-02-04 @ 11:00 am	< 0.3	2016-02-09
7729746	10	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.3 ± 0.4	2016-02-09
7729714	100	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.1 ± 0.4	2016-02-09
7729710	101	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.4 ± 0.4	2016-02-09
7729701	102	2016-02-01 @ 1:00 pm	2016-02-04 @ 9:00 am	2.0 ± 0.5	2016-02-09
7729702	102	2016-02-01 @ 1:00 pm	2016-02-04 @ 9:00 am	2.1 ± 0.5	2016-02-09
7729703	102	2016-02-01 @ 1:00 pm	2016-02-04 @ 9:00 am	< 0.3	2016-02-09
7729705	102A	2016-02-01 @ 1:00 pm	2016-02-04 @ 9:00 am	1.9 ± 0.5	2016-02-09
7729706	102A	2016-02-01 @ 1:00 pm	2016-02-04 @ 9:00 am	2.3 ± 0.5	2016-02-09
7729711	102Ahealth	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	7.8 ± 0.8	2016-02-09
7729707	102F	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	2.1 ± 0.4	2016-02-09
7729704	102G	2016-02-01 @ 1:00 pm	2016-02-04 @ 9:00 am	1.9 ± 0.4	2016-02-09
7729709	103	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.9 ± 0.4	2016-02-09
7729713	104	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.2 ± 0.4	2016-02-09
7729715	105	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.7 ± 0.4	2016-02-09
7729716	105	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.2 ± 0.4	2016-02-09
7729717	105A	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.7 ± 0.4	2016-02-09
7729712	106	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.4 ± 0.4	2016-02-09
7729718	110	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.9 ± 0.4	2016-02-09
7729719	110A	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.9 ± 0.4	2016-02-09
7729720	110B	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.2 ± 0.4	2016-02-09
7729727	114	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.9 ± 0.3	2016-02-08
7729708	115	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	8.8 ± 0.8	2016-02-09
7729721	115	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.1 ± 0.4	2016-02-09
7729722	115	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.7 ± 0.4	2016-02-09
7729723	115	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	< 0.3	2016-02-09
7729728	116	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	< 0.3	2016-02-09
7729729	116	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.8 ± 0.4	2016-02-09
7729724	117	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.5 ± 0.4	2016-02-09
7729725	119	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.6 ± 0.3	2016-02-09
7729745	12	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.0 ± 0.3	2016-02-08
7729726	121	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.0 ± 0.3	2016-02-08
7729730	123	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.1 ± 0.3	2016-02-08
7729741	14	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.7 ± 0.4	2016-02-09
7729744	17	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.0 ± 0.4	2016-02-09
7729733	18	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.6 ± 0.4	2016-02-09
7729731	20	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	0.8 ± 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:

SLIGO CREEK ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7729732	20	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.3 ± 0.4	2016-02-09
7729747	210	2016-02-01 @ 3:00 pm	2016-02-04 @ 9:00 am	0.7 ± 0.4	2016-02-09
7729748	213	2016-02-01 @ 3:00 pm	2016-02-04 @ 9:00 am	0.7 ± 0.3	2016-02-08
7729734	22	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.6 ± 0.4	2016-02-09
7729735	24	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	2.0 ± 0.5	2016-02-09
7729740	25	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.9 ± 0.4	2016-02-08
7729736	26	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.0 ± 0.4	2016-02-09
7729739	27	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.2 ± 0.4	2016-02-09
7729738	29	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.3 ± 0.4	2016-02-09
7729737	31	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	1.3 ± 0.4	2016-02-09
7729743	BSO1	2016-02-01 @ 2:00 pm	2016-02-04 @ 9:00 am	2.0 ± 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:

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