

**Instructions:** Submit one testing report form per-facility per-round of testing. Include the following as attachments: Attachment 1- Summary Data Tables — containing the following: (see attached samples tables)

- Testing Results lab/detector Identification, by room number/name (alpha-numeric order) as depicted on facility map/floor plan provided by the facility/school at the time of test device deployment;
- Summary Results list of rooms by test result ≥2.0-pCi/L; ≥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 – Samplina Location Map(s) – indicatina approximate location of samples, duplicates and blanks.

	, 3				
	T		School Year: 23-24		
Facility:	Montgo	mery Village M	liddle School		
19300 Watkins Mill Roa		Vatkins Mill Ro	ad		
Address:	Montgo	mery Village, MD 20886			
		☐ Scheduled	Re-Testing (2 or 5-year schedule)		
Reason for T	octing:	□ Clearance     □	e Testing (Post-Mitigation)		
Reason for the	estilig.	☐ System(s) Performance Testing (Post-Mitigation)			
		☐ New Cons	New Construction/Facility		
		🛮 Active Mi	tigation (2-year regular schedule)		
Facility Current Radon Status:		☐ No Active Mitigation (5-year regular schedule)			
		☐ Not Previously Tested			
Round of Testing: 🛛 Initial Te		☑ Initial Tes	ting -or-  Follow-up Testing		
Testing Status: No Furthe		☑ No Further	er Testing Needed <b>-or-</b>		
Conclusion (When Testing Status is - No Further Testing Needed)			Further Testing Needed)		
Mitigation -		_	Facility Radon Status:		
☑ Not Required or Considered		Considered			
☐ Required (>8.0-pCi/L)		0-pCi/L)			
☐ Required (≥4.0-pCi/L)		0-pCi/L)	Active Mitigation (2-year regular schedule)		
☐ Consider (≥2.0 & <4.0-pCi/L)		<4.0-pCi/L)	☐ No Active Mitigation (5-year regular schedule)		



	□ Passive	⊠ Charc	oal Absorptio	on (CAD) 🗌 A	Alpha Track (ATD) 🗌 Other
Detector/Device	☐ Continuous ☐ Electret ion Chamber (EIC) ☐ Electronic Integra				lectronic Integration (EID)
Type:	Other–Specify here	?:			
,,					
Detector/Device	Air Chek – Radon	Test Kits			
Name:	7 Chek Hadon	- Cot Mito			
Manufacturer:	Radon Lab				
Person(s) Deploying	-	t Devices and		Organization/Company	
certification number	er				
Brittany Maas				KCI Technolo	gies, Inc.
If noncertified individ	uals, the qualified m	easurement pi	rofessional pro	oviding oversight 	; <del>-</del>
Tyler McCleaf, CSP	– Cert. #111004-R	MP		KCI Technologies, Inc.	
Testing					
Short-Term     ■	Longth of		Date of Dor	aloument and	01/29/2024
	Length of Test (days):	3	-	oloyment and (mm/dd/yy):	
☐ Long-Term	rest (days).		recirevar	(11111) (11),	02/01/2024
Does the test po	eriod include week	cends, school	breaks or ho	lidays?	☐ Yes       No
If "Yes" please explain/detail in the space below:					
Was HVAC operating under occupied conditions?   ☐ Yes ☐ No				⊠ Yes □ No	
If " <b>No</b> " please exp	olain/detail in the sp	ace below:			

Testing (continued)



	Detectors Deployed			
	Ground-Contact	Upper-Level(s)	Total	
Test Locations <sup>1</sup>	95	7	102	
Duplicates <sup>2</sup>	10	1	11	
Field Blanks <sup>3</sup>	5	0	5	
		Grand Total	118	

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

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

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

Spike Samples <sup>1</sup> 6	Trip Blank(s) <sup>2</sup>	1	Office Blank(s) <sup>3,4</sup>	1
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- 1 3% of EIC detectors; and 3% from <u>each LOT</u> of CAD and ATD detectors; a <u>maximum of 6-spiked</u> <u>measurements</u> per month for both EIC detectors and <u>each LOT</u> 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, <u>analyzed prior to deployment</u>, for storage locations that have not been evaluated or monitored, for detectors that have been stored for more than 30-day durations.

Spike Sample Lab Results. Measured values are satisfactory, i.e., within ± 25% of the chamber's reference value.	⊠ Yes	□ No
Quality Control measurements comply with QA/QC requirements in the QA plan previously submitted?	⊠ Yes	□ No

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



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

### Summary of Test Results<sup>1</sup> and Determination of Valid Measurements<sup>2</sup>

	Ground-Contact	Upper-Level(s)	Total
Number of test locations:	95	7	102
Number of locations ≥8.0-pCi/L:	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0
Number of locations ≥2.7 and ≤4-pCi/L:	0	0	0
Number of locations ≥2.0 and ≤4-pCi/L:	1	0	1
Number of missing required test locations <sup>3</sup> :	0	0	0
Percentage of missing test locations for the facility <sup>4,5</sup> :	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<sup>1</sup> and Determination of Valid Measurements<sup>2</sup> (continued)



Were test devices deployed in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms?	
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     No
If Yes to both above – then Testing Status – 'No Further Testing Needed' mark 'NA' below and comple	te Conclusions section
If No to either above, were all results obtained under 4.0-pCi/L and were there sufficient valid measurements obtained? <sup>1,2</sup> If Yes – then Testing Status - 'No Further Testing Needed' complete Conclusion section  If No, then Testing Status - 'Follow-up Testing Required' continue below	☐ Yes ☐ No ☑ NA

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

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

### Follow-Up Testing (if required)

Required if -

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

#### Follow-up Testing:

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

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

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

# Attachment 1: Summary Data Tables

Table 1- Radon Testing Results
Montgomery Village Middle School
Test Period: 01/29/2024 - 02/01/2024

Kit Number	Room / Area	Result
11633776	10	< 0.3
11633777	10	< 0.3
11633775	13	0.9
11633768	15	0.8
11285546	17	0.9
11633781	17	< 0.3
11633782	17	0.8
11633771	18	< 0.3
11633778	20	< 0.3
11633772	22	< 0.3
11633766	24	0.7
11633765	29	< 0.3
11633749	31	< 0.3
11285567	34	< 0.3
11633788	34	< 0.3
11633773	35	< 0.3
11633774	36	0.6
11633783	37	< 0.3
11633784	38	< 0.3
11633769	39	< 0.3
11633770	40	< 0.3
11633761	42	< 0.3
11633764	43	< 0.3
11285549	45	< 0.3
11633756	45	< 0.3
11633762	46	< 0.3
11633763	46	0.5
11633757	47	< 0.3
11633758	48	< 0.3
11285550	100	0.7
11285556	102	0.8
11285528	104	0.6
11285562	110	0.8
11633793	112	1.3
11633791	114	0.6
11633797	116	0.7
11633795	120	1.1
11633799	128	1.0
11633785	130	0.7
11634185	137	< 0.3
11633692	139	< 0.3
11633683	140	< 0.3
11633759	141	< 0.3

Table 1- Radon Testing Results
Montgomery Village Middle School
Test Period: 01/29/2024 - 02/01/2024

