School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Darnestown Elementary School
Address:	15030 Turkey Foot Road
	Gaithersburg, MD 20878
Reason for Testing:	Scheduled Re-Testing - ☐ 2-year or ☒ 5-year schedule ☐ Clearance Testing (Post-Mitigation) ☒ Building Envelope or HVAC Upgrades ☐ New Construction – Addition or Facility
Current Radon Status:	☐ Active Mitigation (2-year regular schedule) ☒ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested (New Facility)
Round of Testing:	☐ Initial Testing **-or-** ☒ Follow-up Testing
Testing Status:	☒ No Further Testing Needed **-or-** ☐ Follow-Up Testing Required

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

Mitigation -	**Facility Radon Status:**		
☐ Not Required ☒ Consider (≥2.0 & <4.0-pCi/L) ☒ Required (≥4.0-pCi/L) Rooms: Gym Office	☐ No Change in Status ☒ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	46	Lowest Value (pCi/L)	< 0.3
Number of Rooms (≥4.0-pCi/L)	2	Highest Value (pCi/L)	5.1

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

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

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

Attachment 2 – Laboratory Report(s)

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

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

Detector and Deployment

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

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

☒ Short-Term ☐ Long-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	02/18/25 02/21/25	03/25/25 03/28/25
Does the test period include weekends, school breaks or holidays?				☐ Yes ☒ No	
*If "**Yes**" please explain/detail in the space below:*					
Was HVAC operating under occupied conditions?				☒ Yes ☐ No	
*If "**No**" please explain/detail in the space below:*					

Testing (continued)

	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
Round of Testing	Initial	Follow-Up	Initial	Follow-Up	
Test Locations[1]	42	4	2	0	48
Duplicates[2]	5	1	0	0	6
Field Blanks[3]	2	1	0	0	3
				Grand Total	57

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

Quality Assurance / Quality Control (QA/QC)

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

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

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

Quality Assurance / Quality Control (continued)

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

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

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

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

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

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

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

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

	Ground-Contact		Upper-Level(s)		Total
Round of Testing	**Initial**	**Follow-Up**	**Initial**	**Follow-Up**	
Number of test locations:	42	2	2	0	46
Number of locations ≥8.0-pCi/L:	0	0	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	2	1	0	0	3
Number of locations ≥2.7 and <4-pCi/L:	1	0	0	0	1
Number of locations ≥2.0 and <2.7-pCi/L:	8	1	0	0	9
Number of missing required test locations[3]:	0	0	0	0	0
Number of failed duplicate control locations:	0	0	0	0	0
Percentage of missing test locations for the facility[4,5]:	0	0	0	0	0

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

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

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

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

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

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

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

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

Follow-Up Testing

Required –

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

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

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

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Darnestown Elementary School		
Test Period: 2/18/2025 - 2/21/2025		
Kit Number	Room / Area	Result
11931367	2	4.2
11931388	4	2.4
11931395	6	2.5
11931396	6	2.5
11931370	8	2.4
11931683	14	1.3
11931371	18	0.7
11931394	22	0.7
11931387	26	0.7
11931356	101	1.4
11931682	101	1.4
11931359	102	2.1
11931694	102	2.2
11931399	104	1.8
11931357	105	1.1
11931382	106	1.5
11931383	108	0.8
11931362	113	1.5
11931398	115	1.3
11931381	117	1.4
11919948	119	1.0
11931368	119	1.0
11931696	121	0.8
11931697	122	1.6
11931384	123	0.6
11931385	123	0.8
11931695	126	1.6
11931364	131	< 0.3
11931698	132	0.6
11931693	135	< 0.3
11931681	137	< 0.3
11931380	141	0.7
11931363	174	< 0.3
11931377	178	< 0.3
11931378	178	< 0.3
11931379	178	< 0.3
11931675	180	< 0.3

