

School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Damascus Elementary School		
Address:	10201 Bethesda Church Rd.		
	Damascus, MD 20872		
Reason for Testing:	Scheduled Re-Testing - <input checked="" type="checkbox"/> 2-year or <input type="checkbox"/> 5-year schedule <input type="checkbox"/> Clearance Testing (Post-Mitigation) <input type="checkbox"/> Building Envelope or HVAC Upgrades <input type="checkbox"/> New Construction – Addition or Facility		
Current Radon Status:	<input checked="" type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule) <input type="checkbox"/> Not Previously Tested (New Facility)		
Round of Testing:	<input checked="" type="checkbox"/> Initial Testing -or- <input type="checkbox"/> Follow-up Testing		
Testing Status:	<input checked="" type="checkbox"/> No Further Testing Needed -or- <input type="checkbox"/> Follow-Up Testing Required		

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

Mitigation -	Facility Radon Status:		
<input checked="" type="checkbox"/> Not Required <input type="checkbox"/> Required (≥ 4.0 -pCi/L) Rooms:	<input checked="" type="checkbox"/> No Change in Status <input type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	45	Lowest Value (pCi/L)	<0.3
Number of Rooms (≥ 4.0 -pCi/L)	0	Highest Value (pCi/L)	0.7

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

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

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

Attachment 2 – Laboratory Report(s)

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

Detector and Deployment

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

Testing

<input checked="" type="checkbox"/> Short-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	2/18/2025
<input type="checkbox"/> Long-Term				2/21/2025
Does the test period include weekends, school breaks or holidays?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If “Yes” please explain/detail in the space below:				
Was HVAC operating under occupied conditions?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If “No” please explain/detail in the space below:				

Testing (continued)

Round of Testing	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Test Locations ¹	45	0	0	0	45
Duplicates ²	4	0	0	0	4
Field Blanks ³	2	0	0	0	2
Grand Total					51

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

2 - 10% of all locations tested, per floor

3 – 5% of all locations tested, per floor

Quality Assurance / Quality Control (QA/QC)

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

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

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

2 – One per shipping container from start of detector deployment

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

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

Quality Assurance / Quality Control (continued)

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

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

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

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

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

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

Summary of Test Results¹ and Determination of Valid Measurements²

Round of Testing	Ground-Contact		Upper-Level(s)		Total
	Initial	Follow-Up	Initial	Follow-Up	
Number of test locations:	45	0	0	0	45
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 :	1	0	0	0	1
Number of failed duplicate control locations:	0	0	0	0	0
Percentage of missing test locations for the facility ^{4,5} :	2.2%	0	0	0	2.2%

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

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

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

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

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

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

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

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

Follow-Up Testing

Required –

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

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

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

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Damascus Elementary School		
Test Period: 2/18/2025 - 2/21/2025		
Kit Number	Room / Area	Result
11931021	6	0.6
11931048	6	< 0.3
11931029	7	< 0.3
11931028	8	< 0.3
11931022	9	< 0.3
11931032	10	0.6
11931036	11	< 0.3
11931027	12	< 0.3
11931026	13	< 0.3
11931039	14	< 0.3
11931025	15	< 0.3
11931019	16	< 0.3
11931020	16	< 0.3
11931042	17	< 0.3
11931047	103	< 0.3
11931009	122	< 0.3
11931030	APR	< 0.3
11931031	APR	< 0.3
11931016	ART	< 0.3
11931006	ASSISTANT PRINCIPAL	< 0.3
11931018	BREAKROOM	< 0.3
11931035	BSO	< 0.3
11931002	CONFERENCE	< 0.3
11931049	CONFERENCE	< 0.3
11931007	COUNSELING	< 0.3
11931033	CR1	< 0.3
11931034	CR2	< 0.3
11931040	CR2	< 0.3
11931005	GYM	< 0.3
11931014	GYM	< 0.3
11931008	GYM OFFICE	< 0.3
11931013	GYM OFFICE	< 0.3
11931010	HEALTH	< 0.3
11931058	HSM	< 0.3
11931059	HSM	< 0.3
11931056	HSM2	< 0.3
11931001	HSM3	< 0.3

Table 1- Radon Testing Results		
Damascus Elementary School		
Test Period: 2/18/2025 - 2/21/2025		
Kit Number	Room / Area	Result
11931057	HSM3	< 0.3
11931041	K2	< 0.3
11931043	K2	< 0.3
11931012	MAIN OFFICE	< 0.3
11931051	MEDIA	0.5
11931050	MEDIA	< 0.3
11931015	MEDIA OFFICE	< 0.3
11931055	MUSIC	0.7
11931011	PRINCIPAL	< 0.3
11931004	RESOURCE	< 0.3
11931044	RESOURCE	< 0.3
11931023	SPEECH	< 0.3
11931052	STAFF LOUNGE	< 0.3
11931017	WORKROOM	< 0.3

[illegible]

Table 3 - QC Radon Testing Results			
Damascus Elementary School			
Test Period: 2/18/2025 - 2/21/2025			
Kit Number	QC Type	Room / Area	Result
11931048	FB	6	< 0.3
11931019	D	16	< 0.3
11931049	D	Conference	< 0.3
11931034	D	CR2	< 0.3
11931008	D	Gym office	< 0.3
11931059	FB	HSM	< 0.3
11919902	OB	OFFICE BLANK	< 0.3
11919963	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Damascus Elementary School										
Test Period: 2/18/2025 - 2/21/2025										
Sample ID			Duplicate Concentrations (pCi/L) and OC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11931019	11931020	16	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11931049	11931002	Conference	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11931034	11931040	CR2	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11931008	11931013	Gym Office	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
NOTES: QC Check #1 - Data Entry QC Check #2 - Higher duplicate concentration is < or = to 2x the Lower QC Check #3 - Meets RPD Limits, by average duplicate concentration - enter 2 if RPD is BELOW warning and control levels, AND passes QC Check 1 and 2 - enter 1 if RPD is ABOVE warning and BELOW control levels, AND passes QC Check 1 and 2 - enter 0 if RPD is ABOVE control level, or 'FAILS' QC Check 1 or 2							Average (pCi/L)		Warning Level	Control Level
							< 2.0		1-pCi/L	NA
							Between 2.0 and 3.9		50% RPD	67% RPD
							≥ 4.0		28% RPD	36% RPD

[illegible]

Attachment 2:

Laboratory Reports

Radon test result report for:**DAMASCUS ES****MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931032	10	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	0.6 ± 0.3	2025-02-24
11931047	103	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931036	11	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931027	12	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931009	122	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931026	13	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931039	14	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931025	15	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931020	16	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931019	16	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931042	17	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931042	17	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931021	6	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	0.6 ± 0.3	2025-02-24
11931048	6	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931029	7	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931028	8	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931022	9	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931031	APR	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931030	APR	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931016	ART	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931006	ASSISTANT PRINCIPAL	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931018	BREAKROOM	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931035	BSO	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931049	CONFERENCE	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931002	CONFERENCE	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931007	COUNSELING	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931033	CR1	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931034	CR2	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931040	CR2	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931005	GYM	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931014	GYM	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931013	GYM OFFICE	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931008	GYM OFFICE	2025-02-18 @ 12:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931010	HEALTH	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931059	HSM	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931058	HSM	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931056	HSM2	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24

