MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Great Seneca Creek Elementary School
Address:	13010 Dairymaid Drive
	Germantown, MD 20874
Reason for Testing:	Scheduled Re-Testing - ☒ 2-year or ☐ 5-year schedule ☐ Clearance Testing (Post-Mitigation) ☒ Building Envelope or HVAC Upgrades ☐ New Construction – Addition or Facility
Current Radon Status:	☒ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested (New Facility)
Round of Testing:	☐ Initial Testing **-or-** ☒ Follow-up Testing
Testing Status:	☒ No Further Testing Needed **-or-** ☐ Follow-Up Testing Required

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

Mitigation -	**Facility Radon Status:**		
☒ Not Required ☐ Required (≥4.0-pCi/L) Rooms:	☒ No Change in Status ☐ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	48	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥4.0-pCi/L)	0	Highest Value (pCi/L)	1.0

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

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

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

Attachment 2 – Laboratory Report(s)

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

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Detector and Deployment

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

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

Testing

☒ Short-Term ☐ Long-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	02/25/25 02/28/25	03/25/25 03/28/25
Does the test period include weekends, school breaks or holidays?				☐ Yes ☒ No	
*If "**Yes**" please explain/detail in the space below:*					
Was HVAC operating under occupied conditions?				☒ Yes ☐ No	
*If "**No**" please explain/detail in the space below:*					

Testing (continued)

	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
Round of Testing	Initial	Follow-Up	Initial	Follow-Up	
Test Locations[1]	45	2	2	0	49
Duplicates[2]	5	1	0	0	6
Field Blanks[3]	2	1	0	0	3
				Grand Total	58

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

Quality Assurance / Quality Control (QA/QC)

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

	QA/QC Samples		Total
Round of Testing	Initial	Follow-Up	
Spikes[1]	Not applicable		10
Trip Blanks[2]	1	1	2
Office Blanks[3, 4]	1	1	2
			14

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

Quality Assurance / Quality Control (continued)

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

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

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

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

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

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

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

	Ground-Contact		Upper-Level(s)		Total
Round of Testing	**Initial**	**Follow-Up**	**Initial**	**Follow-Up**	
Number of test locations:	45	1	2	0	48
Number of locations ≥8.0-pCi/L:	0	0	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0	0	0
Number of locations ≥2.7 and <4-pCi/L:	0	0	0	0	0
Number of locations ≥2.0 and <2.7-pCi/L:	0	0	0	0	0
Number of missing required test locations[3]:	0	0	0	0	0
Number of failed duplicate control locations:	1	0	0	0	1
Percentage of missing test locations for the facility[4,5]:	0	0	0	0	0

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

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

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

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

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

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

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

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

Follow-Up Testing

Required –

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

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

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

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Great Seneca Creek Elementary School		
Test Period: 2/25/2025 - 2/28/2025		
Kit Number	Room / Area	Result
11927028	122	0.8
11927027	124	1.0
11927026	126	< 0.3
11927035	126	< 0.3
11927010	128	0.6
11927016	128	< 0.3
11927046	130	< 0.3
11927024	133	0.7
11927045	133	< 0.3
11927023	135	< 0.3
11927032	137	Unsealed Kit
11927031	138	0.5
11927039	141	0.9
11927040	142	< 0.3
11927047	144	< 0.3
11927048	144	< 0.3
11927051	151	< 0.3
11927043	155	< 0.3
11927052	155	< 0.3
11927053	157	< 0.3
11927054	161	< 0.3
11927056	165	< 0.3
11927055	169	0.7
11927036	170	< 0.3
11927044	172	< 0.3
11927061	173	0.5
11927037	175	< 0.3
11927003	176	< 0.3
11927001	179	< 0.3
11927002	179	< 0.3
11927019	181	< 0.3
11927007	184	< 0.3
11927038	227	< 0.3
11927059	242	< 0.3
11927006	100B	0.7
11927034	100F	Unsealed Kit
11927033	BSO	0.7

Table 1- Radon Testing Results		
Great Seneca Creek Elementary School		
Test Period: 2/25/2025 - 2/28/2025		
Kit Number	Room / Area	Result
11927022	CAFE	< 0.3
11927025	CAFE	< 0.3
11927005	CONFERENCE	0.5
11927008	GYM	< 0.3
11927015	GYM	< 0.3
11927009	GYM OFFICE	< 0.3
11927012	HEALTH	0.6
11927013	HEALTH OFFICE	0.5
11927030	KITCHEN OFFICE	0.9
11927011	MAIN OFFICE	< 0.3
11927017	MEDIA	0.8
11927018	MEDIA	0.8
11927020	MEDIA OFFICE	0.6
11927021	MEDIA OFFICE	< 0.3
11927029	MEDIA WORKROOM	0.8
11927014	STAFF LOUNGE	< 0.3
11927004	WORKROOM	0.5

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Great Seneca Creek Elementary School							
Test Period: 2/25/2025 - 2/28/2025							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Great Seneca Creek Elementary School			
Test Period: 2/25/2025 - 2/28/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11927035	FB	126	< 0.3
11927016	D	128	< 0.3
11927045	D	133	< 0.3
11927047	D	144	< 0.3
11927043	FB	155	< 0.3
11927002	D	179	< 0.3
11927020	D	Media Office	0.6
11926885	OB	OFFICE BLANK	< 0.3
11926889	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation

Great Seneca Creek Elementary School

Test Period: 2/25/2025 - 2/28/2025

Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11927010	11927016	128	0.6	0.3	✓	0.6	PASS	0.5	<1-pCi/L	✓
11927024	11927045	133	0.7	0.3	✓	0.6	FAIL	0.5	<1-pCi/L	✗
11927047	11927048	144	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11927001	11927002	179	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11927020	11927021	Media Office	0.6	0.3	✓	0.6	PASS	0.5	<1-pCi/L	✓

NOTES:

QC Check #1 - Data Entry

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

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

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

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

Table 4 - Summary of Invalid Measurement Locations		
Great Seneca Creek Elementary School		
Test Period: 2/25/25 - 2/28/25		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Table 1- Radon Testing Results		
Great Seneca Creek Elementary School RT		
Test Period: 3/25/2025 - 3/28/2025		
Kit Number	Room / Area	Result
11892492	133	0.9
11892494	133	0.9
11892495	133	0.8
11892496	133	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Great Seneca Creek Elementary School RT							
Test Period: 3/25/2025 - 3/28/2025							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Great Seneca Creek Elementary School RT			
Test Period: 3/25/2025 - 3/28/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11892495	D	133	0.8
11892496	FB	133	< 0.3
11951800	OB	OFFICE BLANK	< 0.3
11892493	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Great Seneca Creek Elementary School RT										
Test Period: 3/25/2025 - 3/28/2025										
Sample ID			**Duplicate Concentrations (pCi/L) and QC Checks**							
Kit Numbers		**Room / Area**	**Higher**	**Lower**	**Check #1 (Pass/Fail)**	**2x the Lower**	**Check #2 (Pass/Fail)**	**Average**	**Relative Percent Difference (RPD)**	**Check #3**
11892495	11892492 11892494	133	0.9	0.8	✓	1.6	PASS	0.9	<1-pCi/L	✓