Table 1- Radon Testing Results		
Darnestown Elementary School		
Test Period: 2/18/2025 - 2/21/2025		
Kit Number	Room / Area	Result
11931676	182	0.6
11931390	188	< 0.3
11931389	190	0.6
11931392	100A	0.9
11931369	100B	< 0.3
11931393	100C	< 0.3
11931374	102/104 OBSERVATION	0.9
11931686	GYM	2.6
11931684	GYM	2.7
11931699	GYM	2.7
11931700	GYM	< 0.3
11931386	GYM OFFICE	5.1
11931360	KITCHEN OFFICE	2.0
11931372	MAIN OFFICE	0.8

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Darnestown Elementary School							
Test Period: 2/18/2025 - 2/21/2025							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
KITCHEN OFFICE	2	GYM	2.7	2	4.2	N/A	N/A
102	2.1	GYM	2.7	GYM OFFICE	5.1		
102	2.2						
8	2.4						
4	2.4						
6	2.5						
6	2.5						
GYM	2.6						

Table 3 - QC Radon Testing Results			
Darnestown Elementary School			
Test Period: 2/18/2025 - 2/21/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11931395	D	6	2.5
11931359	D	102	2.1
11931385	D	123	0.8
11931377	D	178	< 0.3
11931378	FB	178	< 0.3
11931700	FB	Gym	< 0.3
11931686	D	Gym	2.6
11919902	OB	OFFICE BLANK	< 0.3
11919963	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation

Darnestown Elementary School

Test Period: 2/18/2025 - 2/21/2025

Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11931395	11931396	6	2.5	2.5	✓	5.0	PASS	2.5	0.0%	✓
11931359	11931694	102	2.2	2.1	✓	4.2	PASS	2.2	4.7%	✓
11931385	11931384	123	0.8	0.6	✓	1.2	PASS	0.7	<1-pCi/L	✓
11931377	11931379	178	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11931686	11931684	Gym	2.7	2.6	✓	5.2	PASS	2.7	3.8%	✓

NOTES:

QC Check #1 - Data Entry

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

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

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

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

Table 4 - Summary of Invalid Measurement Locations		
Darnestown Elementary School		
Test Period: 2/18/25 - 2/21/25		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Table 1- Radon Testing Results		
Darnestown Elementary School RT		
Test Period: 3/25/2025 - 3/28/2025		
Kit Number	Room / Area	Result
11886683	2	1.9
11886684	2	2.1
11886898	2	< 0.3
11886671	GYM OFFICE	4.2
11886782	GYM OFFICE	4.6
11886879	GYM OFFICE	4.5

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Darnestown Elementary School RT							
Test Period: 3/25/2025 - 3/28/2025							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
2	2.1	N/A	N/A	GYM OFFICE	4.2	N/A	N/A
				GYM OFFICE	4.5		
				GYM OFFICE	4.6		

Table 3 - QC Radon Testing Results			
Darnestown Elementary School RT			
Test Period: 3/25/2025 - 3/28/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11886879	D	GYM OFFICE	4.5
11886898	FB	2	< 0.3
11886692	OB	OFFICE BLANK	< 0.3
11886693	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Darnestown Elementary School RT										
Test Period: 3/25/2025 - 3/28/2025										
Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11886879	11886671 11886782	GYM OFFICE	4.6	4.2	✓	8.4	PASS	4.4	9.1%	✓

NOTES:

QC Check #1 - Data Entry

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

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

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

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

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

Attachment 2:

Laboratory Reports

February 24, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
DARNESTOWN ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931367	002	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	4.2 ± 0.4	2025-02-24
11931388	004	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	2.4 ± 0.3	2025-02-24
11931396	006	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	2.5 ± 0.3	2025-02-24
11931395	006	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	2.5 ± 0.3	2025-02-24
11931370	008	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	2.4 ± 0.3	2025-02-24
11931683	014	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.3 ± 0.3	2025-02-24
11931371	018	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	0.7 ± 0.3	2025-02-24
11931394	022	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	0.7 ± 0.3	2025-02-24
11931387	026	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	0.7 ± 0.3	2025-02-24
11931392	100A	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	0.9 ± 0.3	2025-02-24
11931369	100B	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931393	100C	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931356	101	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	1.4 ± 0.3	2025-02-24
11931682	101	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	1.4 ± 0.3	2025-02-24
11931359	102	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	2.1 ± 0.3	2025-02-24
11931694	102	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	2.2 ± 0.3	2025-02-24
11931374	102/104 OBSERVATION	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	0.9 ± 0.3	2025-02-24
11931399	104	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.8 ± 0.3	2025-02-24
11931357	105	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	1.1 ± 0.3	2025-02-24
11931382	106	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.5 ± 0.3	2025-02-24
11931383	108	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	0.8 ± 0.3	2025-02-24
11931362	113	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	1.5 ± 0.3	2025-02-24
11931398	115	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.3 ± 0.3	2025-02-24
11931381	117	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.4 ± 0.3	2025-02-24
11931368	119	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.0 ± 0.3	2025-02-24
11919948	119	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.0 ± 0.3	2025-02-24
11931696	121	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	0.8 ± 0.3	2025-02-24
11931697	122	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.6 ± 0.3	2025-02-24
11931384	123	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	0.6 ± 0.3	2025-02-24
11931385	123	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	0.8 ± 0.3	2025-02-24
11931695	126	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	1.6 ± 0.3	2025-02-24
11931364	131	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931698	132	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	0.6 ± 0.3	2025-02-24
11931693	135	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931681	137	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931380	141	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	0.7 ± 0.3	2025-02-24
11931363	174	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	< 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 24, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
DARNESTOWN ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931377	178	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931379	178	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931378	178	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931675	180	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931676	182	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	0.6 ± 0.3	2025-02-24
11931390	188	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931389	190	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	0.6 ± 0.3	2025-02-24
11931699	GYM	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	2.7 ± 0.4	2025-02-24
11931686	GYM	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	2.6 ± 0.3	2025-02-24
11931700	GYM	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	< 0.3	2025-02-24
11931684	GYM	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	2.7 ± 0.3	2025-02-24
11931386	GYM OFFICE	2025-02-18 @ 11:00 am	2025-02-21 @ 9:00 am	5.1 ± 0.4	2025-02-24
11931360	KITCHEN OFFICE	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	2.0 ± 0.3	2025-02-24
11931372	MAIN OFFICE	2025-02-18 @ 10:00 am	2025-02-21 @ 9:00 am	0.8 ± 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

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:
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

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 20001560

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

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

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

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

Radon test result report for:
SK
MAIN

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

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

KCI TECHNOLOGIES

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing 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	
Radon Test Kits Collected	2/21/2025	
Radon Test Kits Shipped to Lab*	2/21/2025	
Radon Test Kits Received by Lab*	2/24/2025	

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

April 2, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
DARNESTOWN ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11886683	2	2025-03-25 @ 10:00 am	2025-03-28 @ 9:00 am	1.9 ± 0.5	2025-04-02
11886684	2	2025-03-25 @ 10:00 am	2025-03-28 @ 9:00 am	2.1 ± 0.5	2025-04-02
11886898	2	2025-03-25 @ 10:00 am	2025-03-28 @ 9:00 am	< 0.3	2025-04-02
11886671	GYM OFFICE	2025-03-25 @ 10:00 am	2025-03-28 @ 9:00 am	4.2 ± 0.6	2025-04-02
11886782	GYM OFFICE	2025-03-25 @ 10:00 am	2025-03-28 @ 9:00 am	4.6 ± 0.6	2025-04-02
11886879	GYM OFFICE	2025-03-25 @ 10:00 am	2025-03-28 @ 9:00 am	4.5 ± 0.6	2025-04-02

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

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

Radon test result report for:
OFFICE
MAIN

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

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

April 3, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
TRAVEL
MAIN

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20002919

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

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

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

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

Radon test result report for:
QC
MAIN

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

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

KCI TECHNOLOGIES

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing March 24th – March 27th, 2025

Name of Schools:

1. Beverly Farms ES
2. Bradley Hills ES
3. Cabin John MS
4. Springbrook HS
5. Thomas Edison HS
6. Walter Johnson HS
7. Julius West MS
8. Parkland MS
9. Rockville HS
10. Westland MS
11. Charles W. Woodward HS
12. Walt Whitman HS