February 24, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**DAMASCUS ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931001	HSM3	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931057	HSM3	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931043	K2	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931041	K2	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931012	MAIN OFFICE	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931050	MEDIA	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931051	MEDIA	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	0.5 ± 0.3	2025-02-24
11931015	MEDIA OFFICE	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931055	MUSIC	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	0.7 ± 0.3	2025-02-24
11931011	PRINCIPAL	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931004	RESOURCE	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931044	RESOURCE	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24
11931023	SPEECH	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931052	STAFF LOUNGE	2025-02-18 @ 1:00 pm	2025-02-21 @ 1:00 pm	< 0.3	2025-02-24
11931017	WORKROOM	2025-02-18 @ 12:00 pm	2025-02-21 @ 12:00 pm	< 0.3	2025-02-24

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

February 26, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**OFFICE
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11919902	OB	2025-02-18 @ 11:00 am	2025-02-21 @ 11:00 am	< 0.3	2025-02-24

February 26, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**TRAVEL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11919963	TB	2025-02-18 @ 11:00 am	2025-02-21 @ 11:00 am	< 0.3	2025-02-24

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20001560

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

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

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

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

11477880, 11477883, 11477896 _____

B4 Right

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

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

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

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

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

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

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

December 23, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**SK
MAIN**

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20002919

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

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

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

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

11886401 thru 11886406,

11886410

G3 Right

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

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

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

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

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

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

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

March 19, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

QC
MAIN

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

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



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 18th – February 21st, 2025

Name of Schools:

1. Cashell ES
2. Cedar Grove ES
3. Clarksburg ES
4. Clarksburg HS
5. Clarksburg Annex
6. Damascus ES
7. Darnestown ES

	Date	Initials
Radon Test Kits Deployed	2/18/2025	on
Radon Test Kits Collected	2/21/2025	Sm
Radon Test Kits Shipped to Lab*	2/21/2025	dm
Radon Test Kits Received by Lab*	2/24/2025	Sm

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



Soil and Land Use Technology, Inc.

(301) 595-3783

1818 New York NE, Suite 231 • Washington, DC 20002

www.SaLUTinc.com

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Damascus Elementary School
Date of Report	12/24/2020
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	3
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	0.4 pCi/L

Project Status

Current Project Status at this time: Testing Complete



Soil and Land Use Technology, Inc.

(301) 595-3783
1818 New York NE, Suite 231 • Washington, DC 20002

www.SaLUTinc.com

12/24/2020

Brian Croyle, PG, CHMM
Environmental Specialist
Environmental Services/Indoor Air Quality
Montgomery County Public Schools
Division of Sustainability and Compliance
Gaithersburg, Maryland 20879

Re: Radon Testing Services

SaLUT Job #20-173

Location: Damascus Elementary School

10201 Bethesda Church Road
Damascus, MD 20872

Dear Mr. Croyle:

Soil and Land Use Technology, Inc. (SaLUT) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a "Post Remediation radon test for the Damascus Elementary School, located at 10201 Bethesda Church Road Damascus, MD 20872 (subject site).

SCOPE OF SERVICES

SaLUT 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. SaLUT 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*. 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.

SaLUT visited the site on 12/1/2020 and deployed five (5) activated charcoal (AC) radon test kits. SaLUT deployed radon test kits in remediated 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, SaLUT included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, SaLUT submitted one (1) test kit 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.

SaLUT returned to the site on 12/4/2020 to retrieve the radon sampling test kits. SaLUT shipped all radon tests via overnight delivery to EMSL Analytical, Inc. for analysis by gamma-ray spectroscopy. EMSL Analytical, Inc. is a National Radon Safety Board (NRSB) radon measurement provider and is a certified analytical laboratory for radon analysis (certification #109000 AL) located at 200 Route 130 North, Cinnaminson, NJ 08077.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Post Remediation Testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

SaLUT 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.

SaLUT also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the mid-30s and high temperatures were in the mid-50s. Maximum sustained winds ranged from 10-15 miles per hour. Average humidity was around 57%. 0.0 inches of precipitation (rain) was recorded during the testing period.

RESULTS

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

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 pCi/L	N/A	N/A
≤4.0 pCi/L	See Attachment B	See Attachment B

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

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at 301-595-3783.

Sincerely,

Mark McGrath

Soil and Land Use Technology, Inc. (SaLUT)
1818 New York Avenue, NE, Suite 231
Washington, DC 20002
202-446-7211 Mobile
301-595-3783
202-379-9504 fax

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

D- Duplicate

FB- Field Blank

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Damascus Elementary School		
Test Period: 12/1/2020-12/4/2020		
Kit Number	Room / Area	Result
437185	PE Office	<0.3
437357	PE Office	0.1
440285	Gym	0.0
440260	PE Office	0.4
440119	PE Office	0.4

Table 2- Radon Testing Results			
Damascus Elementary School			
Test Period: 12/1/2020-12/4/2020			
Kit Number	QC Type	Room / Area	Result
437185	FB	Gym Office	<0.3
440260	D	Gym Office	0
437235	TRANSIT BLANK	NA	<0.3

ATTACHMENT C

Laboratory Analytical Results

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675 / (856) 786-0327

<http://www.EMSL.com>cinnaminsonradonlab@emsl.com

EMSL Order: 382013024

CustomerID: SALU50

CustomerPO:

ProjectID:

Attn: **Indika Jayatilake**
SaLUT
1818 New York Avenue, NE
Suite 231
Washington, DC 20002

Phone: (301) 595-3783
Fax: (301) 595-3787
Received: 12/7/2020 08:10 AM
Analysis Date: 12/7/2020
Collected: 12/1/2020

Project: **Damascus ES / 10201 Bethesda Church Road**

Test Site: **Damascus ES**
10201 Bethesda Church Road
Damascus, MD 20872

Test Report: Radon in Air Test Results**Samples for EMSL Kit 250635**

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
437185 382013024-0001	PE Office	-0.4	12/1/2020 8:30:00 AM	12/4/2020 8:37:00 AM	64	43	Blank

Sample Notes:

437357 382013024-0002	PE Office	0.1	12/1/2020 8:30:00 AM	12/4/2020 8:37:00 AM	64	43	Customer
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Sample Notes:**Samples for EMSL Kit 252537**

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
440285 382013024-0003	Gym	0	12/1/2020 8:30:00 AM	12/4/2020 8:39:00 AM	64	43	Customer

Sample Notes:**Samples for EMSL Kit 252532**

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
440260 382013024-0004	PE Office	0.4	12/1/2020 8:30:00 AM	12/4/2020 8:37:00 AM	65	43	Duplicate

Sample Notes:

440119 382013024-0005	PE Office	0.4	12/1/2020 8:30:00 AM	12/4/2020 8:37:00 AM	64	43	Customer
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Sample Notes:**Duplicate RPD = 0%**

The radon test was performed using a liquid scintillation radon detector/s and counted on a liquid scintillation counter using approved EPA testing protocols for Radon in Air testing. The EPA recommends fixing your home if the average of two short-term tests taken in the lowest lived-in level of the home show radon levels that are equal to or greater than 4.0pCi/L. The EPA recommends retesting your home every two years.