NOTES:

QC Check #1 - Data Entry

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

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

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

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

Table 4 - Summary of Invalid Measurement Locations		
Great Seneca Creek Elementary School RT		
Test Period: 3/25/25 - 3/28/25		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

March 4, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

GREAT SENECA CREEK ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11927006	100B	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.7 ± 0.3	2025-03-04
11927034	100F	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	???? UI	2025-03-04
11927028	122	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.8 ± 0.4	2025-03-04
11927027	124	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	1.0 ± 0.4	2025-03-04
11927026	126	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927035	126	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927010	128	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	0.6 ± 0.3	2025-03-04
11927016	128	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927046	130	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927024	133	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	0.7 ± 0.3	2025-03-04
11927045	133	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927023	135	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927032	137	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	???? UI	2025-03-04
11927031	138	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	0.5 ± 0.3	2025-03-04
11927039	141	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	0.9 ± 0.3	2025-03-04
11927040	142	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927048	144	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927047	144	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927051	151	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927052	155	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927043	155	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927053	157	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927054	161	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927056	165	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927055	169	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	0.7 ± 0.4	2025-03-04
11927036	170	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927044	172	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927061	173	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	0.5 ± 0.3	2025-03-04
11927037	175	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927003	176	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927001	179	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927002	179	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927019	181	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927007	184	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927038	227	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927059	242	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927033	BSO	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.7 ± 0.4	2025-03-04

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

March 4, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

GREAT SENECA CREEK ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11927022	CAFE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927025	CAFE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927005	CONFERENCE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.5 ± 0.3	2025-03-04
11927015	GYM	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927008	GYM	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927009	GYM OFFICE	2025-02-25 @ 1:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927012	HEALTH	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.6 ± 0.4	2025-03-04
11927013	HEALTH OFFICE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.5 ± 0.3	2025-03-04
11927030	KITCHEN OFFICE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.9 ± 0.4	2025-03-04
11927011	MAIN OFFICE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927018	MEDIA	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.8 ± 0.3	2025-03-04
11927017	MEDIA	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.8 ± 0.4	2025-03-04
11927020	MEDIA OFFICE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.6 ± 0.3	2025-03-04
11927021	MEDIA OFFICE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927029	MEDIA WORKROOM	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.8 ± 0.4	2025-03-04
11927014	STAFF LOUNGE	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	< 0.3	2025-03-04
11927004	WORKROOM	2025-02-25 @ 12:00 pm	2025-02-28 @ 11:00 am	0.5 ± 0.3	2025-03-04

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

March 4, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11926885	OB	2025-02-25 @ 11:00 am	2025-02-28 @ 11:00 am	< 0.3	2025-03-04

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March 4, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRAVEL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11926889	TB	2025-02-25 @ 11:00 am	2025-02-28 @ 11:00 am	< 0.3	2025-03-04

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20001560

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

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

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

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

Radon test result report for:
SK
MAIN

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

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 25th – February 28th, 2025

Name of Schools:

1. Gaithersburg MS
2. Germantown ES
3. William B Gibbs ES
4. Goshen ES
5. Great Seneca Creek ES
6. Jones Lane ES
7. MLK Jr. MS
8. Lake Seneca ES
9. Laytonsville ES

	Date	Initials
Radon Test Kits Deployed	2/25/2025	
Radon Test Kits Collected	2/28/2025	
Radon Test Kits Shipped to Lab*	2/28/2025	
Radon Test Kits Received by Lab*	3/3/2025	

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

April 2, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11892492	133	2025-03-25 @ 2:00 pm	2025-03-28 @ 3:00 pm	0.9 ± 0.4	2025-04-02
11892494	133	2025-03-25 @ 2:00 pm	2025-03-28 @ 3:00 pm	0.9 ± 0.4	2025-04-02
11892495	133	2025-03-25 @ 2:00 pm	2025-03-28 @ 3:00 pm	0.8 ± 0.4	2025-04-02
11892496	133	2025-03-25 @ 2:00 pm	2025-03-28 @ 3:00 pm	< 0.3	2025-04-02

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

April 3, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11886664	OB	2025-03-24 @ 11:00 am	2025-03-27 @ 11:00 am	< 0.3	2025-04-02
11886692	OB	2025-03-25 @ 11:00 am	2025-03-28 @ 11:00 am	< 0.3	2025-04-02
11951800	OB	2025-03-24 @ 11:00 am	2025-03-28 @ 11:00 am	< 0.3	2025-04-02

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

April 3, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
TRAVEL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11886691	TB	2025-03-24 @ 11:00 am	2025-03-27 @ 11:00 am	< 0.3	2025-04-02
11886693	TB	2025-03-25 @ 11:00 am	2025-03-28 @ 11:00 am	< 0.3	2025-04-02
11892493	TB	2025-03-24 @ 11:00 am	2025-03-28 @ 11:00 am	< 0.3	2025-04-02

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 20002919

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

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

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

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

Radon test result report for:
QC
MAIN

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

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KCI TECHNOLOGIES

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing March 25th – March 28th, 2025

Name of Schools:

1. Wheaton HS
2. Clarksburg HS
3. Darnestown ES
4. Diamond ES
5. Gaithersburg ES
6. Germantown ES
7. Goshen ES
8. Great Seneca Creek ES
9. Lake Seneca ES
10. Lathrop E. Smith Center
11. Martin Luther King Jr. MS

	Date	Initials
Radon Test Kits Deployed	3/25/2025	
Radon Test Kits Collected	3/28/2025	
Radon Test Kits Shipped to Lab*	3/28/2025	
Radon Test Kits Received by Lab*	4/01/2025	

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

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MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Great Seneca Creek Elementary School
Date of Test Report	4/6/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	48
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.5 pCi/L

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

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April 6, 2022

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

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

Location: Great Seneca Creek ES
13010 Dairymaid Dr.
Germantown, MD 20874

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 Great Seneca Creek ES, located at 13010 Dairymaid Dr. Germantown, MD 20874 (subject site).

Scope of Services:

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

KCI visited the site on February 15, 2022 and deployed fifty five (55) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

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

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

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to post-mitigation biennial testing.