	Date	Initials
Radon Test Kits Deployed	3/24/2025	
Radon Test Kits Collected	3/27/2025	
Radon Test Kits Shipped to Lab*	3/28/2025	
Radon Test Kits Received by Lab*	4/01/2025	

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

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MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Darnestown Elementary School
Date of Test Report	02/23/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	2
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	0.9 pCi/L

Project Status

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

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February 23, 2022

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

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

Location: Darnestown Elementary School
15030 Turkey Foot Rd.
Darnestown, MD 20878

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 Darnestown Elementary School, located at 15030 Turkey Foot Rd. Darnestown, MD 20878 (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 January 18, 2022 and deployed four (4) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

1. Rooms with missing test kits from the December 2021 testing period (i.e. test kit was deployed but not recovered),
2. Rooms with invalidated test kits from the December 2021 testing period (e.g. an open window in the room or disturbed test kit),
3. Rooms which were locked/inaccessible during the December 2021 testing period,
4. Rooms with elevated December 2021 results (i.e. ≥3.5 piC/L),
5. Rooms previously tested for radon but not tested in December 2021, and
6. Additional rooms that require testing (if applicable.)

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

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

KCI returned to the site on January 21, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the low 20°Fs and high temperatures ranged from the mid 20°Fs to the high 50°Fs. Maximum sustained winds ranged from 9-11 miles per hour. Average humidity was around 61% with 0.0 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheets

Table Notes:

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

Table 1- Radon Testing Results		
Darnestown ES RT		
Test Period: 01/18/2022-01/21/2022		
Kit Number	Room / Area	Result
11106081	103	< 0.3
11106088	103	0.7
11106089	103	0.7
11106087	KITCHEN OFFICE	0.9

Table 2- Radon Testing Results			
Darnestown RT			
Test Period: 01/18/22-01/21/22			
Kit Number	QC Type	Room / Area	Result
11106089	D	103	0.7
11106081	FB	103	< 0.3

Summary of Missed Locations		
Darnestown ES RT		
Test Period: 01/18/22 - 01/21/22		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Darnestown ES RT		
Test Period: 01/18/22 - 01/21/22		
Kit Number	Room/Area	Result
	NA	

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 27, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
DARNESTOWN ES RT 1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11106081	103	2022-01-18 @ 12:00 pm	2022-01-21 @ 10:00 am	< 0.3	2022-01-26
11106088	103	2022-01-18 @ 12:00 pm	2022-01-21 @ 10:00 am	0.7 ± 0.4	2022-01-26
11106089	103	2022-01-18 @ 12:00 pm	2022-01-21 @ 10:00 am	0.7 ± 0.4	2022-01-26
11106087	KITCHEN OFFICE	2022-01-18 @ 12:00 pm	2022-01-21 @ 10:00 am	0.9 ± 0.4	2022-01-26

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 203404

NOMINAL Conditions: Radon Conc 16.2 pCi/L Rel. Hum 28.8 % Temp. 59.9 F

Date Start: 12/24/21 Date Stop: 12/27/21	Date Start: _____ Date Stop: _____
Time Start: 0809 Time Stop: 0809	Time Start: _____ Time Stop: _____
Device No.'s: (2) Char Bags - 9341721, 9341722	Device No.'s: _____
G4 Left	
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____

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

December 31, 2021 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

SK MA

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within ± 25% of the chamber's reference value (16.2 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341721	1	2021-12-24 @ 8:00 am	2021-12-27 @ 8:00 am	11.6 ± 0.9	2021-12-31
9341722	1	2021-12-24 @ 8:00 am	2021-12-27 @ 8:00 am	15.4 ± 1.2	2021-12-31

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

KCI TECHNOLOGIES

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – December 2021 Schools Retesting

Name of Schools:

1. 45 Gude
2. Bethesda M&T
3. Darnestown ES
4. McDonald Knolls ECC
5. Shady Grove M&T

	Date	Initials
Radon Test Kits Deployed	01/18/2022	
Radon Test Kits Collected	01/21/2022	
Radon Test Kits Shipped to Lab*	01/21/2022	
Radon Test Kits Received by Lab*	01/23/2022	

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

KCI TECHNOLOGIES

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MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Darnestown Elementary School
Date of Test Report	01/20/2022
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	50
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	2.9 pCi/L

Project Status

Current Project Status at this time: Testing Complete; missing locations to be sampled.