Kit Number	Room / Area	Result
11634194	141	< 0.3
11633678	143	0.5
11633676	143	< 0.3
	145	
11634200		< 0.3
11634187	146	< 0.3
11634190	147	< 0.3
11634184	149	< 0.3
11634197	152	< 0.3
11634998	152	< 0.3
11634196	153	< 0.3
11634199	156	< 0.3
11634195	157	0.5
11633694	158	< 0.3
11634189	158	< 0.3
11633700	159	0.6
11633686	160	< 0.3
11633747	161	< 0.3
11633748	161	< 0.3
11633698	162	< 0.3
11139719	163	< 0.3
11633677	164	0.6
11633760	166	0.5
11633691	167	< 0.3
11633750	167	< 0.3
11139711	168	< 0.3
11634188	168	< 0.3
11633697	170	< 0.3
11633690	173	0.8
11633684	177	0.5
11633790	177	< 0.3
11633789	179	< 0.3
11285551	181	< 0.3
11285553	182	< 0.3
11285552	186	0.8
11285555	100B	0.8
11285548	100D	1.9
11285561	100E	0.8
11285547	100F	2.1
11285532	100G	0.7
11285543	100H	0.8
11285537	100J	0.7
11285538	100L	0.7
11285534	100N	0.9
1120001	10011	0.0

Table 1- Radon Testing Results
Montgomery Village Middle School
Test Period: 01/29/2024 - 02/01/2024

Kit Number	Room / Area	Result
11285544	100N	0.5
11285533	100P	0.7
11285554	102A	0.8
11285527	104A	0.8
11285560	104C	0.9
11633787	104C	1.1
11633786	104D	0.8
11633800	104E	1.2
11633792	104F	1.4
11633794	128A	0.9
11633796	128A	0.7
11633780	130A	1.0
11285531	132D	1.0
11633755	140A	< 0.3
11634186	141 OFFICE	< 0.3
11633676	141B	< 0.3
11634179	141B	< 0.3
11634180	141B	< 0.3
11285545	141C	< 0.3
11285559	141C	< 0.3
11633689	141D	< 0.3
11633685	141E	< 0.3
11634993	153B	< 0.3
11634191	153C	< 0.3
11634192	153C	< 0.3
11634198	156A	0.5
11633767	BOYS LOCKER ROOM	1.0
11633779	GIRLS LOCKER ROOM	1.0
11285569	GYM	1.3
11633693	GYM	1.0
11633894	KITCHEN OFFICE	0.9
11285568	STAGE	1.0

	Table 2 - Summary Testing Results ≥2.0 pCi/L							
		Mont	gomery Villa	age Middle Scho	ol			
	Test Period: 01/29/2024 - 02/01/2024							
≥2.0 and <2	.7 pCi/L	≥2.7 and <4	.0 pCi/L	≥4.0 and <8	3.0 pCi/l	≥8.0 pC	i/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result	
100F	2.1	N/A	N/A	N/A	N/A	N/A	N/A	

Table 3 - QC Radon Testing Results
Montgomery Village Middle School
Test Period: 01/29/2024 - 02/01/2024

Kit Number	QC Type	Room / Area	Result
11285546	D	17	0.9
11633781	FB	17	<0.3
11633788	D	34	<0.3
11285549	D	45	<0.3
11633762	FB	46	<0.3
11633747	D	161	<0.3
11633691	D	167	<0.3
11634188	FB	168	<0.3
11633790	D	177	<0.3
11285544	D	100n	0.5
11285560	D	104c	0.9
11633794	D	128a	0.9
11634179	D	141b	<0.3
11634180	FB	141b	<0.3
11285559	FB	141c	<0.3
11634191	D	153c	<0.3

Table 4 - Summary of Invalid Measurement Locations  Montgomery Village Middle School							
	Test Period: 01/29/24 - 02/01/24						
Kit Number	Room/Area	Result					
N/A	N/A	N/A					

## Attachment 2: Laboratory Reports

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11633776	10	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633777	10	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285550	100	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11285555	100B	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.4$	2024-02-05
11285548	100D	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.9 \pm 0.4$	2024-02-05
11285561	100E	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11285547	100F	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$2.1 \pm 0.4$	2024-02-05
11285532	100G	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11285543	100H	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11285537	100J	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11285538	100L	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11285544	100N	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.5 \pm 0.3$	2024-02-05
11285534	100N	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.9 \pm 0.3$	2024-02-05
11285533	100P	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11285556	102	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11285554	102A	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11285528	104	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.6 \pm 0.3$	2024-02-05
11285527	104A	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11285560	104C	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.9 \pm 0.3$	2024-02-05
11633787	104C	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.1 \pm 0.3$	2024-02-05
11633786	104D	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11633800	104E	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.2 \pm 0.3$	2024-02-05
11633792	104F	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.4 \pm 0.3$	2024-02-05
11285562	110	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11633793	112	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.3 \pm 0.3$	2024-02-05
11633791	114	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.6 \pm 0.3$	2024-02-05
11633797	116	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11633795	120	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.1 \pm 0.3$	2024-02-05
11633799	128	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.0 \pm 0.3$	2024-02-05
11633796	128A	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11633794	128A	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.9 \pm 0.3$	2024-02-05
11633775	13	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.9 \pm 0.3$	2024-02-05
11633785	130	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11633780	130A	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.0 \pm 0.3$	2024-02-05
11285531	132D	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.0 \pm 0.3$	2024-02-05
11634185	137	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633692	139	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11633683	140	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633755	140A	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634194	141	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633759	141	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634186	141 OFFICE	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634180	141B	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633676	141B	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634179	141B	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285559	141C	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285545	141C	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633689	141D	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633685	141E	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633678	143	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.5 \pm 0.3$	2024-02-05
11633699	144	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634200	145	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634187	146	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634190	147	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634184	149	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633768	15	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11634998	152	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634197	152	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634196	153	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634993	153B	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634192	153C	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634191	153C	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634199	156	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634198	156A	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.5 \pm 0.3$	2024-02-05
11634195	157	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.5 \pm 0.3$	2024-02-05
11633694	158	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634189	158	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633700	159	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.6 \pm 0.3$	2024-02-05
11633686	160	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633747	161	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633748	161	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633698	162	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11139719	163	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633677	164	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.6 \pm 0.3$	2024-02-05

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11633760	166	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.5 \pm 0.3$	2024-02-05
11633750	167	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633691	167	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11634188	168	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11139711	168	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633782	17	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11633781	17	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285546	17	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.9 \pm 0.4$	2024-02-05
11633697	170	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633690	173	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11633684	177	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.5 \pm 0.3$	2024-02-05
11633790	177	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633789	179	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633771	18	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285551	181	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285553	182	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285552	186	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.8 \pm 0.3$	2024-02-05
11633778	20	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633772	22	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633766	24	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.7 \pm 0.3$	2024-02-05
11633765	29	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633749	31	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633788	34	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285567	34	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633773	35	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633774	36	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.6 \pm 0.3$	2024-02-05
11633783	37	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633784	38	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633769	39	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633770	40	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633761	42	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633764	43	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11285549	45	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633756	45	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633763	46	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.5 \pm 0.3$	2024-02-05
11633762	46	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633757	47	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05

### \*\* LABORATORY ANALYSIS REPORT \*\*

Radon test result report for:
MONTGOMERY VILLAGE MS
MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
11633758	48	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	< 0.3	2024-02-05
11633767	BOYS LOCKER ROOM	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.0 \pm 0.3$	2024-02-05
11633779	GIRLS LOCKER ROOM	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.0 \pm 0.3$	2024-02-05
11285569	GYM	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.3 \pm 0.4$	2024-02-05
11633693	GYM	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.0 \pm 0.3$	2024-02-05
11633894	KITCHEN OFFICE	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$0.9 \pm 0.3$	2024-02-05
11285568	STAGE	2024-01-29 @ 8:00 am	2024-02-01 @ 8:00 am	$1.0 \pm 0.3$	2024-02-05