These tests were conducted to:

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

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 20s and high temperatures ranged from the high 30s to the high 40s Fahrenheit. Maximum sustained winds ranged from 5-18 miles per hour. Average humidity was around 15% with 1.5 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 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		
Great Seneca Creek ES		
Test Period: 02/15/2022 - 02/18/2022		
Kit Number	Room / Area	Result
11114214	102	0.9
11114207	106	1.5
11114208	110	0.7
11114226	111	0.6
11114250	122	0.8
11114249	124	1.2
11114246	126	0.7
11114244	128	0.5
11114251	130	0.9
11114252	133	< 0.3
11114224	135	< 0.3
11114241	135	< 0.3
11114230	137	0.5
11114222	138	0.9
11114232	141	< 0.3
11114231	142	< 0.3
11114238	144	< 0.3
11114237	151	< 0.3
11114239	155	< 0.3
11114240	157	< 0.3
11114201	161	< 0.3
11114210	161	< 0.3
11114217	165	< 0.3
11114218	169	1.2
11114220	170	< 0.3
11114221	172	< 0.3
11114219	173	1.0
11114229	175	< 0.3
11114234	176	0.8
11114235	179	0.8
11114233	181	< 0.3
11114236	181	< 0.3
11114225	184	0.7
11114253	216	< 0.3
11114248	231	< 0.3
11114255	245	< 0.3
11114254	258	< 0.3
11114202	100B	1.2
11114203	100D	1.1
11114209	100E	1.1
11114216	100K	1.3
11114212	102C	1.1

Table 1- Radon Testing Results		
Great Seneca Creek ES		
Test Period: 02/15/2022 - 02/18/2022		
Kit Number	Room / Area	Result
11114213	102D	1.2
11114228	107A	0.6
11114242	123A	1.1
11114247	123A	0.8
11114204	CAFETERIA/APR	1.4
11114211	CAFETERIA/APR	0.8
11114245	GYM	< 0.3
11114243	GYM 123	0.7
11114215	KITCHEN OFFICE	1.1
11114205	MAIN OFFICE	< 0.3
11114223	MEDIA CENTER	0.9
11114227	MEDIA CENTER	1.0
11114206	STAGE	< 0.3

Table 2- Radon Testing Results			
Great Seneca Creek ES			
Test Period: 02/15/2022 - 02/18/2022			
Kit Number	QC Type	Room / Area	Result
11114204	D	Cafeteria/APR	1.4
11114236	D	181	< 0.3
11114233	FB	181	< 0.3
11114210	D	161	< 0.3
11114241	D	135	< 0.3
11114224	FB	135	< 0.3
11114242	D	123A	1.1
11131660	OB	OFFICE BLANK	< 0.3
11131661	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Great Seneca Creek ES		
Test Period: 02/15/22 - 02/18/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Great Seneca Creek ES		
Test Period: 02/15/22 - 02/18/22		
Kit Number	Room/Area	Result
	NA	

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 23, 2022

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11114202	100B	2022-02-15 @ 8:00 am	2022-02-18 @ 7:00 am	1.2 ± 0.4	2022-02-22
11114203	100D	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	1.1 ± 0.4	2022-02-22
11114209	100E	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	1.1 ± 0.3	2022-02-22
11114216	100K	2022-02-15 @ 8:00 am	2022-02-18 @ 7:00 am	1.3 ± 0.4	2022-02-22
11114214	102	2022-02-15 @ 8:00 am	2022-02-18 @ 7:00 am	0.9 ± 0.4	2022-02-22
11114212	102C	2022-02-15 @ 8:00 am	2022-02-18 @ 7:00 am	1.1 ± 0.4	2022-02-22
11114213	102D	2022-02-15 @ 8:00 am	2022-02-18 @ 7:00 am	1.2 ± 0.4	2022-02-22
11114207	106	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	1.5 ± 0.4	2022-02-22
11114228	107A	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	0.6 ± 0.3	2022-02-22
11114208	110	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	0.7 ± 0.3	2022-02-22
11114226	111	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	0.6 ± 0.3	2022-02-22
11114250	122	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.8 ± 0.3	2022-02-22
11114247	123A	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.8 ± 0.3	2022-02-22
11114242	123A	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	1.1 ± 0.4	2022-02-22
11114249	124	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	1.2 ± 0.4	2022-02-22
11114246	126	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.7 ± 0.3	2022-02-22
11114244	128	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.5 ± 0.3	2022-02-22
11114251	130	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.9 ± 0.4	2022-02-22
11114252	133	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114241	135	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114224	135	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114230	137	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.5 ± 0.3	2022-02-22
11114222	138	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.9 ± 0.4	2022-02-22
11114232	141	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114231	142	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114238	144	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114237	151	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114239	155	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114240	157	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114210	161	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114201	161	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114217	165	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114218	169	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	1.2 ± 0.4	2022-02-22
11114220	170	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114221	172	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114219	173	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	1.0 ± 0.4	2022-02-22
11114229	175	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22

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

February 23, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11114234	176	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.8 ± 0.4	2022-02-22
11114235	179	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.8 ± 0.4	2022-02-22
11114233	181	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114236	181	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114225	184	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	0.7 ± 0.3	2022-02-22
11114253	216	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114248	231	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114255	245	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114254	258	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114211	CAFETERIA/APR	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	0.8 ± 0.4	2022-02-22
11114204	CAFETERIA/APR	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	1.4 ± 0.4	2022-02-22
11114245	GYM	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22
11114243	GYM 123	2022-02-15 @ 9:00 am	2022-02-18 @ 8:00 am	0.7 ± 0.3	2022-02-22
11114215	KITCHEN OFFICE	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	1.1 ± 0.4	2022-02-22
11114205	MAIN OFFICE	2022-02-15 @ 8:00 am	2022-02-18 @ 7:00 am	< 0.3	2022-02-22
11114227	MEDIA CENTER	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	1.0 ± 0.4	2022-02-22
11114223	MEDIA CENTER	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	0.9 ± 0.4	2022-02-22
11114206	STAGE	2022-02-15 @ 8:00 am	2022-02-18 @ 8:00 am	< 0.3	2022-02-22

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204186

NOMINAL Conditions: Radon Conc 25.8 pCi/L Rel. Hum 59.1 % Temp. 70.9 F

Date Start: 2/18/22 Date Stop: 2/21/22	Date Start: _____ Date Stop: _____
Time Start: 0911 Time Stop: 0911	Time Start: _____ Time Stop: _____
Device No.'s: (3) Char Bags - 11113484, 11192998, 20107126	Device No.'s: _____
23 Right	
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____

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

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

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11113484	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK1		1	27.9
11122998	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK2		1	26.0
20107126	2022-02-18	9:00 am	2022-02-21	9:00 am	71	OFFICE	MAIN	SK3		1	27.6

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Radon Test Kit Chain of Custody

Project Name: MCPS Radon – February 2022 Schools

Name of Schools:

1. Damascus HS
2. Germantown ES
3. Great Seneca Creek ES
4. Lake Seneca ES
5. S. Christa McAuliffe ES
6. Northwest HS
7. Waters Landing ES
8. Seneca Valley HS
9. Cedar Grove ES
10. Capt. James E. Daly ES
11. Neelsville MS
12. Dr. Sally K. Ride ES

	Date	Initials
Radon Test Kits Deployed	02/15/2022	
Radon Test Kits Collected	02/18/2022	
Radon Test Kits Shipped to Lab*	02/18/2022	
Radon Test Kits Received by Lab*	02/21/2022	

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

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MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Great Seneca Creek Elementary School
Date of Report	1/28/2020
Round of Testing	Initial Follow-up **Post Remediation** 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	8
# Rooms ≥4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.5 pCi/L

Project Status

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

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1/28/2020

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

Re: Radon Testing Services

KCI Job #12146341126

Location: Great Seneca Creek Elementary School
13010 Dairymaid Drive
Germantown, Maryland 20874

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 Great Seneca Creek Elementary School, located at 13010 Dairymaid Drive in Germantown, Maryland 20874 (subject site).