KCI TECHNOLOGIES

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

January 20, 2022

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
Gaithersburg, MD 20879

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

Location: Darnestown Elementary School
15030 Turkey Foot Rd.
Darnestown, MD 20878

Dear Mr. Cox:

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 Darnestown Elementary School, located at 15030 Turkey Foot Rd. Darnestown, MD 20878 (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 December 14, 2021 and deployed fifty-seven (57) 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 December 17, 2021 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the low 30°Fs and high temperatures ranged from the mid 50°Fs to the high 60°Fs. Maximum sustained winds ranged from 3-12 miles per hour. Average humidity was around 50% with 0.0 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheets

Table Notes:

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

Table 1- Radon Testing Results		
Darnestown ES		
Test Period: 12/14/2021-12/17/2021		
Kit Number	Room / Area	Result
9348001	146	< 0.3
9348016	100 MAIN OFFICE	< 0.3
9348029	150	0.7
9348030	123	1
9348044	146	0.8
9348045	106	1.5
9348046	104	2.1
9348047	146	0.8
9348048	GYM	1.3
9348049	102	1.4
9348050	121	0.5
9348051	135	0.9
9348052	176	0.7
9348053	121	< 0.3
9348054	138	0.9
9348055	136	0.7
9348056	141	0.8
9348057	137	0.7
9348058	190	0.8
9348059	188	0.7
9348060	182	0.7
9348061	172	0.8
9348062	164	0.8
9348063	132	0.8
9348064	180	1.1
9348065	131	0.9
9348066	178	0.6
9348067	176	0.8
9348068	174	0.7
9348070	4	1.5
9348071	113	1.1
9348073	168	0.6
9348074	154	< 0.3
9348075	166	0.9
9348076	22	1
9348077	CAFETERIA	0.9
9348078	100C	0.5
9348079	CAFETERIA	0.9
9348080	100B	0.7
9348081	8	2.1
9348082	GYM	1.1
9348083	126	0.9

9348084	122	1.2
9348085	117	1.9
9348086	121	0.8
9348089	GYM	1.2
9348090	112A	1.4
9348091	119	0.8
9348092	108	1.6
9348093	115	1.1
9348094	100A	0.6
9348095	26	1
9348096	18	1
9348097	26	0.8
9348098	14	2.9
9348099	2	2.2
9348100	6	1.5

Table 2- Radon Testing Results			
Darnestown ES			
Test Period: 12/14/2021-12/17/2021			
Kit Number	QC Type	Room / Area	Result
9348052	D	176	0.7
9348047	D	146	0.8
9348001	FB	146	< 0.3
9348082	D	Gym	1.1
9348050	D	121	0.5
9348053	FB	121	< 0.3
9348097	D	26	0.8
9347000	OB	OFFICE BLANK	< 0.3
9346980	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Darnestown ES		
Test Period: 12/14/2021 - 12/17/2021		
Kit Number	Room/Area	Result
NA	103	NA
NA	Kitchen Office	NA

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Darnestown ES		
Test Period: 12/14/2021 - 12/17/2021		
Kit Number	Room/Area	Result
	NA	