February 7, 2024

### \*\* LABORATORY ANALYSIS REPORT \*\*

Radon test result report for: OFFICE BLANK MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285577	OB	2024-01-29 @ 10:00 am	2024-02-01 @ 11:00 am	< 0.3	2024-02-05

February 7, 2024

### \*\* LABORATORY ANALYSIS REPORT \*\*

Radon test result report for: TRAVEL BLANK MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
11633585	TB	2024-01-29 @ 10:00 am	2024-02-01 @ 11:00 am	< 0.3	2024-02-05

January 29, 2024

### \*\* LABORATORY ANALYSIS REPORT \*\*

Radon test result report for: STORAGE

KCI

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

### **EXPOSURE IN BOWSER-MORNER RADON CHAMBER**

CLIENT KCI TECHNOLOGIE	5 /NC Job Number 213327
NOMINAL Conditions: Radon Conc 49.5	pCi/L Rel. Hum <u>24.7</u> % Temp. <u>69.8</u> F
Date Start: 1/19/24 Date Stop: 1/22/20	Date Start: Date Stop:
Time Start: 1831 Time Stop: 0831	Time Start: Time Stop:
Device No.'s: (6) CHAR 13A65.	Device No.'s:
11284003, 11284005, 11284006	
11284008, 11284013	
F3 Left	
Date Start: Date Stop:	Date Start: Date Stop:
Time Start: Time Stop:	Time Start: Time Stop:
Device No.'s:	Device No.'s:
Date Start: Date Stop:	Date Start: Date Stop:
Time Start: Time Stop:	Time Start: Time Stop:
Device No.'s:	Device No.'s:

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

### \*\* LABORATORY ANALYSIS REPORT \*\*

# Radon test result report for: BOWSER MORNER MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11284003	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	$47.0 \pm 3.8$	2024-01-29
11284005	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	$43.4 \pm 3.5$	2024-01-29
11284006	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	$42.1 \pm 3.4$	2024-01-29
11284007	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	$46.4 \pm 3.7$	2024-01-29
11284008	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	$46.2 \pm 3.7$	2024-01-29
11284013	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	$45.6 \pm 3.6$	2024-01-29



### 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 January 29th - February 1st 2024

### Name of Schools:

- 1. John F. Kennedy HS
- 2. Francis Scott Key MS
- 3. Montgomery Village MS

- 4. Oak View ES
- 5. North Chevy Chase ES
- 6. Cabin Branch ES

	Date	Initials
Radon Test Kits Deployed	01/29/2024	M
Radon Test Kits Collected	02/01/2024	tus
Radon Test Kits Shipped to Lab*	02/01/2024	an
Radon Test Kits Received by Lab*	02/05/2024	M

<sup>\*</sup>All samples sent to Air Check, Inc., 2 Saber Way, Ward Hill, MA 01835

# Attachment 3: Sampling Location Map

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### MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Montgomery Village
	Middle School
Date of Test Report	3/2/2023
Round of Testing	(Initia)
	Follow-up
	Post Remediation
	2 Year Testing
	5 Year Testing
	HVAC Upgrade
	Window Replacement
	New Addition
	New Facility
# Rooms Tested	89
# Rooms Re-tested	4
# Rooms ≥ 4.0 pCi/L	5
Lowest Value	<0.3 pCi/L
Highest Value	7.5 pCi/L

### Project Status:

- 1. Initial testing completed;
- 2. Missing and compromised need re-test.
- 3. Retesting Completed 2/14/23 2/17/23.
- 4. Mitigate Rooms 37, 38, 40, and 45.

KCI Technologies, Inc. www.kci.com



### ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 3, 2023

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

Re: Radon Testing Services

KCI Job # 122210551

Location: Montgomery Village Middle School

24200 Woodfield Road Gaithersburg, MD 20882

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 Montgomery Village Middle School, located at 24200 Woodfield Road, Gaithersburg, MD 20882 (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 initially on January 23, 2023 and deployed one hundred five (105) 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 returned to the site on January 26, 2023 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs - MA. for analysis by gamma-ray spectroscopy. Accustar Labs - MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

KCI re-visited the site on February 14, 2023 to deploy seven (7) activated charcoal (AC) radon test kits for testing of missed rooms or compromised test kits during initial testing.

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KCI returned to the site on February 17, 2023 to retrieve the radon re-sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs – MA for analysis by gamma-ray spectroscopy. Accustar Labs – MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

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.

#### **Evaluation of Testing Conditions:**

These tests represent:

• Follow up to initial testing.

These tests were conducted to:

• Evaluate radon concentration levels 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 temperatures ranged from the 31°F to 52°F. Maximum sustained winds ranged from 5-25 miles per hour. Average humidity was around 60% with .32 inches of precipitation (rain) was recorded during testing period.

During the re-testing period, weather records indicate low temperatures were in the mid-20s°F and high temperatures ranged to the 70s°F. Maximum sustained winds ranged from 0-33 miles per hour. Average humidity was around 62% with 1.01 inches of precipitation (rain) was recorded during testing period.

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#### **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
	37	3.6
	38	7.5
≥4.0 piC/L	40	4.0
•	45	3.5
	45	3.7
<4.0 piC/L	See Attachment B	

The results of the radon re-testing analysis indicated the following:

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

Quality Control Samples		
Results of Blank Canisters:	The office blanks, and lab transit blanks had test results of	
	less than the laboratory detection limit of 0.3 pCi/L.	
Adequate Laboratory Precision? Review of the duplicate sample analysis indicates that		
adequate laboratory measurement precision was achiev		
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.

Tyler McCleaf

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	
Montgomery Village MS	
+ D	

Test Period: 01/10/2023 - 01/13/2023

Kit Number	Room / Area	Result
11285777	10	0.7
11285779	13	0.9
11285780	15	1.0
11285781	17	0.9
11285782	17	1.0
11285783	17	< 0.3
11285776	18	< 0.3
11285784	19	2.0
11285775	20	0.8
11285774	22	1.3
11285773	24	1.4
11285785	29	1.4
11285786	31	2.1
11285771	34	2.0
11285772	34	1.6
11285787	35	3.1
11285770	36	2.2
11285788	37	3.6
11285769	38	7.5
11285768	40	4.0
11285767	42	1.5
11285760	43	1.5
11285761	45	3.5
11285762	45	< 0.3
11285763	45	3.7
11285766	46	1.4
11285764	47	1.9
11285765	48	1.4
11285701	100	0.6
11285702	102	< 0.3
11285718	104	0.6
11285728	110	0.7
11285729	112	0.9
11285730	114	0.7
11285732	114	1.0
11285731	116	0.9
11285733	120	1.0
11285734	128	1.5
11285736	130	1.0
11285797	137	< 0.3
11634504	139	< 0.3
11285741	140	0.7

Table 1- Radon Testing Results	
Montgomery Village MS	
Test Period: 01/10/2023 - 01/13/2023	