SCOPE OF SERVICES

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Proficiency Program (NRPP) Radon Measurement Specialist (certification #111004 RT) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from https://www.montgomeryschoolsmd.org/departments/facilities/maintenance/default.aspx?id=458858 or www.epa.gov/radon.

KCI visited the site on 12/9/2019 and deployed ten (10) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

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

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to 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 upper-30s and high temperatures ranged from the upper-30s to the mid-50s. Maximum sustained winds ranged from 7-21 miles per hour. Average humidity was around 75%. 0.52 inches of precipitation (rain) was recorded during the testing period.

RESULTS

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

Mr. Tyler P. McCleaf
Radon Measurement Provider
111004 RT

KCI Technologies, Inc.

Attachments:

A- Floor Plan with Test Locations

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Great Seneca Creek Elementary School		
Test Period: 12/9/2019-12/12/2019		
Kit Number	Room / Area	Result
9334981	OFFICE BLANK	< 0.3
9335143	MPR 1018	0.5
9335145	MPR 1018	0.8
9335146	124	< 0.3
9335147	126	0.9
9335148	128	0.5
9335751	124	1.5
9335787	181	0.8
9335788	175	< 0.3
9335789	176	< 0.3
9335790	179	< 0.3

Table 2- Radon Testing Results			
Great Seneca Creek Elementary School			
Test Period: 12/9/2019-12/12/2019			
Kit Number	QC Type	Room / Area	Result
9335143	D	MPR 1018	0.5
9335146	FB	124	<0.3
9334850	TRANSIT BLANK	NA	< 0.3
9334914	TRANSIT BLANK	NA	< 0.3
9334916	TRANSIT BLANK	NA	< 0.3
9334963	TRANSIT BLANK	NA	< 0.3

Summary of Missed Locations		
Great Seneca Creek Elementary School		
Test Period: 12/9/2019 - 12/12/2019		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Great Seneca Creek Elementary School		
Test Period: 12/9/2019-12/12/2019		
Kit Number	Room/Area	Result
	NA	

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 17, 2019 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
MAIN
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9335146	124	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	< 0.3	2019-12-17
9335751	124	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	1.5 ± 0.4	2019-12-17
9335147	126	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	0.9 ± 0.4	2019-12-17
9335148	128	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	0.5 ± 0.4	2019-12-17
9335788	175	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	< 0.3	2019-12-17
9335789	176	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	< 0.3	2019-12-17
9335790	179	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	< 0.3	2019-12-17
9335787	181	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	0.8 ± 0.3	2019-12-17
9335145	MPR 1018	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	0.8 ± 0.4	2019-12-17
9335143	MPR 1018	2019-12-09 @ 12:00 pm	2019-12-12 @ 11:00 am	0.5 ± 0.4	2019-12-17

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 KEI Technologies Inc. Job Number 193475

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

Date Start: 12/13/19 Date Stop: 12/16/19 | Date Start: _____ Date Stop: _____

Time Start: 0806 Time Stop: 0806 | Time Start: _____ Time Stop: _____

(Group 1)

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

9334502 thru 9334510, 9334514, 9334516, 9334517, ~~9334518~~ acm, 9334519 9334522 thru 9334528

B4

Date Start: 12/13/19 Date Stop: 12/16/19 | Date Start: _____ Date Stop: _____

Time Start: ~~0800~~ acm Time Stop: 0811 | Time Start: _____ Time Stop: _____

0811

(Group 2)

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

9334529 thru 9334538, 9334540, 9334542 thru 9334550

B3

Date Start: 12/13/19 Date Stop: 12/16/19 | Date Start: _____ Date Stop: _____

Time Start: 0816 Time Stop: 0816 | Time Start: _____ Time Stop: _____

(Group 3)

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

9334551, 9334552, 9334562, 9334555 thru 9334559, 9334569, 9334576, 9334579, 9334580, 9334583, 9334584, 9334591, 9334593, 9334594, 9334597, 9334598, 9334599

B2

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

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

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December 18, 2019 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

N/A

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

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December 18, 2019 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
S
N/A

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

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KCI TECHNOLOGIES

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon 2019 Week 1

Name of Schools:

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

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

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

RADON SCREENING SURVEY – FOLLOW-UP GREAT SENECA CREEK ELEMENTARY SCHOOL

13010 Dairymaid Drive,

Germantown, Maryland 20874

EXECUTIVE SUMMARY

Date of Test Report:	3/28/19
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	5
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	3.6
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	1

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 2/13/19	Result (pCi/L) 3/28/19	Average Result (pCi/L)
126	5.3	1.4	3.4
179	5.3	3.6	4.5
123A	Missing	0.5	0.5
135	Missing	Missing	---
137	Tampered	0.6	0.6
138	Tampered	0.9	0.9

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
Great Seneca Creek Elementary School

13010 Dairymaid Drive,
Germantown, MD 20874

Date of Test Report:	3/28/2019
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:	5
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	3.6

Project Status

Retesting completed: No further action at this time.

Missing samples: Room 135

March 28, 2019

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

Re: Radon Testing Services

Location: Great Seneca Creek Elementary School
13010 Dairymaid Drive,
Germantown, MD 20874

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 Great Seneca Creek Elementary School, located at 13010 Dairymaid Drive, Germantown, MD 20874 (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 February 25, 2019 and deployed five (5) activated charcoal (AC) radon test kit. 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 February 28, 2019 to retrieve the radon sampling test kit. On March 11, 2019 PSI deployed one (1) additional radon test kit in Room 135. On March 14, 2019 PSI returned to retrieve the test kit but it was missing. A floor plan map of the building with the test location is included as Attachment A of this report.

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).

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

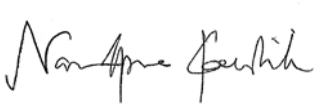
The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within 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		
Great Seneca Creek Elementary School		
Testing period: 2/25/19 - 2/28/19		
Kit Number	**Room / Area**	**Result (pCi/L)**
3923447	126	1.4
3923445	137	0.6
3923442	138	0.9
3923441	179	3.6
3923439	123A	0.5

Testing period: 3/11/19 - 3/14/19		
Kit Number	**Room / Area**	**Result (pCi/L)**
3923331	135 (Missing)	--

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 Great Seneca ES
13010 Dairymaid Drive
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3220679	3923445	02/25/2019	8:55 am	02/28/2019	8:22 am	Floor Main Room 137	0.6
3220680	3923442	02/25/2019	8:57 am	02/28/2019	8:23 am	Floor Main Room 138	0.9
3220681	3923441	02/25/2019	9:02 am	02/28/2019	8:25 am	Floor Main Room 179	3.6
3220682	3923439	02/25/2019	9:15 am	02/28/2019	8:26 am	Floor Main Room 123A	0.5
3220683	3923447	02/25/2019	9:20 am	02/28/2019	8:27 am	Floor Main Room 126	1.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 03/04/2019 Date Logged: 03/04/2019 Date Analyzed: 03/05/2019 Date Reported: 03/05/2019

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.