Please contact EMSL Analytical, Inc. or your State Health Department for further information.

All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of Radon in Air.

Report Note



EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675 / (856) 786-0327

<http://www.EMSL.com>

cinnaminsonradonlab@emsl.com

EMSL Order: 382013024

CustomerID: SALU50

CustomerPO:

ProjectID:

Attn: **Indika Jayatilake**
SaLUT
1818 New York Avenue, NE
Suite 231
Washington, DC 20002

Phone: (301) 595-3783
Fax: (301) 595-3787
Received: 12/7/2020 08:10 AM
Analysis Date: 12/7/2020
Collected: 12/1/2020

Project: **Damascus ES / 10201 Bethesda Church Road**

Test Site: **Damascus ES**
10201 Bethesda Church Road
Damascus, MD 20872

Test Report: Radon in Air Test Results

Analyst(s)

Racquel Hafiz (5)

Dominic Gehret, Radiochemistry Laboratory Manager, NJ Radon
Measurement Specialist MES 13910
or other approved signatory

In no event shall EMSL be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages, arising out of or in connection with EMSL's services thereunder or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereunder. The test results meets all NELAC requirements unless otherwise specified.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ FL RB2034/R2687,IL RNL2008202,IN RTL00935,IA RNLAB10005,KS KS-LB-0005/KS-MS-0482,ME SPC202,MN RL-0005,NE 474/RMB-1083,NJ 03036/MEB92525/MES13910,NY 10872,OH RL39,OK D9952,PA 2573/3393/68-00367,RI RMB-108/RI00179,WV RL000220,NRSB-ARL6006,NRPP

Initial report from 12/09/2020 15:01:48

Please visit www.radontestinglab.com



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Radon Testing Chain of Custody

EMSL Order Number (Lab Use Only):

382013024 EMSL
CINNAMINSON, N.J.

2010/11/05, 11:00

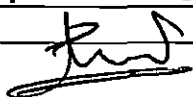
200 Route 130 North

My 21)

Cinnaminson, NJ 08077

PHONE: 1-800-220-3675

FAX: (856) 786-5974

Company: SaLUT		2020 DEC -7		A 8:10		EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: 1818 New York Avenue, NE Suite 231				Third Party Billing requires written authorization from third party			
City: Washington		State/Province: DC		Zip/Postal Code: 20002		Country: US	
Report To (Name): Indika Jayatilake				Fax #: 301-595-3787			
Telephone #: 301-595-3783				Email Address: ijayatilake@salutinc.com			
Project Name/Number: MCPS <u>Damascus ES</u>							
Please Provide Results: <input type="checkbox"/> Fax <input type="checkbox"/> Email <input type="checkbox"/> Mail				Purchase Order:		U.S. State Samples Taken: MD	
Project Property Information							
Project Name:							
Project Address: <u>10201 Bethesda Church Rd Damascus MD</u>							
City: <u>Damascus</u>		State: <u>MD</u>		Zip Code: <u>20872</u>			
County:				Municipality:			
Technician Name: <u>Jude</u>		Technician Cert #:		Technician Signature: 			
New Jersey Testing Information							
NJDEP Laboratory Certification # <u>03036</u>				NJDEP Radon Business Certification # <u>MEB92525</u>			
1.) Is the radon test being conducted for the purpose of: <input type="checkbox"/> Real Estate Transaction <input type="checkbox"/> Homeowner Testing <input checked="" type="checkbox"/> Other							
2.) Test Conditions observed? <input checked="" type="checkbox"/> Closed House <input type="checkbox"/> Open House							
3.) What is the building type? <input type="checkbox"/> Residential <input type="checkbox"/> Non-Residential <input type="checkbox"/> Daycare <input checked="" type="checkbox"/> School							
4.) What is the building foundation type? <input checked="" type="checkbox"/> Basement <input type="checkbox"/> Crawlspace <input type="checkbox"/> Slab on Grade <input type="checkbox"/> Other							
5.) For School Testing, please enter: School Code _____ Room Name/Number _____							
Box Number	Device Number	Location	Exposure Period Beginning Date and Time	Exposure Period Ending Date and Time	Temperature °F	Humidity, %	
250635	<u>Blank</u> 437185	PE-office	12-1-2020 8:30 am	12-4-2020 8:37 am	64.4 43.4	43.4	
250635	<u>Duplicate</u> 437357	do	12-1-2020 8:30 am	12-4-2020 8:37 am	64.4	43.4	
252537	<u>C/Sample</u> 440285	<u>GYM</u>	12-1-2020 8:30 am	12-4-2020 8:39 am	64.5	43-4	
252532	<u>Duplicate</u> 440260	PE-office	12-1-2020 8:30 am	12-4-2020 8:37 am	64.4	43.4	
25232	<u>Sample</u> 440119	PE-office	12-1-2020 8:30 am				
Client Sample # (s):			Total # of Samples:				
Relinquished (Client):			Date:		Time:		
Received (Lab): <u>R. Haff</u>			Date: <u>12.7.20</u>		Time:		
Comments/Special Instructions:							



EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson NJ 08077
800-220-3675
radlab@emsl.com

EMSL KIT ID NUMBER _____

SEND REPORT TO

EMSL CUSTOMER ID _____

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIPCODE _____

PHONE _____

EMAIL _____

SEND COPY OF REPORT TO

EMAIL _____

EMAIL _____

PROPERTY TESTED ☐ SAME AS ABOVE

NAME _____

ADDRESS _____

CITY _____

MUNICIPALITY _____ ☐ N/A

COUNTY _____

STATE _____ ZIPCODE _____

TECHNICIAN WHO DROPPED-OFF CANISTER(S)

NAME _____

CERTIFICATION # _____ ☐ N/A

SIGNATURE _____

TECHNICIAN WHO PICKED-UP CANISTER(S) ☐ SAME

NAME _____

CERTIFICATION # _____ ☐ N/A

SIGNATURE _____

NRPP ID 109000 • AL NRSB-ARL-6006 • NJDEP MEB92525
EMSL MAINTAINS MULTIPLE NATIONAL AND STATE
CERTIFICATIONS FOR RADON ANALYSIS. PLEASE SEE OUR
WEBSITE FOR THE MOST UP TO DATE LIST:
WWW.EMSL.COM

Expiration Date: 12/31/2022

RADON IN AIR CHAIN OF CUSTODY

Turnaround: ☐ Same Day ☐ Next Day ☐ Two Day

INDOOR CANISTER COLLECTION CONDITIONS

TEMPERATURE 64.4 °F HUMIDITY 43.4 %

START DATE 12/1/20 TIME 8:30 ☒ AM ☐ PM

STOP DATE TIME ☐ AM ☐ PM

LOCATION ☐ BASEMENT ☒ 1st FLOOR ☐ 2nd FLOOR

☐ BEDROOM ☐ LIVING ROOM ☐ OTHER Gym

1ST CANISTER NUMBER 252532

SAMPLE TYPE ☐ CUSTOMER ☒ DUPLICATE ☐ BLANK

2ND CANISTER NUMBER 250635

SAMPLE TYPE ☐ CUSTOMER ☐ DUPLICATE ☒ BLANK

PROJECT BACKGROUND QUESTIONS

1. IS THIS A REAL ESTATE TRANSACTION? ☐ YES ☒ NO
2. IS THIS A POST MITIGATION TEST? ☒ YES ☐ NO
3. IS THIS A RETEST? ☐ YES ☒ NO
4. BUILDING CONDITIONS: ☐ OPEN ☒ CLOSED
5. BUILDING TYPE: ☐ RESIDENTIAL ☐ NON-RESIDENTIAL
☐ SINGLE FAMILY ☐ MULTI-UNIT
☐ COMMERCIAL ☒ SCHOOL ☐ DAYCARE
☐ OTHER _____
6. SCHOOL CODE _____ ☐ N/A
7. ROOM NUMBER _____ ☐ N/A
ROOM LOCATION _____ ☐ N/A
8. WHAT IS THE BUILDING FOUNDATION TYPE
☐ BASEMENT ☐ CRAWLSPACE ☐ SLAB ON GRADE
☐ OTHER _____ ☐ N/A