Kit Number Room / Area Result 11285742 140 8.0 140 11285743 < 0.3 11285793 143 < 0.3 144 11634501 0.7 11634502 < 0.3 144 11634503 144 < 0.3 11285791 145 < 0.3 11285792 145 0.6 11285800 146 < 0.3 11285789 147 < 0.3 11285790 149 < 0.3 11285755 156 < 0.3 11285754 157 0.6 11285750 159 < 0.3 11285752 161 0.6 11285753 161 0.6 11285751 163 < 0.3 11285749 168 0.7 11285745 174 8.0 11634505 179 1.4 11285746 180 0.6 11634506 181 < 0.3 11285747 186 0.7 11285748 192 1.1 11285707 100B 0.7 11285717 100D 0.7 11285708 100E < 0.3 11285716 100F 0.9 11285715 100G 1.0 11285714 100H 0.6 11285713 100J 0.7 11285712 100L < 0.3 11285709 100N 0.5 100P 11285710 < 0.3 11285711 100P 0.7 11285703 102A < 0.3 11285704 102B 0.9 11285705 102C 0.6 11285706 102D 0.7 11285720 104B < 0.3 11285721 104B 0.5 11285722 104B < 0.3

Table 1- Radon Testing Results					
Montgomery Village MS					
Tes	Test Period: 01/10/2023 - 01/13/2023				
Kit Number	Room / Area	Result			
11285723	104C	< 0.3			
11285725	104D	< 0.3			
11285726	104E	0.6			
11285727	104F	< 0.3			
11285719	105A	0.6			
11285735	128A	1.4			
11285737	132E	1.0			
11285744	149A	N/A			
11285796	141A	< 0.3			
11285799	141B	< 0.3			
11285798	141C	< 0.3			
11285756	156A	1.1			
11285758	CAFE	< 0.3			
11285759	CAFE	0.6			
11285778	GIRLS LOCKER ROOM	1.1			
11285738	GYM	1.4			
11285739	GYM	N/A			
11285757	KITCHEN MGR OFFICE	1.2			
11285794	MEDIA	< 0.3			
11285795	MEDIA	0.6			
11285740	STAGE	1.3			

Table 2- Radon Testing Results						
Montgomery Village MS						
	Test Period: 01/10/23 - 01/13/23					
Kit Number	QC Type	Room / Area	Result			
11285782	D	17	1.0			
11285783	FB	17	< 0.3			
11285772	D	34	1.6			
11285763	D	45	3.7			
11285762	FB	45	< 0.3			
11285732	D	114	1.0			
11285742	D	140	0.8			
11285743	FB	140	< 0.3			
11634502	D	144	< 0.3			
11634503	FB	144	< 0.3			
11285792	D	145	0.6			
11285753	D	161	0.6			
11285711	D	100P	0.7			
11285721	D	104B	0.5			
11285722	FB	104B	< 0.3			
11285162	ОВ	OFFICE BLANK	< 0.3			
11284899	ТВ	TRAVEL BLANK	< 0.3			

Summary of Missed Locations					
	Montgomery Village MS				
Test Period: 01/10/23 - 01/13/23					
Kit Number	Room/Area	Result			
	N/A				

Summary of Missing, Compromised and >/= 4 piC/L Tests				
Montgomery Village MS				
Test Period: 01/10/23 - 01/13/23				
Kit Number	Room/Area	Result		
11285737	Gym	Missing		
11285744	Gym Office	Damaged		
11285788	37	3.6		
11285769	38	7.5		
11285768	40	4.0		
11285761	45	3.5		
11285763	45	3.7		

### Table Note:

<sup>\*</sup> Missing or Compromised Sample

Table 1- Radon Testing Results				
	Montgomery Village MS RT			
Tes	t Period: 02/14/2023 - 02/17/2023	3		
Kit Number	Room / Area	Result		
11288296 GYM 1.2				
11634666 GYM 0.8				
11634681 GYM CONFERENCE 1.1				
11634660	GYM OFFICE 13	1.3		
11634685 GYM OFFICE 13 1.2				
11634686 GYM OFFICE 13 < 0.3				
11634684	GYM OFFICE 17	1.3		

	Table 2- R	adon Testing Results		
	Montgo	mery Village MS RT		
	Test Period	: 02/14/23 - 02/17/23		
Kit Number	QC Type	Room / Area	Result	
11634685 D Gym Office 13 1.2				
11634686 FB Gym Office 13 < 0.3				
11634060	ОВ	OFFICE BLANK	< 0.3	
11634067 TB TRAVEL BALNK < 0.3				

Summary of Missed Locations						
	Montgomery Village MS RT					
Т	Test Period: 02/14/23 - 02/17/23					
Kit Number	Room/Area	Result				
	N/A					

Summary of Missing, Compromised and >/= 4 piC/L Tests					
Montgomery Village MS RT					
	Test Period: 02/14/23 - 02/17/23				
Kit Number	Room/Area	Result			
	N/A				

### Table Note:

<sup>\*</sup> Missing or Compromised Sample

# ATTACHMENT C

# Laboratory Analytical Results

## \*\* LABORATORY ANALYSIS REPORT \*\*

Radon test result report for: MVMS MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
11285701	100	2023-01-10 @ 10:00 am	2023-01-13 @ 10:00 am	$0.6 \pm 0.3$	2023-01-16
11285707	100B	2023-01-10 @ 10:00 am	2023-01-13 @ 10:00 am	$0.7 \pm 0.3$	2023-01-16
11285708	100E	2023-01-10 @ 10:00 am	2023-01-13 @ 10:00 am	< 0.3	2023-01-16
11285714	100H	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$0.6 \pm 0.3$	2023-01-16
11285713	100J	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	$0.7 \pm 0.3$	2023-01-16
11285712	100L	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16
11285709	100N	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$0.5 \pm 0.3$	2023-01-16
11285711	100P	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	$0.7 \pm 0.3$	2023-01-16
11285710	100P	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285702	102	2023-01-10 @ 10:00 am	2023-01-13 @ 10:00 am	< 0.3	2023-01-16
11285703	102A	2023-01-10 @ 10:00 am	2023-01-13 @ 10:00 am	< 0.3	2023-01-16
11285704	102B	2023-01-10 @ 10:00 am	2023-01-13 @ 10:00 am	$0.9 \pm 0.3$	2023-01-16
11285705	102C	2023-01-10 @ 10:00 am	2023-01-13 @ 10:00 am	$0.6 \pm 0.3$	2023-01-16
11285706	102D	2023-01-10 @ 10:00 am	2023-01-13 @ 10:00 am	$0.7 \pm 0.3$	2023-01-16