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
Great Seneca Creek Elementary School

13010 Dairymaid Drive,
Germantown, MD 20874

Date of Test Report:	2/13/19
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:	48
# of Rooms ≥ 4.0 pCi/L:	2
Low Value:	< 0.4
High Value:	5.3
Rooms with Results ≥ 4.0 pCi/L:	126 179

Project Status

Initial testing complete: Re-test needed for results ≥ 4.0 pCi/L.
Missing or compromised samples need re-test.

February 13, 2019

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

Re: Radon Testing Services

Location: Great Seneca Creek Elementary School
13010 Dairymaid Drive,
Germantown, MD 20874

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 Great Seneca Creek Elementary School, located at 13010 Dairymaid Drive, Germantown, MD 20874 (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 December 4, 2018 and deployed sixty-one (61) 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 December 7, 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	126	5.3
	179	5.3
≤ 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		
Great Seneca Creek Elementary School		
Testing period: 12/04/18 - 12/07/18		
Kit Number	**Room/ Area**	**Result (pCi/L)**
3927535	100	0.5
3927538	100B	0.4
3927539	100D	0.4
3927581	100E	0.4
3927537	100K	0.7
3927533	102C	0.7
3927532	102D	0.4
3927585	104 (APR)	1.8
3927586	104 (APR)	1.5
3927587	107 (IMC)	1.3
3927588	107 (IMC)	1.2
3927583	108B (Kitchen Office)	1.0
3927657	110 (Building Services)	0.8
3927545	122	3.3
3927549	123A (MISSING)	--
3927546	124	3.3
3927547	126	5.3
3927548	128	0.8
3927644	130A	1.3
3927643	133	0.8
3888974	135 (MISSING)	--
3927645	137 (TAMPERED)	1.0
3927646	138 (TAMPERED)	1.0
3927647	141	1.0
3927649	142	0.5
3927650	144	0.9
3927631	151	0.5
3927633	155	< 0.4
3927634	157	< 0.4
3927635	161	< 0.4
3927636	165	0.4
3927637	169	1.9
3927550	170	0.9
3927639	172	3.0
3927638	173	1.8
3927640	175	3.5
3927542	176	3.4
3927541	179	5.3
3927543	181	2.7
3927544	184	3.2
3927658	205	0.6
3927659	221	0.9
3927660	242	1.3

Radon Testing Results		
Great Seneca Creek Elementary School		
Testing period: 12/04/18 - 12/07/18		
Kit Number	**Room/ Area**	**Result (pCi/L)**
3927641	Conference Room 2 (130)	1.0
3927531	Health (102)	0.7
3927584	Kitchen	0.9
3927582	Staff Lounge (106)	1.2
3888394	Gym (123)	< 0.4
3881262	Gym (123)	< 0.4
3927589	IMC Office	1.8
3927590	IMC Workroom	1.7

Radon Testing Results		
Great Seneca Creek Elementary School		
Testing period: 12/04/18 - 12/07/18		
Kit Number	**QC Type**	**Result (pCi/L)**
3927540	100D (D)	0.5
3927534	102C (D)	0.6
3927648	141 (D)	1.1
3927632	151 (D)	0.4
3927642	Conference Room 2 (130) (D)	1.0
3927536	General Office (D)	0.6
3918315	Field Blank	< 0.4
3918316	Field Blank	< 0.4
3918517	Office Blank	< 0.4
3918512	Transit 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

NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Great Seneca Creek ES
Not Indicated
Darnestown MD 20874

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3202863	3927650	12/04/2018	11:45 am	12/07/2018	11:25 am	Floor First Room 144	0.9
3202864	3927641	12/04/2018	11:35 am	12/07/2018	11:16 am	Floor First Room Conference RM 2 (130)	1.0
3202865	3927642	12/04/2018	11:35 am	12/07/2018	11:16 am	Floor First Room Conference RM 2 (130) Duplicat	1.0
3202866	3927643	12/04/2018	11:37 am	12/07/2018	11:17 am	Floor First Room 133	0.8
3202867	3927644	12/04/2018	11:38 am	12/07/2018	11:18 am	Floor First Room 130A	1.3
3202868	3927645	12/04/2018	11:40 am	12/07/2018	11:20 am	Floor First Room 137 Tampered	1.0
3202869	3927646	12/04/2018	11:41 am	12/07/2018	11:21 am	Floor First Room 148 Tampered	1.0
3202870	3927647	12/04/2018	11:41 am	12/07/2018	11:23 am	Floor First Room 141	1.0
3202871	3927648	12/04/2018	11:43 am	12/07/2018	11:23 am	Floor First Room 141 Duplicate	1.1
3202872	3927649	12/04/2018	11:44 am	12/07/2018	11:24 am	Floor First Room 142	0.5
3202873	3927631	12/04/2018	11:46 am	12/07/2018	11:27 am	Floor First Room 151	0.5

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

Test Performed By: Rinzo Renthlei

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: 12/08/2018 Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

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.

AccuStar
Professional Radon Laboratory Services Since 1984

NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Great Seneca Creek ES
Not Indicated
Darnestown MD 20874

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3202874	3927632	12/04/2018	11:46 am	12/07/2018	11:27 am	Floor First Room 151 Duplicate	0.4
3202875	3927633	12/04/2018	11:48 am	12/07/2018	11:28 am	Floor First Room 155	< 0.4
3202876	3927634	12/04/2018	11:49 am	12/07/2018	11:29 am	Floor First Room 157	< 0.4
3202877	3927635	12/04/2018	11:50 am	12/07/2018	11:30 am	Floor First Room 161	< 0.4
3202878	3927636	12/04/2018	11:51 am	12/07/2018	11:31 am	Floor First Room 165	0.4
3202879	3927637	12/04/2018	11:52 am	12/07/2018	11:32 am	Floor First Room 169	1.9
3202880	3927638	12/04/2018	11:53 am	12/07/2018	11:33 am	Floor First Room 173	1.8
3202881	3927639	12/04/2018	11:54 am	12/07/2018	11:34 am	Floor First Room 172	3.0
3202882	3927640	12/04/2018	11:55 am	12/07/2018	11:35 am	Floor First Room 175	3.5
3202883	3927541	12/04/2018	11:56 am	12/07/2018	11:36 am	Floor First Room 179	5.3
3202884	3927542	12/04/2018	11:57 am	12/07/2018	11:37 am	Floor First Room 176	3.4

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

Test Performed By: Rinzo Renthlei

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: 12/08/2018 Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

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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AccuStar
Professional Radon Laboratory Services Since 1984

NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Great Seneca Creek ES
Not Indicated
Darnestown MD 20874

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3202885	3927543	12/04/2018	11:58 am	12/07/2018	11:38 am	Floor First Room 181	2.7
3202886	3927544	12/04/2018	11:59 am	12/07/2018	11:39 am	Floor First Room 184	3.2
3202887	3927545	12/04/2018	12:00 pm	12/07/2018	11:40 am	Floor First Room 122	3.3
3202888	3927546	12/04/2018	12:01 pm	12/07/2018	11:41 am	Floor First Room 124	3.3
3202889	3927547	12/04/2018	12:02 pm	12/07/2018	11:42 am	Floor First Room 126	5.3
3202890	3927548	12/04/2018	12:03 pm	12/07/2018	11:43 am	Floor First Room 128	0.8
3202891	3927550	12/04/2018	12:21 pm	12/07/2018	11:47 am	Floor First Room 170	0.9
3202892	3927531	12/04/2018	12:35 pm	12/07/2018	11:48 am	Floor First Room Health (102)	0.7
3202893	3927532	12/04/2018	12:36 pm	12/07/2018	11:49 am	Floor First Room 102D	0.4
3202894	3927533	12/04/2018	12:37 pm	12/07/2018	11:51 am	Floor First Room 102C	0.7
3202895	3927534	12/04/2018	12:37 pm	12/07/2018	11:51 am	Floor First Room 102C Duplicate	0.6

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

Test Performed By: Rinzo Renthlei

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: 12/08/2018 Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

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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AccuStar
Professional Radon Laboratory Services Since 1984

NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Great Seneca Creek ES
Not Indicated
Darnestown MD 20874

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3202896	3927535	12/04/2018	12:39 pm	12/07/2018	11:53 am	Floor First Room General Office	0.5
3202897	3927536	12/04/2018	12:39 pm	12/07/2018	11:53 am	Floor First Room General Office Duplicate	0.6
3202898	3927537	12/04/2018	12:41 pm	12/07/2018	11:54 am	Floor First Room 100K (Workroom)	0.7
3202899	3927538	12/04/2018	12:42 pm	12/07/2018	11:55 am	Floor First Room 100B	0.4
3202900	3927539	12/04/2018	12:43 pm	12/07/2018	11:57 am	Floor First Room 100D	0.4
3202901	3927540	12/04/2018	12:43 pm	12/07/2018	11:57 am	Floor First Room 100D Duplicate	0.5
3202902	3927581	12/04/2018	12:45 pm	12/07/2018	11:58 am	Floor First Room 100E	0.4
3202903	3927582	12/04/2018	12:46 pm	12/07/2018	11:59 am	Floor First Room Staff Lounge (106)	1.2
3202904	3927583	12/04/2018	12:47 pm	12/07/2018	12:00 pm	Floor First Room Kitchen Office	1.0
3202905	3927584	12/04/2018	12:48 pm	12/07/2018	12:01 pm	Floor First Room Kitchen	0.9
3202906	3927585	12/04/2018	12:49 pm	12/07/2018	12:02 pm	Floor First Room APR	1.8

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

Test Performed By: Rinzo Renthlei

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: 12/08/2018 Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

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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AccuStar
Professional Radon Laboratory Services Since 1984

NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Great Seneca Creek ES
Not Indicated
Darnestown MD 20874

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3202907	3927586	12/04/2018	12:50 pm	12/07/2018	12:03 pm	Floor First Room APR	1.5
3202908	3927587	12/04/2018	12:51 pm	12/07/2018	12:04 pm	Floor First Room IMC	1.3
3202909	3927588	12/04/2018	12:52 pm	12/07/2018	12:05 pm	Floor First Room IMC	1.2
3202910	3927589	12/04/2018	12:53 pm	12/07/2018	12:06 pm	Floor First Room IMC Office	1.8
3202911	3927590	12/04/2018	12:54 pm	12/07/2018	12:07 pm	Floor First Room IMC Workroom	1.7
3202912	3927657	12/04/2018	12:55 pm	12/07/2018	12:08 pm	Floor First Room BSM	0.8
3202913	3927658	12/04/2018	12:56 pm	12/07/2018	12:09 pm	Floor Second Room 205	0.6
3202914	3927659	12/04/2018	12:57 pm	12/07/2018	12:10 pm	Floor Second Room 221	0.9
3202915	3927660	12/04/2018	12:58 pm	12/07/2018	12:11 pm	Floor Second Room 242	1.3
3202916	3918517	12/04/2018	6:00 am	12/07/2018	6:00 pm	Floor NA Room Office Blank	< 0.4
3202917	3918512	12/04/2018	6:00 am	12/07/2018	6:00 pm	Floor NA Room Transit Blank	< 0.4

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

Test Performed By: Rinzo Renthlei

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: 12/08/2018 Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

Report Reviewed By: _____ Report Approved By: _____

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AccuStar
Professional Radon Laboratory Services Since 1984

NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Great Seneca Creek ES
Not Indicated
Darnestown MD 20874

Log Number	Device Number	Test Exposure Duration:				Area Tested		Result pCi/L
3202918	3918315	12/04/2018	11:35 am	12/07/2018	12:15 pm	Floor NA	Room Field Blank	< 0.4
3202919	3918316	12/04/2018	11:35 am	12/07/2018	12:15 pm	Floor NA	Room Field Blank	< 0.4

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

Test Performed By: Rinzo Renthlei

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: 12/08/2018 Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

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

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey
Great Seneca Creek Elementary School
MD 02874

Log Number	Device Number	Test Exposure Duration:		Area Tested		Result pCi/L
2405266	3881262	12/04/2018 12:20 pm	12/07/2018 11:45 am	Floor First	Room Gym (123)	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/10/2018 Date Reported: 01/02/2019

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

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
Great Seneca Creek Elementary School
MD 02874

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2405267	3888394	12/04/2018 12:20 pm	12/07/2018 11:46 am	Floor First Room Gym (123)	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: 12/10/2018 Date Analyzed: 12/10/2018 Date Reported: 12/17/2018

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

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

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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

Time Start: 0947 Time Stop: 0947

Device No.'s: (10) Char. Cans- 3926831 thru 3926840

G2 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: ____

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

intertek
psi

Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

1. Grosvenor Center (Luxmanor ES)
2. Montrose Center
3. Gibbs ES
4. Westbrook ES
5. Hadley Farms (Resnik ES)
6. Kingsview MS
7. Longview School
8. Lynnbrook Center
9. Magruder HS
10. McAuliffe ES
11. McNair ES
12. Mill Creek Towne ES
13. Martin Luther King MS
14. Montgomery Village MS
15. Great Seneca Creek ES
16. Quince Orchard HS
17. Redland MS
18. North Bethesda MS
19. Spark Matsunaga ES
20. Whetstone ES
21. Wood Acres ES

	Date	Initials
Radon Test Kits Deployed	12/04/2018	NL
Radon Test Kits Sampled	12/07/2018	NL
Radon Test Kits Shipped to Lab*	12/07/2018	NL
Radon Test Kits Received by Lab*	12/08/2018; 12/09/2018	NL