NOTES: Damascus ES

COC Revision 3.0; 01/03/2020

SAMPLES RELEASED TO THE LABORATORY

NAME _____

SIGNATURE _____

DATE / / TIME : ☐ AM ☐ PM

SAMPLES RECEIVED BY THE LABORATORY

NAME _____

SIGNATURE _____

DATE / / TIME : ☐ AM ☐ PM



EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson NJ 08077
800-220-3675
radlab@emsl.com

EMSL KIT ID NUMBER _____

SEND REPORT TO

EMSL CUSTOMER ID _____

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIPCODE _____

PHONE _____

EMAIL _____

SEND COPY OF REPORT TO

EMAIL _____

EMAIL _____

PROPERTY TESTED ☐ SAME AS ABOVE

NAME _____

ADDRESS _____

CITY _____

MUNICIPALITY _____ ☐ N/A

COUNTY _____

STATE _____ ZIPCODE _____

TECHNICIAN WHO DROPPED-OFF CANISTER(S)

NAME _____

CERTIFICATION # _____ ☐ N/A

SIGNATURE _____

TECHNICIAN WHO PICKED-UP CANISTER(S) ☐ SAME

NAME _____

CERTIFICATION # _____ ☐ N/A

SIGNATURE _____

NRPP ID 109000 • AL NRSB-ARL-6006 • NJDEP MEB92525
EMSL MAINTAINS MULTIPLE NATIONAL AND STATE
CERTIFICATIONS FOR RADON ANALYSIS. PLEASE SEE OUR
WEBSITE FOR THE MOST UP TO DATE LIST:

WWW.EMSL.COM

Expiration Date: 10/31/2022

RADON IN AIR CHAIN OF CUSTODY

Turnaround: ☐ Same Day ☐ Next Day ☐ Two Day

INDOOR CANISTER COLLECTION CONDITIONS

TEMPERATURE 64.4 °F HUMIDITY 43.4 %

START DATE 12/1/20 TIME 9:30 ☒ AM ☐ PM

STOP DATE / / TIME : ☐ AM ☐ PM

LOCATION ☐ BASEMENT ☐ 1st FLOOR ☐ 2nd FLOOR

☐ BEDROOM ☐ LIVING ROOM ☒ OTHER hyn

1ST CANISTER NUMBER 252537

SAMPLE TYPE ☒ CUSTOMER ☐ DUPLICATE ☐ BLANK

2ND CANISTER NUMBER

SAMPLE TYPE ☐ CUSTOMER ☐ DUPLICATE ☐ BLANK

PROJECT BACKGROUND QUESTIONS

1. IS THIS A REAL ESTATE TRANSACTION? ☐ YES ☒ NO

2. IS THIS A POST MITIGATION TEST? ☒ YES ☐ NO

3. IS THIS A RETEST? ☐ YES ☒ NO

4. BUILDING CONDITIONS: ☐ OPEN ☒ CLOSED

5. BUILDING TYPE: ☐ RESIDENTIAL ☐ NON-RESIDENTIAL

☐ SINGLE FAMILY ☐ MULTI-UNIT

☐ COMMERCIAL ☒ SCHOOL ☐ DAYCARE

☐ OTHER

6. SCHOOL CODE ☐ N/A

7. ROOM NUMBER ☐ N/A

ROOM LOCATION ☐ N/A

8. WHAT IS THE BUILDING FOUNDATION TYPE

☐ BASEMENT ☐ CRAWLSPACE ☐ SLAB ON GRADE

☐ OTHER ☐ N/A

NOTES: Damascus E5

COC Revision 3.0; 01/03/2020

SAMPLES RELEASED TO THE LABORATORY

NAME _____

SIGNATURE _____

DATE / / TIME : ☐ AM ☐ PM

SAMPLES RECEIVED BY THE LABORATORY

NAME _____

SIGNATURE _____

DATE / / TIME : ☐ AM ☐ PM

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Damascus Elementary School
Date of Report	2/28/2020
Round of Testing	Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	2
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.4 pCi/L

Project Status

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



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

2/28/2020

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

Re: Radon Testing Services

KCI Job #1214634188

Location: Damascus Elementary School

10201 Bethesda Church Road
Damascus, Maryland 20872

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 Damascus Elementary School, located at 10201 Bethesda Church Road in Damascus, Maryland 20872 (subject site).

SCOPE OF SERVICES

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

KCI visited the site on 2/4/2020 and deployed six (6) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

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

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

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

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

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

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

RESULTS

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

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

Attachments:

A- Floor Plan with Test Locations

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

Floor Plan Legend

X-Sample Location (in red)

X- Previous Sample Location

1- Not Samled; No Ground Contact

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

3- Not Samled; High Humidity/Moisture

4- Not Samled; Bathroom/Hallway

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Damascus Elementary School		
Test Period: 02/04/20-02/07/20		
Kit Number	Room / Area	Result
9339964	PE OFFICE	1.4
9339965	STO	1.1
9339966	STO	<0.3
9339971	STO	0.9
9334909	OFFICE BLANK	<0.3
9334910	OFFICE BLANK	<0.3

Table 2- Radon Testing Results			
Damascus Elementary School			
Test Period: 02/04/20-02/07/20			
Kit Number	QC Type	Room / Area	Result
9339971	D	STO	0.9
9339966	FB	STO	<0.3
9334902	TRANSIT BLANK	NA	<0.3

ATTACHMENT C

Laboratory Analytical Results

February 14, 2020

**** LABORATORY ANALYSIS REPORT ****

Pg 1 of 1

P4792 / WILLIAM LYMAN

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
9339964	2020-02-03	11:00 am	2020-02-06	10:00 am	70	DAMASCUS ES		PE OFFICE		1	1.4
9339965	2020-02-03	11:00 am	2020-02-06	10:00 am	70	DAMASCUS ES		STO		1	1.1
9339966	2020-02-03	11:00 am	2020-02-06	10:00 am	70	DAMASCUS ES		STO		1	< 0.3
9339971	2020-02-03	11:00 am	2020-02-06	10:00 am	70	DAMASCUS ES		STO		1	0.9

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 194523

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

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

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

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

9341725 thru 9341733 _____

52 Left

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

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

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

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

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

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

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

February 28, 2020

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

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

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

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



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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon 2019 Week 1 Retesting

Name of Schools:

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

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

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Damascus 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	38
# Rooms ≥ 4.0 pCi/L	1
Lowest Value	<0.3 pCi/L
Highest Value	6.8 pCi/L

Project Status

Current Project Status at this time: Testing Complete; missing/compromised tests to be sampled; elevated tests to be re-sampled.