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Radon test result report for: WMMS MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285777	10	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$0.7 \pm 0.3$	2023-01-16
11285717	100D	2023-01-10 @ 11:00 am	2023-01-13 @ 10:00 am	$0.7 \pm 0.3$	2023-01-16
11285716	100F	2023-01-10 @ 11:00 am	2023-01-13 @ 10:00 am	$0.9 \pm 0.3$	2023-01-16
11285715	100G	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	$1.0 \pm 0.3$	2023-01-16
11285718	104	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	$0.6 \pm 0.3$	2023-01-16
11285719	104A	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	$0.6 \pm 0.3$	2023-01-16
11285721	104B	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	$0.5 \pm 0.3$	2023-01-16
11285720	104B	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285722	104B	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285723	104C	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285725	104D	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285726	104E	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	$0.6 \pm 0.3$	2023-01-16
11285727	104F	2023-01-10 @ 11:00 am	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285728	110	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$0.7 \pm 0.3$	2023-01-16
11285729	112	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$0.9 \pm 0.3$	2023-01-16
11285732	114	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$1.0 \pm 0.3$	2023-01-16
11285730	114	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$0.7 \pm 0.3$	2023-01-16
11285731	116	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$0.9 \pm 0.3$	2023-01-16
11285733	120	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$1.0 \pm 0.3$	2023-01-16
11285734	128	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$1.5 \pm 0.3$	2023-01-16
11285735	128A	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$1.4 \pm 0.3$	2023-01-16
11285779	13	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$0.9 \pm 0.3$	2023-01-16
11285736	130	2023-01-10 @ 11:00 am	2023-01-13 @ 12:00 pm	$1.0 \pm 0.3$	2023-01-16
11285737	132E	2023-01-10 @ 12:00 pm	2023-01-13 @ 12:00 pm	$1.0 \pm 0.3$	2023-01-16
11285797	137	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11634504	139	2023-01-10 @ 3:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285742	140	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$0.8 \pm 0.3$	2023-01-16
11285741	140	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$0.7 \pm 0.3$	2023-01-16
11285743	140	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285796	141A	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285799	141B	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285798	141C	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285793	143	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11634502	144	2023-01-10 @ 3:00 pm	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16
11634501	144	2023-01-10 @ 2:00 pm	2023-01-13 @ 12:00 pm	$0.7 \pm 0.3$	2023-01-16
11634503	144	2023-01-10 @ 3:00 pm	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16
11285792	145	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	$0.6 \pm 0.3$	2023-01-16

Radon test result report for: WMMS MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285791	145	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285800	146	2023-01-10 @ 2:00 pm	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16
11285789	147	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285790	149	2023-01-10 @ 2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285780	15	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$1.0 \pm 0.3$	2023-01-16
11285755	156	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285756	156A	2023-01-10 @ 1:00 pm	2023-01-13 @ 11:00 am	$1.1 \pm 0.3$	2023-01-16
11285754	157	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$0.6 \pm 0.3$	2023-01-16
11285750	159	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285753	161	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$0.6 \pm 0.3$	2023-01-16
11285752	161	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$0.6 \pm 0.3$	2023-01-16
11285751	163	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285749	168	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$0.7 \pm 0.3$	2023-01-16
11285781	17	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$0.9 \pm 0.3$	2023-01-16
11285782	17	2023-01-10 @ 2:00 pm	2023-01-13 @ 1:00 pm	$1.0 \pm 0.3$	2023-01-16
11285783	17	2023-01-10 @ 2:00 pm	2023-01-13 @ 1:00 pm	< 0.3	2023-01-16
11285745	174	2023-01-10 @ 12:00 pm	2023-01-13 @ 12:00 pm	$0.8 \pm 0.3$	2023-01-16
11634505	179	2023-01-10 @ 3:00 pm	2023-01-13 @ 12:00 pm	$1.4 \pm 0.3$	2023-01-16
11285776	18	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	< 0.3	2023-01-16
11285746	180	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$0.6 \pm 0.3$	2023-01-16
11634506	181	2023-01-10 @ 3:00 pm	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16
11285747	186	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$0.7 \pm 0.3$	2023-01-16
11285784	19	2023-01-10 @ 2:00 pm	2023-01-13 @ 1:00 pm	$2.0 \pm 0.3$	2023-01-16
11285748	192	2023-01-10 @ 12:00 pm	2023-01-13 @ 11:00 am	$1.1 \pm 0.3$	2023-01-16
11285775	20	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$0.8 \pm 0.3$	2023-01-16
11285774	22	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$1.3 \pm 0.3$	2023-01-16
11285773	24	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$1.4 \pm 0.3$	2023-01-16
11285785	29	2023-01-10 @ 2:00 pm	2023-01-13 @ 1:00 pm	$1.4 \pm 0.3$	2023-01-16
11285786	31	2023-01-10 @ 2:00 pm	2023-01-13 @ 1:00 pm	$2.1 \pm 0.3$	2023-01-16
11285772	34	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$1.6 \pm 0.3$	2023-01-16
11285771	34	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$2.0 \pm 0.3$	2023-01-16
11285787	35	2023-01-10 @ 2:00 pm	2023-01-13 @ 1:00 pm	$3.1 \pm 0.3$	2023-01-16
11285770	36	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$2.2 \pm 0.3$	2023-01-16
11285788	37	2023-01-10 @ 2:00 pm	2023-01-13 @ 1:00 pm	$3.6 \pm 0.4$	2023-01-16
11285769	38	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$7.5 \pm 0.6$	2023-01-16
11285768	40	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$4.0 \pm 0.4$	2023-01-16
11285767	42	2023-01-10 @ 1:00 pm	2023-01-13 @ 1:00 pm	$1.5 \pm 0.3$	2023-01-16

Radon test result report for: WMMS MAIN

Kit #	Room Id	Started		Ended	pCi/L	Analyzed
11285760	43	2023-01-10 @	1:00 pm	2023-01-13 @ 1:00 pm	$1.5 \pm 0.3$	2023-01-16
11285763	45	2023-01-10@	1:00 pm	2023-01-13 @ 1:00 pm	$3.7 \pm 0.4$	2023-01-16
11285762	45	2023-01-10@	1:00 pm	2023-01-13 @ 1:00 pm	< 0.3	2023-01-16
11285761	45	2023-01-10@	1:00 pm	2023-01-13 @ 1:00 pm	$3.5 \pm 0.3$	2023-01-16
11285766	46	2023-01-10 @	1:00 pm	2023-01-13 @ 1:00 pm	$1.4 \pm 0.3$	2023-01-16
11285764	47	2023-01-10 @	1:00 pm	2023-01-13 @ 1:00 pm	$1.9 \pm 0.3$	2023-01-16
11285765	48	2023-01-10 @	1:00 pm	2023-01-13 @ 1:00 pm	$1.4 \pm 0.3$	2023-01-16
11285758	CAFE	2023-01-10 @	1:00 pm	2023-01-13 @ 12:00 pm	< 0.3	2023-01-16
11285759	CAFE	2023-01-10 @	1:00 pm	2023-01-13 @ 12:00 pm	$0.6 \pm 0.3$	2023-01-16
11285778	GIRLS LOCKER ROOM	2023-01-10 @	1:00 pm	2023-01-13 @ 1:00 pm	$1.1 \pm 0.3$	2023-01-16
11285738	GYM	2023-01-10 @	12:00 pm	2023-01-13 @ 12:00 pm	$1.4 \pm 0.3$	2023-01-16
11285757	KITCHEN MGR OFFICE	2023-01-10 @	1:00 pm	2023-01-13 @ 12:00 pm	$1.2 \pm 0.3$	2023-01-16
11285795	MEDIA	2023-01-10 @	2:00 pm	2023-01-13 @ 12:00 pm	$0.6 \pm 0.3$	2023-01-16
11285794	MEDIA	2023-01-10 @	2:00 pm	2023-01-13 @ 11:00 am	< 0.3	2023-01-16
11285740	STAGE	2023-01-10 @	12:00 pm	2023-01-13 @ 12:00 pm	$1.3 \pm 0.3$	2023-01-16

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## \*\* LABORATORY ANALYSIS REPORT \*\*