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

RADON SCREENING SURVEY – FOLLOW-UP GREAT SENECA CREEK ELEMENTARY SCHOOL

13010 Dairymaid Drive, Germantown, Maryland 20874

EXECUTIVE SUMMARY

Date of Test Report:	3/31/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	3
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	<0.4
High Value:	2.5
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 2/15/16 Initial	Result (pCi/L) 3/31/16 Follow-Up	Average Result (pCi/L)
179	4.9	2.5	3.7
184	0.5 Tampered	<0.4	0.5
175	3.5	1.3	2.4

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: Great Seneca Creek Elementary School

Date of Test Report:	3/31/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	3
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	2.5

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

March 31, 2016

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

Re: **Radon Testing Services**
KCI Job # 12146341.30

Location: Great Seneca Creek Elementary School
13010 Dairymaid Drive
Germantown, MD 20874

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 Great Seneca Creek Elementary School, located at 13010 Dairymaid Drive in Germantown, Maryland 20874 (subject site).

Scope of Services:

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

KCI visited the site on February 29, 2016 and deployed five (5) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on March 3, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests to Accustar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis (certification # ARL0007) located at 929 Mount Zion Road,

Lebanon, Pennsylvania.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

The field blank, office blank, and lab transit blanks had test results of less than or equal to 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 10 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
Great Seneca Creek Elementary School		
Test Period: 02/29/16-03/03/16		
Kit Number	**Room / Area**	**Result**
3028797	175	1.3
3028833	179	2.5
3028832	184	<0.4

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Great Seneca Creek Elementary School		
Test Period: 02/29/16-03/03/16		
Kit Number	**QC Type**	**Result**
3028836	D (184)	0.7
3028834	FB (179)	0.4

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

Great Senica Creek E. S.
13010 Dairymaid Dr
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3015318	3028832	02/29/2016 1:32 pm	03/03/2016 11:30 am	Unit 184 First Floor	<0.4
3015319	3028836	02/29/2016 1:32 pm	03/03/2016 11:30 am	Unit 184 First Floor	0.7
3015320	3028834	02/29/2016 1:36 pm	03/03/2016 11:34 am	Unit 179 First Floor	0.4
3015321	3028833	02/29/2016 1:36 pm	03/03/2016 11:34 am	Unit 179 First Floor	2.5
3015322	3028797	02/29/2016 1:38 pm	03/03/2016 11:37 am	Unit 175 First Floor	1.3

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

Distributed by: KCI Technologies, Inc.

Date Received: 03/07/2016 Date Logged: 03/07/2016 Date Analyzed: 03/08/2016 Date Reported: 03/08/2016

Report Reviewed By: _____ Report Approved By: _____

Carolyn D. Koke, President, AccuStar Labs

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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	Great Seneca Creek E.S.
Address	13010 Dairymaid Dr
Address	
City / Town	Germantown
State/Province Postal Code	MD 20874
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	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
	3028832		184	1	72°	02/29/2016	13:32 pm	03/03/2016	11:30 AM	
	3028836		184	1	72°	02/29/2016	13:32 pm	03/03/2016	11:30 AM	
	3028834		179	1	72°	02/29/2016	13:36 pm	03/03/2016	11:34 AM	
	3028833		179	1	72°	02/29/2016	13:36 pm	03/03/2016	11:34 AM	
	3028797		175	1	72	02/29/2016	13:38 pm	03/03/2016	11:37 AM	
						02/29/2016		03/03/2016		
						02/29/2016		03/03/2016		
						02/29/2016		03/03/2016		
						02/29/2016		03/03/2016		
						02/29/2016		03/03/2016		

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 10 Office Blank

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3015360	3028828	02/29/2016 9:30 am	03/03/2016 9:30 am	Office Blank	<0.4

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

Distributed by: KCI Technologies, Inc.

Date Received: 03/07/2016 Date Logged: 03/07/2016 Date Analyzed: 03/08/2016 Date Reported: 03/08/2016

Report Reviewed By: Jeffrey Karten Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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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 Road
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	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
	3028828		0	1	OFFICE (TEMP - 70F)	02/29/2016	9:30 am	03/03/2016	9:30 am	

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:

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.

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.

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173618

NOMINAL Conditions: Radon Conc 25.2 pCi/L Rel. Hum 49.1 % Temp. 70.0 F

Date Start: 1/23/16 Date Stop: 1/25/16	Date Start: _____ Date Stop: _____
Time Start: 0821 Time Stop: 0821	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Cans -	Device No.'s: _____
3028985 thru 3028990	_____
_____	_____
E2 LOT	_____
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

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)
3010551	3028985	01/23/2016 8:20 am	01/25/2016 8:20 am	1 First Floor	24.2
3010552	3028986	01/23/2016 8:20 am	01/25/2016 8:20 am	2 First Floor	25.7
3010553	3028987	01/23/2016 8:20 am	01/25/2016 8:20 am	3 First Floor	23.8
3010554	3028988	01/23/2016 8:20 am	01/25/2016 8:20 am	4 First Floor	23.3
3010555	3028989	01/23/2016 8:20 am	01/25/2016 8:20 am	5 First Floor	24.0
3010556	3028990	01/23/2016 8:20 am	01/25/2016 8:20 am	6 First Floor	24.4

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.

Comment: 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: _____ 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.

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.

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: MCPS
Site Address: 850 Hungerford dr
City: Rockville MD State: MD Zip: 20850 County: Montgomery
Projects Contact Name: James Moulsdale Phone: 410-891-1842 Email: James.moulsdale@kci.com

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
2	3028985	1	3010551	1	1/23/16	08:20	1/25/16	08:20		N/A
3	3028986	2	3010552	1	↓	↓	↓	↓		↓
1	3028987	3	3010553	1						
3	3028988	4	3010554	1						
1	3028989	5	3010555	1						
2	3028990	6	3010556	1						

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 Testers Provide #

Canisters placed by James Moulsdale #

Canisters retrieved by James Moulsdale #

Owner waives confidentiality by signing here _____ Date _____

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 Technologies Inc
Attention: James Moulsdale
Address: 936 Ridgebrook Rd
City: Sparks State: MD Zip: 21152
Phone: 410-891-1842 Fax:
EMAIL Results to: James.moulsdale@kci.com

1/27/2016

KCI Technologies, Inc.

3010551 **3028985** ACPC275B EXP12/31/2018

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 Jonest
Shipping: 929 Mt Zion Road, Le
800-523-4964 fax 717-2

NEHA 10511AL NRSB ARL 0007

Revision 5
4/2015

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: Great Seneca Creek Elementary School

Date of Test Report:	2/15/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	53
# Rooms ≥ 4.0 pCi/L:	1
Low Value:	< 0.3
High Value:	4.9

Rooms with results ≥ 4.0 pCi/L:
Room 179 (4.9 pCi/L)

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

February 15, 2016

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

Re: **Radon Testing Services**
KCI Job # 12146341.25

Location: Great Seneca Creek Elementary School
13010 Dairymaid Drive
Germantown, MD 20874

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 Great Seneca Creek Elementary School, located at 13010 Dairymaid Drive in Germantown, Maryland 20874 (subject site).