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

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: Damascus Elementary School

25921 Ridge Road
Damascus, Maryland 20872

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 Damascus Elementary School, located at 25921 Ridge Road in Damascus, Maryland 20872 (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 forty-six (46) 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:

- 2-yr follow-up evaluation, window upgrade, and post mitigation testing

These tests were conducted to:

- Evaluate radon concentrations following the installation of new windows and 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 pCi/L	PE Office	6.8
≤ 4.0 pCi/L	See Attachment B	See Attachment B

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

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

Sincerely,

Mr. Tyler P. McCleaf
Radon Measurement Provider
111004 RT

KCI Technologies, Inc.

Attachments:

A- Floor Plan with Test Locations

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Damascus Elementary School		
Test Period: 12/9/2019-12/12/2019		
Kit Number	Room / Area	Result
9335627	PE OFFICE	6.8
9335628	CR8	0.5
9335629	PE OFFICE	< 0.3
9335630	PE OFFICE	6.8
9335631	AP	0.6
9335632	CONF	1
9335633	MAIN OFFICE	< 0.3
9335634	CR6	< 0.3
9335635	CR16	< 0.3
9335636	CR17	< 0.3
9335637	GYM	3
9335638	BSO	< 0.3
9335639	CR2	0.9
9335640	CR13	< 0.3
9335641	KITCHEN	0.6
9335642	KITCHEN OFFICE	0.8
9335643	SPT	1.1
9335644	COUNSELOR	0.5
9335645	COUNSELOR	0.6
9335646	READING	< 0.3
9335649	HEALTH RM	0.7
9335651	STAFF LOUNGE	0.6
9335652	CR18	< 0.3
9335653	PRINCIPAL	1
9335654	COMMUNICATION RM	0.6
9335655	WR	0.7
9335656	CR9	0.6
9335657	CR 15	< 0.3
9335658	CR14	< 0.3
9335659	CR7	< 0.3
9335660	CR10	1
9335661	K2	< 0.3
9335662	CR1	1.1
9335663	CR1	1.1
9335664	K1	< 0.3
9335665	CR12	0.5
9335666	GYM	2.9
9335667	CR11	< 0.3
9335712	MPR	< 0.3
9335722	RESOURCE RM	0.8
9335723	KITCHEN OFFICE	0.8
9335724	KITCHEN OFFICE	< 0.3
9335725	MPR	0.7
9335728	MUSIC	1
9335731	ART	< 0.3
9334512	OFFICE BLANK	< 0.3
9335650	STO	MISSING

Table 2- Radon Testing Results			
Damascus Elementary School			
Test Period: 12/9/2019-12/12/2019			
Kit Number	QC Type	Room / Area	Result
9335662	D	CR1	1.1
9335627	D	PE OFFICE	6.8
9335629	FB	PE OFFICE	<0.3
9335644	D	COUNSELOR	0.5
9335723	D	KITCHEN OFFICE	0.8
9335724	FB	KITCHEN OFFICE	<0.3
9334850	TRANSIT BLANK	NA	< 0.3
9334914	TRANSIT BLANK	NA	< 0.3
9334916	TRANSIT BLANK	NA	< 0.3
9334963	TRANSIT BLANK	NA	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**DAMASCUS ES****MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9335631	AP	2019-12-09 @ 12:00 pm	2019-12-12 @ 8:00 am	0.6 ± 0.4	2019-12-17
9335731	ART	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	< 0.3	2019-12-17
9335638	BSO	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335654	COMMUNICATION RM	2019-12-09 @ 12:00 pm	2019-12-12 @ 8:00 am	0.6 ± 0.4	2019-12-17
9335632	CONF	2019-12-09 @ 12:00 pm	2019-12-12 @ 8:00 am	1.0 ± 0.5	2019-12-17
9335644	COUNSELOR	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	0.5 ± 0.4	2019-12-17
9335645	COUNSELOR	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	0.6 ± 0.4	2019-12-17
9335657	CR 15	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335662	CR1	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	1.1 ± 0.4	2019-12-17
9335663	CR1	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	1.1 ± 0.5	2019-12-17
9335660	CR10	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	1.0 ± 0.4	2019-12-17
9335667	CR11	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335665	CR12	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	0.5 ± 0.4	2019-12-17
9335640	CR13	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335658	CR14	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335635	CR16	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	< 0.3	2019-12-17
9335636	CR17	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	< 0.3	2019-12-17
9335652	CR18	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	< 0.3	2019-12-17
9335639	CR2	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	0.9 ± 0.4	2019-12-17
9335634	CR6	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335659	CR7	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335628	CR8	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	0.5 ± 0.4	2019-12-17
9335656	CR9	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	0.6 ± 0.4	2019-12-17
9335666	GYM	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	2.9 ± 0.5	2019-12-17
9335637	GYM	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	3.0 ± 0.4	2019-12-17
9335649	HEALTH RM	2019-12-09 @ 12:00 pm	2019-12-12 @ 8:00 am	0.7 ± 0.4	2019-12-17
9335664	K1	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335661	K2	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17
9335641	KITCHEN	2019-12-09 @ 1:00 pm	2019-12-12 @ 10:00 am	0.6 ± 0.4	2019-12-17
9335723	KITCHEN OFFICE	2019-12-09 @ 1:00 pm	2019-12-12 @ 10:00 am	0.8 ± 0.4	2019-12-17
9335724	KITCHEN OFFICE	2019-12-09 @ 1:00 pm	2019-12-12 @ 10:00 am	< 0.3	2019-12-17
9335642	KITCHEN OFFICE	2019-12-09 @ 1:00 pm	2019-12-12 @ 10:00 am	0.8 ± 0.4	2019-12-17
9335633	MAIN OFFICE	2019-12-09 @ 12:00 pm	2019-12-12 @ 8:00 am	< 0.3	2019-12-17
9335725	MPR	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	0.7 ± 0.4	2019-12-17
9335712	MPR	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	< 0.3	2019-12-17
9335728	MUSIC	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	1.0 ± 0.4	2019-12-17
9335629	PE OFFICE	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	< 0.3	2019-12-17

December 17, 2019

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

DAMASCUS ES

MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9335627	PE OFFICE	2019-12-09 @ 12:00 pm	2019-12-12 @ 9:00 am	6.8 ± 0.6	2019-12-17
9335630	PE OFFICE	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	6.8 ± 0.6	2019-12-17
9335653	PRINCIPAL	2019-12-09 @ 12:00 pm	2019-12-12 @ 8:00 am	1.0 ± 0.4	2019-12-17
9335646	READING	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	< 0.3	2019-12-17
9335722	RESOURCE RM	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	0.8 ± 0.5	2019-12-17
9335643	SPT	2019-12-09 @ 1:00 pm	2019-12-12 @ 8:00 am	1.1 ± 0.4	2019-12-17
9335651	STAFF LOUNGE	2019-12-09 @ 1:00 pm	2019-12-12 @ 9:00 am	0.6 ± 0.4	2019-12-17
9335655	WR	2019-12-09 @ 12:00 pm	2019-12-12 @ 8:00 am	0.7 ± 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 KCI Technologies Inc. Job Number 193475