# Radon test result report for:

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
11288296	GYM	2023-02-14 @ 10:00 am	2023-02-17 @ 9:00 am	$1.2 \pm 0.3$	2023-02-20
11634666	GYM	2023-02-14 @ 10:00 am	2023-02-17 @ 9:00 am	$0.8 \pm 0.3$	2023-02-20
11634681	GYM CONFERENCE	2023-02-14 @ 10:00 am	2023-02-17 @ 9:00 am	$1.1 \pm 0.3$	2023-02-20
11634660	GYM OFFICE 13	2023-02-14 @ 11:00 am	2023-02-17 @ 9:00 am	$1.3 \pm 0.3$	2023-02-20
11634685	GYM OFFICE 13	2023-02-14 @ 11:00 am	2023-02-17 @ 9:00 am	$1.2 \pm 0.3$	2023-02-20
11634686	GYM OFFICE 13	2023-02-14 @ 11:00 am	2023-02-17 @ 9:00 am	< 0.3	2023-02-20
11634684	GYM OFFICE 17	2023-02-14 @ 10:00 am	2023-02-17 @ 9:00 am	$1.3 \pm 0.3$	2023-02-20

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# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGI	ES, /NC Job Number 208802
	_pCi/L Rel. Hum <u> </u>
Date Start: 1/27/23 Date Stop: 1/30/	3 Date Start: Date Stop:
	Time Start: Time Stop:
Device No.'s: (5) CHAR BAGS.	Device No.'s:
11633682,11633687,11633688	
11633695 11633696	
F3 Celt	
Date Start: Date Stop:	Date Start: Date Stop:
Time Start: Time Stop:	Time Start: Time Stop:
B 1 22	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 =  $7 \mu R/h$  Elevation = 820 ft

February 3, 2023

## \*\* LABORATORY ANALYSIS REPORT \*\*

Radon test result report for: OFFICE MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11633696	SK10	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	$24.2 \pm 1.9$	2023-02-03
11633682	SK6	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	$26.9 \pm 2.1$	2023-02-03
11633687	SK7	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	$23.8 \pm 1.9$	2023-02-03
11633688	SK8	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	$25.9 \pm 2.1$	2023-02-03
11633695	SK9	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	$27.0 \pm 2.2$	2023-02-03

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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 - Week 2 Retesting January Schools

### Name of Schools:

- 1. A. Mario Loiederman MS
- 2. Cannon Road ES
- 3. Forest Knolls ES
- 4. Glen Haven ES
- 5. Goshen ES
- 6. Highland View ES
- 7. John F. Kennedy HS
- 8. Lakelands Park MS
- 9. Montgomery Village MS
- 10.Poolesville HS
- 11.Springbrook HS

	Date	Initials
Radon Test Kits Deployed	02/14/2023	BMU
Radon Test Kits Collected	02/17/2023	BMMI
Radon Test Kits Shipped to Lab*	02/17/2023	pen
Radon Test Kits Received by Lab*	02/20/2023	Bon

<sup>\*</sup>All samples sent to Air Check, Inc., 2 Saber Way, Ward Hill, MA 01835



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### MCPS RADON TESTING

Executive Summary: Montgomery Village Middle School

Date of Test Report:	3/24/2016
Round of Testing:	Initial
	Follow-up
	Post Remediation
# Rooms Tested:	4
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0.4
High Value:	0.9

Project Status:

Retesting completed; no further action at this time.

#### ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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March 24, 2016

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

Re: Radon Testing Services

KCI Job # 12146341.30

Location: Montgomery Village Middle School

19300 Watkins Mill Road

Montgomery Village, Maryland 20886

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 Montgomery Village Middle School, located at 19300 Watkins Mill Road in Montgomery Village, Maryland 20886 (subject site).

#### **Scope of Services:**

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

KCI visited the site on February 29, 2016 and deployed nine (9) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on March 3, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is

a NRSB certified analytical laboratory for radon analysis (certification # ARL0007) located at 929 Mount Zion Road, Lebanon, Pennsylvania.

### **Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}$  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 Attachn	nent B	

Notes:

D- Duplicate sample

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

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

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

Sincerely,

James M. Moulsdale

Radon Measurement Specialist

KCI Technologies, Inc.

James Makler

Attachments: A- Floor Plan with Test Locations

B- Table 1-Radon Test Summary Spreadsheet

C- Laboratory Analytical Results

# ATTACHMENT A

# Floor Plan With Test Locations

# ATTACHMENT B

# Radon Test Summary Spreadsheet

## **Table Notes:**

**AC-** Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

**OB- Office Blank\*** 

PM- Project Manager

QC- Quality Control

\*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 10 testing. Office blanks were not submitted under each school individually.

	Radon Testing Results	
	Montgomery Village Middle School	
	Test Period: 02/29/16-03/03/16	
Kit Number	Room / Area	Result
3028887	130	<0.4
3028792	134	<0.4
3028798	141	0.4
3028816	141	0.8
3028819	184	<0.4
3028796 *	134 (Tampered)	<0.4

	Radon Testing Results						
Montgomery Village Middle School							
Test Period: 02/29/16-03/03/16							
Kit Number	QC Type	Result					
3028795	D (130)	<0.4					
3028800	D (141)	0.9					
3028799	FB (134)	<0.4					

# ATTACHMENT C

# Laboratory Analytical Results



NRPP 10511AL NRSB ARL0007 EPA Method #402-R-92-004 **Charcoal Canister** NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies 936 Ridgebrook Rd Sparks MD 21152 Montgomery Village M.S. 19300 Watkins Mill Rd

Montgomery Village MD 20886

Log Number	Device Number	Test Exposui	re Duration	:	Area Tested	Result (pCi/L)
3015301	3028798	02/29/2016 12:33 pm	03/03/2016	10:52 am	Building 1 Unit 141 First Floor	0.4
3015302	3028816	02/29/2016 12:33 pm	03/03/2016	10:52 am	Building 1 Unit 141 First Floor	0.8
3015303	3028800	02/29/2016 12:33 pm	03/03/2016	10:52 am	Building 1 Unit 141 First Floor	0.9
3015304	3028796	02/29/2016 12:48 pm	03/03/2016	10:55 am	Building 1 Unit 134 First Floor	<0.4
3015305	3028792	02/29/2016 12:48 pm	03/03/2016	11:00 am	Building 1 Unit 134 First Floor	<0.4
3015306	3028799	02/29/2016 12:48 pm	03/03/2016	11:00 am	Building 1 Unit 134 First Floor	<0.4
3015307	3028819	02/29/2016 12:55 pm	03/03/2016	10:54 am	Building 1 Unit 184 First Floor	<0.4
3015308	3028887	02/29/2016 1:00 pm	03/03/2016	10:57 am	Building 1 Unit 130 First Floor	<0.4
3015309	3028795	02/29/2016 1:01 pm	03/03/2016	10:57 am	Building 1 Unit 130 First Floor	<0.4

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

Distributed by: KCI Technologies, Inc.