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 20, 2021 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
DARNESTOWN ES
1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9348099	002	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	2.2 ± 0.3	2021-12-20
9348070	004	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	1.5 ± 0.3	2021-12-20
9348100	006	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	1.5 ± 0.3	2021-12-20
9348081	008	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	2.1 ± 0.3	2021-12-20
9348098	014	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	2.9 ± 0.3	2021-12-20
9348096	018	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	1.0 ± 0.3	2021-12-20
9348076	022	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	1.0 ± 0.3	2021-12-20
9348097	026	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	0.8 ± 0.3	2021-12-20
9348095	026	2021-12-14 @ 11:00 am	2021-12-17 @ 11:00 am	1.0 ± 0.3	2021-12-20
9348016	100 MAIN OFFICE	2021-12-14 @ 12:00 pm	2021-12-17 @ 10:00 am	< 0.3	2021-12-20
9348094	100A	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	0.6 ± 0.3	2021-12-20
9348080	100B	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	0.7 ± 0.3	2021-12-20
9348078	100C	2021-12-14 @ 12:00 pm	2021-12-17 @ 10:00 am	0.5 ± 0.3	2021-12-20
9348049	102	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	1.4 ± 0.3	2021-12-20
9348046	104	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	2.1 ± 0.3	2021-12-20
9348045	106	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	1.5 ± 0.3	2021-12-20
9348092	108	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	1.6 ± 0.3	2021-12-20
9348090	112A	2021-12-14 @ 10:00 am	2021-12-17 @ 11:00 am	1.4 ± 0.3	2021-12-20
9348071	113	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	1.1 ± 0.3	2021-12-20
9348093	115	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	1.1 ± 0.3	2021-12-20
9348085	117	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	1.9 ± 0.3	2021-12-20
9348091	119	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20
9348053	121	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	< 0.3	2021-12-20
9348050	121	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	0.5 ± 0.3	2021-12-20
9348086	121	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20
9348084	122	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	1.2 ± 0.3	2021-12-20
9348030	123	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	1.0 ± 0.3	2021-12-20
9348083	126	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.9 ± 0.3	2021-12-20
9348065	131	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.9 ± 0.3	2021-12-20
9348063	132	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20
9348051	135	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.9 ± 0.3	2021-12-20
9348055	136	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.7 ± 0.3	2021-12-20
9348057	137	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.7 ± 0.3	2021-12-20
9348054	138	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.9 ± 0.3	2021-12-20
9348056	141	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20
9348044	146	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20
9348047	146	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20

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

December 20, 2021 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
DARNESTOWN ES
1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9348001	146	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	< 0.3	2021-12-20
9348029	150	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.7 ± 0.3	2021-12-20
9348074	154	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	< 0.3	2021-12-20
9348062	164	2021-12-14 @ 10:00 am	2021-12-17 @ 11:00 am	0.8 ± 0.3	2021-12-20
9348075	166	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.9 ± 0.3	2021-12-20
9348073	168	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.6 ± 0.3	2021-12-20
9348061	172	2021-12-14 @ 10:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20
9348068	174	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.7 ± 0.3	2021-12-20
9348067	176	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20
9348052	176	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.7 ± 0.3	2021-12-20
9348066	178	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.6 ± 0.3	2021-12-20
9348064	180	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	1.1 ± 0.3	2021-12-20
9348060	182	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.7 ± 0.3	2021-12-20
9348059	188	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.7 ± 0.3	2021-12-20
9348058	190	2021-12-14 @ 9:00 am	2021-12-17 @ 10:00 am	0.8 ± 0.3	2021-12-20
9348079	CAFETERIA	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	0.9 ± 0.3	2021-12-20
9348077	CAFETERIA	2021-12-14 @ 11:00 am	2021-12-17 @ 10:00 am	0.9 ± 0.3	2021-12-20
9348048	GYM	2021-12-14 @ 10:00 am	2021-12-17 @ 11:00 am	1.3 ± 0.3	2021-12-20
9348089	GYM	2021-12-14 @ 10:00 am	2021-12-17 @ 11:00 am	1.2 ± 0.3	2021-12-20
9348082	GYM	2021-12-14 @ 10:00 am	2021-12-17 @ 11:00 am	1.1 ± 0.3	2021-12-20

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 203404

NOMINAL Conditions: Radon Conc 16.2 pCi/L Rel. Hum 28.8 % Temp. 59.9 F

Date Start: 12/24/21 Date Stop: 12/27/21	Date Start: _____ Date Stop: _____
Time Start: 0809 Time Stop: 0809	Time Start: _____ Time Stop: _____
Device No.'s: (2) Char Bags - 9341721, 9341722	Device No.'s: _____
G4 Left	
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____