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

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

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

B3
 Date Start: 12/13/19 Date Stop: 12/16/19 Date Start: _____ Date Stop: _____
 Time Start: 0816 Time Stop: 0816 Time Start: _____ Time Stop: _____
 (Group 3)
 Device No.'s: (20) Char. Bags - Device No.'s: _____
9334551, 9334552, 9334562,
9334555 thru 9334559,
9334569, 9334576, 9334579,
9334580, 9334583, 9334584,
9334591, 9334593, 9334594,
9334597, 9334598, 9334599
B2

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

Radon test result report for:

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

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

December 18, 2019

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

N/A

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

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

December 18, 2019

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

S

N/A

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



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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon 2019 Week 1

Name of Schools:

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

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

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



MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary:
Damascus Elementary School
10201 Bethesda Church Road
Damascus, MD 20872

Date of Test Report:	1/9/2019
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:	42
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	3.2

Project Status

Initial testing complete: No further action at this time



January 9, 2019

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

Re: Radon Testing Services

Location: Damascus Elementary School
10201 Bethesda Church Road
Damascus, MD 20872

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 Damascus Elementary School, located at 10201 Bethesda Church Road, Damascus, MD 20872 (subject site).

Scope of Services:

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on November 27, 2018 and deployed fifty-three (53) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on November 30, 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 $\leq 65^{\circ}\text{F}$.

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		
Damascus Elementary School		
Testing period: 11/27/18 - 11/30/18		
Kit Number	Room / Area	Result (pCi/L)
3916461	4	< 0.4
3916444	5	0.5
3916375	6	0.9
3916376	7	1
3916441	8	0.6
3916378	9	0.6
3916377	10	0.7
3916379	11	< 0.4
3916337	12	0.4
3916336	13	0.7
3916339	14	0.5
3916338	15	0.4
3916406	16	< 0.4
3916405	17	0.7
3916409	18	0.5
3916408	19	< 0.4
3888358	APR	0.5
3888328	APR	0.5
3916403	Art	< 0.4
3916335	B50	0.5
3916592	Book Room Left of CR 9	1.5
3916595	Communication Room	0.5
3916373	Computer Lab	0.6
3916407	Conference Room	0.5
3888378	Gym	0.4
3888367	Gym	0.8
3916371	Gym Office	3.2
3916514	Health	0.6
3916540	K1	< 0.4
3916372	K2	0.6
3916442	K3 (CR1)	0.9
3916313	K4 (CR2)	0.8
3916593	Kitchen	0.8
3916600	Main Office	0.5
3916594	Media Center	1.5
3916596	Media Center	1.4
3916340	Music	0.9
3916598	Principal Office	0.4
3916404	Resource Room	0.4
3916374	Reading Room	0.5
3916402	SPT	0.5
3916591	Staff Lounge	0.6
3916599	Vice Principal	0.7

Radon Testing Results		
Damascus Elementary School		
Testing period: 11/27/18 - 11/30/18		
Kit Number	Room / Area	Result (pCi/L)
3916597	Work Room	0.6

Radon Testing Results		
Damascus Elementary School		
Testing period: 11/27/18 - 11/30/18		
Kit Number	QC Type	Result (pCi/L)
3916462	4 (D)	0.4
3916380	11 (D)	0.6
3916410	18 (D)	< 0.4
3916443	K3 (CR1) (D)	0.9
3916401	Music (D)	0.7
3923291	Field Blank	< 0.4
3916447	Field Blank	< 0.4
3918352	Office Blank	< 0.4
3916450	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

NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

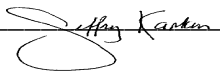
MCPS Radon Survey Damascus ES
10201 Bethesda Church Rd.
Damascus MD 20872

Log Number	Device Number	Test Exposure Duration:		Area Tested		Result (pCi/L)
3199657	3916371	11/27/2018 2:20 am	11/30/2018 12:42 pm	Floor Main Level Room Gym Office		3.2
3199658	3916375	11/27/2018 2:22 pm	11/30/2018 12:44 pm	Floor Main Level Room 6		0.9
3199659	3916441	11/27/2018 2:24 pm	11/30/2018 12:45 pm	Floor Main Level Room 8		0.6
3199660	3916376	11/27/2018 2:25 pm	11/30/2018 12:50 pm	Floor Main Level Room 7		1.0
3199661	3916377	11/27/2018 2:26 pm	11/30/2018 12:51 pm	Floor Main Level Room 10		0.7
3199662	3916378	11/27/2018 2:27 pm	11/30/2018 12:52 pm	Floor Main Level Room 9		0.6
3199663	3916379	11/27/2018 2:28 pm	11/30/2018 12:54 pm	Floor Main Level Room 11		< 0.4
3199664	3916380	11/27/2018 2:28 am	11/30/2018 12:54 pm	Floor Main Level Room 11 Duplicate		0.6
3199665	3916335	11/27/2018 2:30 pm	11/30/2018 12:56 pm	Floor Main Level Room B50		0.5
3199666	3916336	11/27/2018 2:31 pm	11/30/2018 12:57 pm	Floor Main Level Room 13		0.7

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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

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

NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Damascus ES
10201 Bethesda Church Rd.
Damascus MD 20872

Log Number	Device Number	Test Exposure Duration:		Area Tested		Result (pCi/L)
3199667	3916337	11/27/2018 2:32 pm	11/30/2018 12:58 pm	Floor Main Level Room 12		0.4
3199668	3916338	11/27/2018 2:33 pm	11/30/2018 1:00 pm	Floor Main Level Room 15		0.4
3199669	3916339	11/27/2018 2:35 pm	11/30/2018 1:02 pm	Floor Main Level Room 14		0.5
3199670	3916340	11/27/2018 2:36 pm	11/30/2018 1:03 pm	Floor Main Level Room Music		0.9
3199671	3916401	11/27/2018 2:36 am	11/30/2018 1:03 pm	Floor Main Level Room Music Duplicate		0.7
3199672	3916402	11/27/2018 2:42 pm	11/30/2018 1:06 pm	Floor Main Level Room SPT		0.5
3199673	3916403	11/27/2018 2:45 pm	11/30/2018 1:07 pm	Floor Main Level Room ART		< 0.4
3199674	3916404	11/27/2018 2:46 pm	11/30/2018 1:08 pm	Floor Main Level Room R		0.4
3199675	3916405	11/27/2018 2:47 pm	11/30/2018 1:09 pm	Floor Main Level Room 17		0.7
3199676	3916406	11/27/2018 2:49 pm	11/30/2018 1:11 pm	Floor Main Level Room 16		< 0.4

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Damascus ES
10201 Bethesda Church Rd.
Damascus MD 20872