Scope of Services:

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

KCI visited the site on January 19, 2016 and deployed sixty-four (64) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on January 22, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	179	4.9
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Great Seneca Creek Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	**Room / Area**	**Result**
7721551	100	0.7
7721511	102	0.9
7721536	104	1.1
7721537	104	1
7721539	106	1.1
7721515	107	0.8
7721520	107	0.7
7721531	110	0.9
7721544	111	0.5
7721538	122	2
7721517	123	< 0.3
7721523	123	< 0.3
7721530	124	2.3
7721529	126	2.1
7721519	128	0.5
7721505	130	0.6
7721547	133	0.7
7721509	135	0.6
7716993	137	1
7716996	138	1.1
7721522	141	1.1
7721508	142	1.5
7721532	144	0.6
7721506	151	< 0.3
7721507	155	0.5
7716992	157	0.6
7716997	161	0.6
7721503	165	0.7
7721510	169	2.3
7721512	170	2.1
7721545	172	2.3
7721513	173	1.7
7721552	175	3.5
7721546	176	1.9
7721502	179	4.9
7721548	181	1.1
7721541	* 184 (tampered)	0.5
7721501	210	0.6
7721524	221	0.8
7721549	235	1.3
7716995	239	1.3
7721525	258	0.7
7721542	100B	< 0.3
7721543	100C	0.5
7721535	100D	< 0.3
7721534	100E	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Great Seneca Creek Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	**Room / Area**	**Result**
7721527	102D	0.8
7721550	107A	0.7
7721540	108B	0.7
7721516	123A	0.7
7721504	130A	0.8
7716994	135A	< 0.3
7716998	137A	1
7716991	ML849	< 0.3
7716990	ML850	< 0.3
7716999	ML859	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Great Seneca Creek Elementary School		
Test Period: 01/19/16-01/22/16		
Kit Number	**QC Type**	**Result**
7721533	D (100E)	< 0.3
7721526	D (124)	2.5
7721518	D (130)	0.7
7721514	D (144)	0.8
7721521	D (165)	0.6
7721528	FB (110)	< 0.3
7716988	FB (130A)	< 0.3
7721571	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 11, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

GREAT SENECA CREEK ELEMENTARY SCHOO
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7721571	0	2016-01-19 @ 7:00 pm	2016-01-22 @ 2:00 pm	< 0.3	2016-01-26
7721551	100	2016-01-19 @ 2:00 pm	2016-01-22 @ 9:00 am	0.7 ± 0.3	2016-01-27
7721542	100B	2016-01-19 @ 2:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-26
7721543	100C	2016-01-19 @ 2:00 pm	2016-01-22 @ 9:00 am	0.5 ± 0.2	2016-01-26
7721535	100D	2016-01-19 @ 2:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-26
7721534	100E	2016-01-19 @ 2:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-26
7721533	100E	2016-01-19 @ 2:00 pm	2016-01-22 @ 9:00 am	< 0.3	2016-01-27
7721511	102	2016-01-19 @ 4:00 pm	2016-01-22 @ 9:00 am	0.9 ± 0.3	2016-01-27
7721527	102D	2016-01-19 @ 4:00 pm	2016-01-22 @ 9:00 am	0.8 ± 0.3	2016-01-27
7721536	104	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	1.1 ± 0.3	2016-01-27
7721537	104	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	1.0 ± 0.3	2016-01-27
7721539	106	2016-01-19 @ 2:00 pm	2016-01-22 @ 9:00 am	1.1 ± 0.3	2016-01-27
7721515	107	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.8 ± 0.3	2016-01-27
7721520	107	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7721550	107A	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7721540	108B	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7721528	110	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7721531	110	2016-01-19 @ 2:00 pm	2016-01-22 @ 10:00 am	0.9 ± 0.3	2016-01-27
7721544	111	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.5 ± 0.2	2016-01-26
7721538	122	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	2.0 ± 0.4	2016-01-27
7721517	123	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-26
7721523	123	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7721516	123A	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7721526	124	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	2.5 ± 0.4	2016-01-27
7721530	124	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	2.3 ± 0.4	2016-01-27
7721529	126	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	2.1 ± 0.3	2016-01-27
7721519	128	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.5 ± 0.2	2016-01-26
7721505	130	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	0.6 ± 0.3	2016-01-27
7721518	130	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7716988	130A	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7721504	130A	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	0.8 ± 0.3	2016-01-27
7721547	133	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7721509	135	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	0.6 ± 0.3	2016-01-27
7716994	135A	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7716993	137	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.0 ± 0.3	2016-01-27
7716998	137A	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.0 ± 0.3	2016-01-27
7716996	138	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.1 ± 0.3	2016-01-27

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

February 11, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

GREAT SENECA CREEK ELEMENTARY SCHOO
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7721522	141	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.1 ± 0.3	2016-01-27
7721508	142	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.5 ± 0.3	2016-01-27
7721532	144	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.6 ± 0.3	2016-01-27
7721514	144	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.8 ± 0.3	2016-01-27
7721506	151	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7721507	155	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.5 ± 0.3	2016-01-27
7716992	157	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.6 ± 0.3	2016-01-27
7716997	161	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.6 ± 0.3	2016-01-27
7721503	165	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27
7721521	165	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.6 ± 0.3	2016-01-27
7721510	169	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	2.3 ± 0.4	2016-01-27
7721512	170	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	2.1 ± 0.4	2016-01-27
7721545	172	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	2.3 ± 0.4	2016-01-27
7721513	173	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.7 ± 0.4	2016-01-27
7721552	175	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	3.5 ± 0.4	2016-01-27
7721546	176	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.9 ± 0.3	2016-01-26
7721502	179	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	4.9 ± 0.4	2016-01-26
7721548	181	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	1.1 ± 0.3	2016-01-27
7721541	184	2016-01-19 @ 3:00 pm	2016-01-22 @ 10:00 am	0.5 ± 0.3	2016-01-27
7721501	210	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	0.6 ± 0.3	2016-01-27
7721524	221	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	0.8 ± 0.3	2016-01-27
7721549	235	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	1.3 ± 0.3	2016-01-27
7716995	239	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	1.3 ± 0.3	2016-01-27
7721525	258	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	0.7 ± 0.3	2016-01-27

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

February 11, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

GREAT SENECA CREEK ELEMENTARY SCHOO
PORTABLES

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7716991	ML849	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7716990	ML850	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27
7716999	ML859	2016-01-19 @ 4:00 pm	2016-01-22 @ 10:00 am	< 0.3	2016-01-27

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February 2, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS PHASE 5 & 6
TRANSIT BLANKS

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

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February 15, 2016

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

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

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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

Chain of Custody

Project Name: MCPS Radon Phase VI

Name of Schools:

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

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

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