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

December 31, 2021 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

SK MA

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within ± 25% of the chamber's reference value (16.2 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341721	1	2021-12-24 @ 8:00 am	2021-12-27 @ 8:00 am	11.6 ± 0.9	2021-12-31
9341722	1	2021-12-24 @ 8:00 am	2021-12-27 @ 8:00 am	15.4 ± 1.2	2021-12-31

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon - December 2021 Schools

Name of Schools:

1. Ewing at Cloverleaf Center
2. Bethesda Main. & Tran.
3. Clarksburg ES Annex
4. Clarksburg Main. & Tran.
5. Taylor Learning Center
6. Darnestown ES
7. Shady Grove Main. & Tran.

	Date	Initials
Radon Test Kits Deployed	12/14/2021	
Radon Test Kits Collected	12/17/2021	
Radon Test Kits Shipped to Lab*	12/17/2021	
Radon Test Kits Received by Lab*	12/18/2021	

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: Darnestown Elementary School

Date of Test Report:	3/10/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	35
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	3.3

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

KCI TECHNOLOGIES

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

March 10, 2016 (Rev 1)

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

Re: **Radon Testing Services**
KCI Job # 12146341.22

Location: Darnestown Elementary School
15030 Turkey Foot Road
Darnestown, MD 20878

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the Darnestown Elementary School, located at 15030 Turkey Foot Road in Darnestown, Maryland 20878 (subject site).

Scope of Services:

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

KCI visited the site on December 28, 2015 and deployed forty-seven (47) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on December 31, 2015 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Darnestown ES		
Test Period: 12/28/15-12/31/15		
Kit Number	**Room / Area**	**Result**
7715016	2	1.4
7715064	4	3.3
7715002	6	0.6
7715050	8	1.9
7715063	14	2.0
7715017	18	0.6
7715062	22	< 0.3
7715061	26	< 0.3
7715067	100	< 0.3
7715070	101	< 0.3
7715072	101	< 0.3
7715073	102	< 0.3
7715076	104	1.8
7715080	105	< 0.3
7715051	106	1.9
7715053	108	1.7
7715040	112	2.4
7715041	112	2.2
7715074	113	< 0.3
7715079	115	< 0.3
7715077	117	0.8
7715037	119	0.7
7715039	119	1.1
7715052	121	< 0.3
7715042	122	1.5
7715054	123	0.8
7715044	126	1.1
7715055	131	< 0.3
7715057	135	< 0.3
7715056	137	0.6
7715059	141	< 0.3
7715045	154	0.9
7715058	182	< 0.3
7715046	188	< 0.3
7715048	190	< 0.3
7715068	100A	< 0.3
7715065	100B	< 0.3
7715069	100C	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Darnestown ES		
Test Period: 12/28/15-12/31/15		
Kit Number	**QC Type**	**Result**
7715075	D (102)	< 0.3
7715043	D (126)	1.3
7715047	D (141)	< 0.3
7715001	D (6)	< 0.3
7715038	FB (112)	< 0.3
7715036	FB (115)	< 0.3
7715060	FB (141)	< 0.3
7715049	FB (8)	< 0.3
7710537	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 16, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