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3199677	3916407	11/27/2018 2:50 pm	11/30/2018 1:12 pm	Floor Main Level Room Conference Room	0.5
3199678	3916408	11/27/2018 2:51 pm	11/30/2018 1:13 pm	Floor Main Level Room 19	< 0.4
3199679	3916409	11/27/2018 2:55 am	11/30/2018 1:14 pm	Floor Main Level Room 18	0.5
3199680	3916410	11/27/2018 2:55 pm	11/30/2018 1:14 pm	Floor Main Level Room 18 Duplicate	< 0.4
3199681	3916591	11/27/2018 3:10 pm	11/30/2018 1:16 pm	Floor Main Level Room Staff lounge	0.6
3199682	3916592	11/27/2018 3:12 pm	11/30/2018 1:18 pm	Floor Main Level Room Staff Kitchen	1.5
3199683	3916593	11/27/2018 3:25 am	11/30/2018 1:05 pm	Floor Main Level Room Kitchen	0.8
3199684	3916594	11/27/2018 3:28 pm	11/30/2018 1:20 pm	Floor Main Level Room Media Center	1.5
3199685	3916596	11/27/2018 3:30 pm	11/30/2018 1:21 pm	Floor Main Level Room Media Center	1.4
3199686	3916600	11/27/2018 3:38 pm	11/30/2018 1:26 pm	Floor Main Level Room Main Office	0.5

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

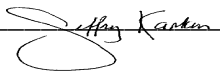
MCPS Radon Survey Damascus ES
10201 Bethesda Church Rd.
Damascus MD 20872

Log Number	Device Number	Test Exposure Duration:		Area Tested		Result (pCi/L)
3199687	3916595	11/27/2018 3:31 am	11/30/2018 1:22 pm	Floor Main Level Room Comm. Room		0.6
3199688	3916597	11/27/2018 3:32 am	11/30/2018 1:23 pm	Floor Main Level Room Work room		0.4
3199689	3916598	11/27/2018 3:35 am	11/30/2018 1:24 pm	Floor Main Level Room Principal Office		0.7
3199690	3916599	11/27/2018 3:37 am	11/30/2018 1:25 pm	Floor Main Level Room Vice Principal		0.5
3199691	3916514	11/27/2018 3:40 am	11/30/2018 1:27 pm	Floor Main Level Room Health Room		0.6
3199692	3916374	11/27/2018 3:42 am	11/30/2018 1:28 pm	Floor Main Level Room RR (Reading)		0.5
3199693	3916373	11/27/2018 3:44 pm	11/30/2018 1:29 pm	Floor Main Level Room Computer Lab		0.6
3199694	3916444	11/27/2018 3:45 pm	11/30/2018 1:30 pm	Floor Main Level Room 5		0.5
3199695	3916461	11/27/2018 3:49 pm	11/30/2018 1:31 pm	Floor Main Level Room 4		< 0.4
3199696	3916462	11/27/2018 3:49 pm	11/30/2018 1:31 pm	Floor Main Level Room 4 Duplicate		0.4

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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

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NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

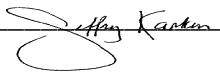
MCPS Radon Survey Damascus ES
10201 Bethesda Church Rd.
Damascus MD 20872

Log Number	Device Number	Test Exposure Duration:		Area Tested		Result (pCi/L)
3199697	3916313	11/27/2018 3:50 pm	11/30/2018 1:32 pm	Floor Lower Level Room K4, CR2		0.8
3199698	3916442	11/27/2018 3:53 pm	11/30/2018 1:33 pm	Floor Lower Level Room K3, CR1		0.9
3199699	3916443	11/27/2018 3:53 pm	11/30/2018 1:34 pm	Floor Lower Level Room K3, CR1 Duplicate		0.9
3199700	3916540	11/27/2018 3:57 pm	11/30/2018 1:35 pm	Floor Lower Level Room K1		< 0.4
3199701	3916372	11/27/2018 4:00 pm	11/30/2018 1:36 pm	Floor Lower Level Room K2		0.6
3199702	3918352	11/27/2018 6:00 am	11/30/2018 3:38 pm	Blank		< 0.4
3199703	3923291	11/27/2018 2:05 pm	11/30/2018 1:36 pm	Blank		< 0.4
3199704	3916447	11/27/2018 2:05 pm	11/30/2018 1:36 pm	Blank		< 0.4
3199705	3916450	11/27/2018 6:00 am	11/30/2018 3:38 pm	Blank		< 0.4

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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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:

Property Tested: Project # 04481387-1

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

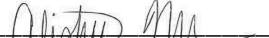
MCPS Radon Survey
Various
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:		Area Tested		Result pCi/L
2401265	3888378	11/27/2018 2:05 pm	11/30/2018 12:40 pm	Bldg Damascus ES Floor Main Level Room GYM		0.4
2401266	3888367	11/27/2018 2:12 am	11/30/2018 12:41 pm	Bldg Damascus ES Floor Main Level Room GYM		0.8
2401267	3888358	11/27/2018 2:40 pm	11/30/2018 1:05 pm	Bldg Damascus ES Floor Main Level Room APR		0.5
2401268	3888328	11/27/2018 2:41 pm	11/30/2018 1:06 pm	Bldg Damascus ES Floor Main Level Room APR		0.5
2401269	3888349	11/27/2018 7:03 am	11/30/2018 6:48 am	Bldg Roberto Clemente MS Flr Lower Level Rm 1		< 0.4
2401270	3888399	11/27/2018 7:06 am	11/30/2018 6:49 am	Bldg Roberto Clemente MS Flr Lower Level Rm 1		< 0.4
2401271	3888419	11/27/2018 7:10 am	11/30/2018 6:50 am	Bldg Roberto Clemente MS Flr Lower Level Rm 1		< 0.4
2401272	3888398	11/27/2018 9:38 am	11/30/2018 8:47 am	Bldg Roberto Clemente MS Flr Upper Level Rm C		< 0.4
2401273	3888369	11/27/2018 9:39 am	11/30/2018 8:48 am	Bldg Roberto Clemente MS Flr Upper Level Rm C		< 0.4
2401274	3888409	11/27/2018 11:06 am	11/30/2018 10:35 am	Bldg Clopper Mill ES Floor Lower Level Room GY		1.0
2401275	3888389	11/27/2018 11:07 am	11/30/2018 10:36 am	Bldg Clopper Mill ES Floor Lower Level Room GY		0.9

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/03/2018 Date Logged: 12/03/2018 Date Analyzed: 12/04/2018 Date Reported: 12/04/2018

Report Reviewed By: 

Report Approved By: 

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.