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

Report Reviewed By: \_\_

Carolyn D. Koke, President, AccuStar Labs

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

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Disclaimer:

Send Written Report To:

888-480-8812 www.accustarlabs.com

Radon Device Type Open Face Canister

Site Tested:

Site Name Address

> KCI Technologies, Inc. 936 Ridgebrook Road

City / Town Address

Harboney Villege MS. 1930 Let Kins Mill Rd

Mortgown Villege

Test Country Montgomery County State/Province Postal Code MD

21152

State/Province Postal Code MD Report Country Baltimore County Email Address tehsin@kci.com

Sparks

City / Town Address Address Name

Project Number 12146341

Contact Information:

Tehsin Aurangabadwala 410-891-1726 Contact

Signature

Cert. Number Technician Telephone

Lab Use Only										
Stop Time	MX 25:01	10:52 DM	WM 25:01	IC; SS AIM	11:00 A)	4:00	-W h5:0)	10:57 AM	1057 Bm	
Stop Date mm/dd/yyyy	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016
Start Time	(2:33 pm	(2:33 pm	12:33 pry		12-48 PM	wd 8h:2)	12.55pm	13:00pr	13:01 pm	
Start Date	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016
Name of Room	• 12	78°	710	78.	1/2	710	710	71.		
Floor		_	_	_	(	,	-	~	-	
Unit Number	141		=	134	134	134	h81	130	130	
Building Number	-	-	Ľ	_		_		_	_	
Device Number	3028798	325816	3028800	328746	302 8792	3028799	११४४६०८	3028887	3028795	
Lab Use Only										

1 of 2



NRPP 10511AL NRSB ARL0007 EPA Method #402-R-92-004 Charcoal Canister NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies

936 Ridgebrook Rd

Sparks MD 21152

MCPS Radon Phase 10 Office Blank

Log Number Device Number

Test Exposure Duration:

Area Tested

Result (pCi/L)

3015360

3028828

02/29/2016 9:30 am

03/03/2016 9:30 am

Office Blank

<0.4

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

Distributed by: KCI Technologies, Inc.

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

Report Reviewed By:

Report Approved By:

Carolyn D. Koke, President, AccuStar Labs

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Disclaimer:

Radon Device Type Open Face Canister

888-480-8812 www.accustarlabs.com Send Written Report To:

Send Written Report To:	Report To:			Site T
Name	KCI Technologies, Inc	gies, I	nc	Site N
Address	936 Ridgebrook Road	ok Ro	ad	Addre
Address				Addre
City / Town	Sparks			City /
State/Province Postal Code MD 21152	Postal Code	MD	21152	State/
Report Country Baltimore County	Baltimore Cou	unty		Test (

Tested:		Contact Information:	ation:
Name	KCI OFFICE	Contact	Tehsin Aurangabadwala
ress	936 Ridgebrook Road	Telephone	410-891-1726
ress			
/ Town	Sparks	Technician	
e/Province I	e/Province Postal Code MD 21152	Cert. Number	
t Country	t Country Montgomery County	Signature	
ect Number 12146341	12146341		

Email Address tehsin@kci.com	ss tehsin(	@kci.com			Project Number 12146341						
Lab Use	Device	Building	Unit	Floor	Name of Room	Start Date	Start Time	Stop Date	Stop Time	Lab Use	

Lab Use Only						
Stop Time	9:30 am					
Stop Date mm/dd/yyyy	03/03/2016					
Start Time	9:30 am					
Start Date	02/29/2016					
Name of Room	OFFICE (TEMP - 70F)					
Floor	1					
Unit Number	0					
Building Number						
Device Number	3028828					
Lab Use Only						

1 of 2



NRPP 10511AL NRSB ARL0007 EPA Method #402-R-92-004 Charcoal Canister NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested:

KCI Technologies

**MCPS** 

936 Ridgebrook Rd

Transit Blanks

Sparks MD 21152

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

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

Distributed by: KCI Technologies, Inc.

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

> Report Reviewed By: Cristo Sates Report Approved By: Buly D. Kole Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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

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explain if NO Do not use this form in explain if NO Were general operating New Jersey or Florida conditions maintained? conditions maintained? Yes - No Call for correct forms. Were closed building Multi-Page Report Y-N 0 LAB USE ONLY 1/27/2016 3010588 3028953 ACPC275B EXP12/31/2018 Certilled I coror # # Discrepancies will invalidate tests Normal Temp. Wgt. Gain Yes - No Yes - No Instructions on back of form Read instructions carefully Teros Include AM/PM Stop Time 9130am Both Placed by and Retrieved by signatures are required KCI Technologies, Inc. Date Stop Date 1/22/1 gran. a. Accustar Labs
929 Mt. Zion Rd., Lebanon, PA 17046 RECEIVED JAN 2NFORMATION FORM - Large Buildings Include AM/PM Start Time Canisters retrieved by Owner waives confidentiality ams Email: County Canisters placed by AccuStar Labs - Lebanon, PA Projects - Apartments by signing here Zip Start Date 19/10 91110 1/6/ Attention: Fax: O て Floor State: Zip Structure Type: (circle one or more) Basement - Crawlspace - Slab on Grade - Other Phone: ROOM NAME & NUMBER - LOCATION OF DETECTOR IN - Public School 3010590 Other 3010589 3010588 3010591 State ROOM (indicate duplicates and blanks) Follow Up Test Private Day Care - Private School 1 ransat Residential - Non Residential Day Care in Public School Name of Building/Project or Owner Initial Screening Post Mitigation Trans, t Tack raks, 1 ransit Return canisters for analysis to: Transi rans, 1 Projects Contact Name: 49.3 Company Name: Mc 936 Detector Serial# 410-5 Site Address: **Building Type:** (Circle all that apply) Test Site Info 8955 Test Purpose: 4568 3028953 800-523-4964 200 Send Results To: (Circle One) Address: Phone: City: City:

9

3 6

# 9

If a recalculation is requested there is a \$10.00 recalc fee PER Canister. Make sure information is complete and correct.

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

Cor

i.

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4 ouls dale

ame

EMAIL Results to:

NEHA 10511AL NRSB ARL 0007

Revision 5 4/2015

Rainy Y-N

Yes - No

Normal Humidity Windy Y-N

# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologie	es Inc.	Job Number 173618	
NOMINAL Conditions: Radon Conc 45.3			
Date Start: 123/16 Date Stop: 1/25/16	Date Start:	Date Stop:	
Time Start: 🔿 😪 / Time Stop: 🔿 😤 /	Time Start:	Time Stop:	
Device No.'s: (6) Char. Cans.	Device No.'s:_		
302,8985 thnu 302,8990			
E2 LOFT			
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 =  $7 \mu R/h$  Elevation = 820 ft



NRPP 10511AL NRSB ARL0007 EPA Method #402-R-92-004 Charcoal Canister NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested:

KCI Technologies 936 Ridgebrook Rd Sparks MD 21152 **MCPS** 

Radon Spike Sample Laboratory Results

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3010551	3028985	01/23/2016 8:20 am	01/25/2016 8:20 am	1 First Floor	24.2
3010552	3028986	01/23/2016 8:20 am	01/25/2016 8:20 am	2 First Floor	25.7
3010553	3028987	01/23/2016 8:20 am	01/25/2016 8:20 am	3 First Floor	23.8
3010554	3028988	01/23/2016 8:20 am	01/25/2016 8:20 am	4 First Floor	23.3
3010555	3028989	01/23/2016 8:20 am	01/25/2016 8:20 am	5 First Floor	24.0
3010556	3028990	01/23/2016 8:20 am	01/25/2016 8:20 am	6 First Floor	24.4

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

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

Distributed by: KCI Technologies, Inc.