DARNSTOWN ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7710537	0	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-04
7715067	100	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7715068	100A	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7715065	100B	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7715069	100C	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7715072	101	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-04
7715070	101	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7715073	102	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-04
7715075	102	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-04
7715076	104	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	1.8 ± 0.4	2016-01-05
7715080	105	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7715051	106	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	1.9 ± 0.4	2016-01-04
7715053	108	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	1.7 ± 0.3	2016-01-04
7715040	112	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	2.4 ± 0.4	2016-01-04
7715041	112	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	2.2 ± 0.4	2016-01-04
7715074	113	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7715036	115	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-04
7715079	115	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7715077	117	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	0.8 ± 0.4	2016-01-05
7715039	119	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	1.1 ± 0.3	2016-01-04
7715037	119	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	0.7 ± 0.4	2016-01-05
7715052	121	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7715042	122	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	1.5 ± 0.4	2016-01-04
7715038	112	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7715054	123	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.8 ± 0.3	2016-01-04
7715044	126	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.1 ± 0.3	2016-01-04
7715043	126	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.3 ± 0.4	2016-01-05
7715055	131	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715057	135	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715056	137	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.6 ± 0.3	2016-01-04
7715063	14	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	2.0 ± 0.5	2016-01-05
7715059	141	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715060	141	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715047	141	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7715045	154	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.9 ± 0.3	2016-01-04
7715017	18	2015-12-28 @ 12:00 pm	2015-12-31 @ 9:00 am	0.6 ± 0.3	2016-01-04
7715058	182	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04

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

January 16, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

DARNSTOWN ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7715046	188	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715048	190	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715016	2	2015-12-28 @ 12:00 pm	2015-12-31 @ 9:00 am	1.4 ± 0.4	2016-01-04
7715062	22	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715061	26	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7715064	4	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	3.3 ± 0.5	2016-01-05
7715001	6	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715002	6	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.6 ± 0.4	2016-01-05
7715049	8	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-04
7715050	8	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.9 ± 0.5	2016-01-05

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January 15, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS PHASE 3 & 4
TRANSIT BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7708218	TRAMSIT 4	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708200	TRANSIT 1	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708190	TRANSIT 10	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708189	TRANSIT 11	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708191	TRANSIT 12	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708188	TRANSIT 13	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708197	TRANSIT 14	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708186	TRANSIT 15	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708185	TRANSIT 16	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708184	TRANSIT 17	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708182	TRANSIT 18	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708187	TRANSIT 18	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708199	TRANSIT 2	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708181	TRANSIT 20	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708180	TRANSIT 21	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708183	TRANSIT 22	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708178	TRANSIT 23	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708179	TRANSIT 24	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708177	TRANSIT 25	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708176	TRANSIT 26	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708174	TRANSIT 27	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708173	TRANSIT 28	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708175	TRANSIT 29	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708198	TRANSIT 3	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708172	TRANSIT 30	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708194	TRANSIT 5	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708196	TRANSIT 6	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708193	TRANSIT 7	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708192	TRANSIT 8	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708195	TRANSIT 9	2015-12-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23

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

December 23, 2015

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7706380	101	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	25.2	2015-12-23
7706381	102	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.5	2015-12-23
7706208	103	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	27.7	2015-12-23
7705132	104	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	28.6	2015-12-23
7706366	105	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.5	2015-12-23
7706211	106	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.1	2015-12-23

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173224

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

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

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Chain of Custody

Project Name: MCPS Radon Phase III

Name of Schools:

1. Burnt Mills ES
2. Burtonsville ES
3. Cedar Grove ES
4. Cloverly ES
5. Cold Spring ES
6. Damascus HS
7. Darnestown ES
8. Diamond ES
9. Charles R. Drew ES
10. DuFief ES
11. Thomas Edison HS
12. Robert Frost MS
13. Georgian Frost ES
14. Germantown ES
15. Goshen ES
16. Greencastle ES
17. Greenwood ES
18. Lake Seneca ES
19. Laytonsville ES
20. Col. E. Brooke MS
21. Luxmanor ES
22. Magruder HS
23. Thur. Marshall ES
24. Monocacy ES
25. Northlake Center
26. Olney ES
27. Rosa Parks MS
28. Poolesville ES
29. Poolesville HS
30. Potomac ES
31. Rock Terrace HS
32. Rosemary Hills ES
33. Carl Sandburg
34. Sequoyah ES
35. Stedwick ES
36. Whetstone ES

	Date	Initials
Radon Test Kits Deployed	12/28/15	JM
Radon Test Kits Sampled	12/31/15	JM
Radon Test Kits Shipped to Lab*	12/31/15	JM
Radon Test Kits Received by Lab*	1/4/16	JM

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