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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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:

Property Tested: Project # 04481387-1

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

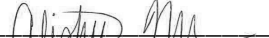
MCPS Radon Survey
Various
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:		Area Tested		Result pCi/L
2401276	3888397	11/27/2018 12:27 pm	11/30/2018 11:29 am	Bldg Clopper Mill ES	Floor Lower Level Room 15	3.8
2401277	3888347	11/27/2018 5:37 pm	11/30/2018 2:52 am	Bldg J.T Baker MS	Flr Lower Level Rm Cafeteria	1.0

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/03/2018 Date Logged: 12/03/2018 Date Analyzed: 12/04/2018 Date Reported: 12/04/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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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:

Property Tested:

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

MCPS Radon Survey
4514 Taylorsville Road
Dayton OH 45424

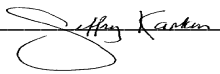
Log Number	Device Number	Test Exposure Duration:		Area Tested		Result pCi/L
3204125	3926831	12/07/2018 9:47 am	12/10/2018 9:47 am	Spike		36.1
3204126	3926832	12/07/2018 9:47 am	12/10/2018 9:47 am	Spike		34.8
3204127	3926833	12/07/2018 9:47 am	12/10/2018 9:47 am	Spike		33.7
3204128	3926834	12/07/2018 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: 

Disclaimer:

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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

Date Start: _____ Date Stop: _____

Time Start: 0947 Time Stop: 0947

Time Start: _____ Time Stop: _____

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

Device No.'s: _____

3926831 thru 3926840

G2 Left

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

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

Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

- | | |
|--|---|
| <ul style="list-style-type: none"> 1. Ashburton ES 2. Carderock Springs ES 3. Diamond ES 4. Fox Chapel ES 5. Baker MS 6. Damascus ES 7. Clemente MS 8. Clopper Mill ES | <ul style="list-style-type: none"> 9. Broad Acres ES 10. Greencastle ES 11. Harmony Hills ES 12. Silver Spring International MS 13. Gaithersburg MS 14. Garrett Park ES 15. New Hampshire Estates ES 16. Georgian Forest ES |
|--|---|

	Date	Initials
Radon Test Kits Deployed	11/27/2018	NL
Radon Test Kits Sampled	11/30/2018	NL
Radon Test Kits Shipped to Lab*	11/30/2018	NL
Radon Test Kits Received by Lab*	12/01/2018; 12/02/2018; 12/03/2018	NL

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

MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Damascus 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	41
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.4 pCi/L

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



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: Damascus ES
10201 Bethesda Church Rd.
Damascus, MD 20872

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 Damascus ES, located at 10201 Bethesda Church Rd. Damascus, MD 20871 (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 14, 2022 and deployed forty seven (47) 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 17, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc.

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

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to post-mitigation biennial testing.

These tests were conducted to:

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

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

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

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

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

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Check, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

OC- Quality Control

Table 1- Radon Testing Results		
Damascus ES		
Test Period: 02/14/2022 - 02/17/2022		
Kit Number	Room / Area	Result
11122787	6	< 0.3
11122800	7	< 0.3
11122798	8	< 0.3
11122791	9	< 0.3
11122792	10	< 0.3
11122784	11	< 0.3
11115097	12	< 0.3
11115095	13	0.6
11114992	14	< 0.3
11114991	15	< 0.3
11114993	16	< 0.3
11115096	17	< 0.3
11114998	18	< 0.3
11115081	18	< 0.3
11115082	18	< 0.3
11107398	102	< 0.3
11107399	103	< 0.3
11122794	113	< 0.3
11122799	114	< 0.3
11122795	119	0.7
11114994	APR	< 0.3
11115092	APR	0.6
11115089	ART	< 0.3
11122793	BSO	< 0.3
11122797	BSO	0.7
11114997	COU	< 0.3
11122774	CR-1	< 0.3
11122775	CR-2	0.7
11115374	GYM	< 0.3
11122766	GYM	< 0.3
11115098	GYM OFFICE	< 0.3
11122785	GYM OFFICE	0.7
11122789	GYM OFFICE	0.6
11122783	HOWARD	0.6
11107391	IMC	0.9
11107397	IMC OFFICE	1.4
11122781	K1	< 0.3
11122790	K2	< 0.3
11115091	KITCHEN OFFICE	< 0.3
11122796	MAIN OFFICE	0.5
11115066	MUSIC	0.9
11115100	OFFICE 1	0.6

Table 1- Radon Testing Results		
Damascus ES		
Test Period: 02/14/2022 - 02/17/2022		
Kit Number	Room / Area	Result
11122782	OT/PT	0.9
11115065	R	< 0.3
11115099	R	< 0.3
11115088	SPT	0.5
11107392	STAFF LOUNGE	0.8

Table 2- Radon Testing Results			
Damascus ES			
Test Period: 02/14/2022 - 02/17/2022			
Kit Number	QC Type	Room / Area	Result
11122793	D	BSO	< 0.3
11122785	D	Gym office	0.7
11115098	FB	Gym office	< 0.3
11115099	D	R	< 0.3
11115081	D	18	< 0.3
11115082	FB	18	< 0.3
11107385	OB	OFFICE BLANK	< 0.3
11123161	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**DAMASCUS ES****1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11122792	10	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11107398	102	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11107399	103	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122784	11	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122794	113	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122799	114	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122795	119	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	0.7 ± 0.3	2022-02-21
11115097	12	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115095	13	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.6 ± 0.3	2022-02-21
11114992	14	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11114991	15	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11114993	16	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115096	17	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11114998	18	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115081	18	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115082	18	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122787	6	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122800	7	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122798	8	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122791	9	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115092	APR	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.6 ± 0.3	2022-02-21
11114994	APR	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115089	ART	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122793	BSO	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122797	BSO	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	0.7 ± 0.3	2022-02-21
11114997	COU	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122774	CR-1	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122775	CR-2	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	0.7 ± 0.3	2022-02-21
11122766	GYM	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115374	GYM	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115098	GYM OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122789	GYM OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.6 ± 0.3	2022-02-21
11122785	GYM OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.7 ± 0.3	2022-02-21
11122783	HOWARD	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	0.6 ± 0.3	2022-02-21
11107391	IMC	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.9 ± 0.3	2022-02-21
11107397	IMC OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	1.4 ± 0.3	2022-02-21
11122781	K1	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21

February 21, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

DAMASCUS ES

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Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11122790	K2	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115091	KITCHEN OFFICE	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11122796	MAIN OFFICE	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	0.5 ± 0.3	2022-02-21
11115066	MUSIC	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.9 ± 0.3	2022-02-21
11115100	OFFICE 1	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.6 ± 0.3	2022-02-21
11122782	OT/PT	2022-02-14 @ 12:00 pm	2022-02-17 @ 10:00 am	0.9 ± 0.3	2022-02-21
11115099	R	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115065	R	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	< 0.3	2022-02-21
11115088	SPT	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.5 ± 0.3	2022-02-21
11107392	STAFF LOUNGE	2022-02-14 @ 1:00 pm	2022-02-17 @ 10:00 am	0.8 ± 0.3	2022-02-21

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204186

NOMINAL Conditions: Radon Conc 25.8 pCi/L Rel. Hum 50.1 % Temp. 70.9 F

Date Start: 2/18/22 Date Stop: 2/21/22 Date Start: _____ Date Stop: _____

Time Start: 0911 Time Stop: 0911 Time Start: _____ Time Stop: _____

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

11113484, 1112998, 20107126 _____

23 Right

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

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

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

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

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

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

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

March 14, 2022

**** LABORATORY ANALYSIS REPORT ****

Pg 1 of 1

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

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

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – February 2022 Schools

Name of Schools:

1. Sherwood HS
2. Paint Branch HS
3. Clarksburg HS
4. Hallie Wells MS
5. Rocky Hill MS
6. Wilson Wims ES
7. John T. Baker MS
8. Clearspring ES
9. Damascus ES

	Date	Initials
Radon Test Kits Deployed	02/14/2022	DTJ
Radon Test Kits Collected	02/17/2022	DTJ
Radon Test Kits Shipped to Lab*	02/17/2022	DTJ
Radon Test Kits Received by Lab*	02/19/2022	DTJ

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