Report Reviewed By: Criste Sates Report Approved By: Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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

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

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

RECEIVED JAN 27 2016

Name of Building/Project or Owner MCPS Hungerlerd Site Address: 350

Test Site Info

なな Rockville City:

Mouls dalp Projects Contact Name: James

County Monropemery 20880 410-891-1842 Zip Phone: State MD

Do not use this form in New Jersey or Florida Call for correct forms. Multi-Page Report Y-N DCI/L LAB USE ONLY Wgt. Gain Email: James, montsdale Okci, can Stop Time Include AM/PM 08:20

Certified Testers Provide # Both Placed by and Retrieved by signatures/are required Stop Date 1/52/16 Start Time Include AM/PM 08:20 Canisters placed by\_ Start Date 1/23/16 Floor Structure Type: (circle one or more) Basement - Crawlspace - Slab on Grade - Other ROOM NAME & NUMBER - LOCATION OF DETECTOR IN 3010553 3010552 3010556 3010554 3010555 3010551 ROOM (indicate duplicates and blanks) Follow Up Test Initial Screening 2 N 3 5 Detector Serial# Test Purpose: 8990 6868208 3028988 302 3987 3028985 3028986 1302

Send Results To:

ナック Technologies Company Name: Address:

Attention: James

Zin

State:

Fax:

Q

291-1842 Park 1221 Phone: City:

EMAIL Results to: UMES Moulsdale @ LC. COM Make sure information is complete and correct.

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

800-523-4964 fax 717-2 NEHA 10511AL NRSB ARL 0007 Jonest Shipping: 929 Mt Zion Road, Lel Mailing: PO Box 990

3010551 3028985 ACPC275B EXP12/31/2018

KCI Technologies, Inc.

Rainy Y-N explain if NO Yes-No Yes No Windy YeN Normal Temp. ormal Humidity I'Yes - No

1/27/2016

Yes- No explain if NO

conditions maintained?

Were closed building

conditions maintained?

Were general operating

Date

#

#

22

Canisters retrieved by Owner waives confidentiality

by signing here

-(Public School

Private Day Care - Private School Residential - Non Residential

Day Care in Public School

Other

Real Estate -

Post Mitigation

Building Type: (Circle all that apply)

Circle One)

Revision 5 4/2015



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

### MCPS RADON TESTING

Executive Summary: Montgomery Village Middle School

Date of Test Report:	1/29/2016
Round of Testing:	Initial
	Follow-up
	Post Remediation
# Rooms Tested:	95
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.2

### Project Status:

Initial testing completed; missing or compromised samples need re-test.

### ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

January 29, 2016

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

Re: Radon Testing Services

KCI Job # 12146341.22

Location: Montgomery Village Middle School

19300 Watkins Mill Road

Montgomery Village, MD 20886

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 Montgomery Village Middle School, located at 19300 Watkins Mill Road in Montgomery Village, Maryland 20886 (subject site).

#### **Scope of Services:**

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

KCI visited the site on January 4, 2016 and deployed one hundred eight (108) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on January 7, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a

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

### **Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}$  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

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

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

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

Sincerely,

James M. Moulsdale

Radon Measurement Specialist

KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations

B- Table 1-Radon Test Summary Spreadsheet

C- Laboratory Analytical Results

# ATTACHMENT A

# Floor Plan With Test Locations

## ATTACHMENT B

## Radon Test Summary Spreadsheet

### **Table Notes:**

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

**OB- Office Blank** 

PM- Project Manager

QC- Quality Control

Radon Testing Results Montgomery Village MS						
	Test Period: 01/04/16-01/07/16					
Kit Number Room / Area Result						
7708689	10	0.7				
7708686	13	0.7				
7707692	15	1				
7707696	17	1.1				
7707693	22	0.6				
7707700	24	1				
7711503	29	< 0.3				
7714982	31	0.9				
7707506	34	1				
7707699	35	0.7				
7708697	36	1				
7711496	37	1.4				
7711491	38	1.9				
7711495	40	0.8				
7711380	42	1.1				
7707697	43	0.8				
7711381	45	0.8				
7711494	46	1				
7711490	47	1				
7711492	48	< 0.3				
7711473	100	1.2				
7711462	102	1.2				
7711493	104	1.1				
7711378	108	2				
7711376	110	1.7				
7711382	112	1.7				
7711385	114	1.9				
7711390	120	2				
7711397	128	0.7				
7711396	130	0.5				
7711392	134	0.8				
7711383	137	1.7				
7711399	139	1.7				
7708115	140	1.3				
7711384	141	1.3				
7711459	141	1.6				
7711446	144	1.3				
7707691	145	0.9				
7708122	146	1.3				
7711464	147	1				
7711465	149	1.3				
7711460	153	< 0.3				
7711457	157	0.9				
7711470	158	< 0.3				
7711451	159	1.2				
7711478	160	0.8				

Table Note:
\* Missing or Compromised Sample

	Radon Testing Results				
	Montgomery Village MS				
	Test Period: 01/04/16-01/07/16				
Kit Number	Room / Area	Result			
7711450	162	< 0.3			
7711479	163	0.6			
7711449	164	0.9			
7711448	166	1			
7711394	167	1.2			
7711453	168	< 0.3			
7711436	170	0.7			
7711447	173	0.6			
7708109	174	0.8			
7708110	178	< 0.3			
7708117	179	0.7			
7708113	180	0.6			
7711431	181	0.5			
7708118	182	< 0.3			
7711393	186	0.8			
7712699	189	0.6			
7711445	190	< 0.3			
7711398	191	0.6			
7708103	192	< 0.3			
7711395	193	0.8			
7711467	100C	1.1			
7711468	100D	1.6			
7711471	100E	1.3			
7711483	100G	1			
7711466	100H	1.1			
7711474	100J	1.1			
7711481	100L	1.6			
7711482	100L	1.6			
7711480	100N	1.3			
7711476	100P	1.8			
7711461	102A	1.6			
7711485	104A	1.3			
7711486	104C	1.7			
7711500	104D	1.8			
7711489	104E	1.5			
7711488	104F	2.2			
7711386	130A	0.6			
7711391	* 134 (Missing)	0			
7711389	* 141 (Missing)	0			
7711498	141B	1.6			
7711484	141C	1.7			
7711452	153B	0.9			
7711456	153C	0.5			
7711455	156A	< 0.3			
7711454	158LAB	0.6			
7711435	* 184 (Missing)	0			
7707698	AUX GYM	0.7			
7711458	CAFE	1			
7711475	CAFE	< 0.3			
7771770		. 0.0			

Table Note:
\* Missing or Compromised Sample

Radon Testing Results  Montgomery Village MS  Test Period: 01/04/16-01/07/16					
16311 61104. 0 1/04/10-0 1/07/10					
Kit Number	QC Type	Result			
7706214	D (10)	1			
7711377	D (108)	1.5			
7711388	* D (130:Missing)	0			
7711463	D (147)	1.5			
7711469	D (157)	0.9			
7711477	D (162)	0.6			
7708114	D (179)	< 0.3			
7707694	D (35)	0.6			
7711472	FB (100)	< 0.3			
7711401	FB (104A)	< 0.3			
7707695	FB (22)	< 0.3			
7714429	OB (0)	< 0.3			
7714430	OB (0)	< 0.3			

## ATTACHMENT C

## Laboratory Analytical Results

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
7714429	0	2016-01-04 @ 4:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-11
7714430	0	2016-01-04 @ 4:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-11
7706214	10	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$1.0 \pm 0.3$	2016-01-12
7708689	10	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$0.7 \pm 0.3$	2016-01-12
7711472	100	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7711473	100	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.2 \pm 0.3$	2016-01-12
7711467	100C	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.1 \pm 0.3$	2016-01-11
7711468	100D	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.4$	2016-01-12
7711471	100E	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.3 \pm 0.3$	2016-01-12
7711483	100G	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.0 \pm 0.3$	2016-01-12
7711466	100H	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.1 \pm 0.4$	2016-01-12
7711474	100J	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.1 \pm 0.4$	2016-01-12
7711482	100L	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.3$	2016-01-11
7711481	100L	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.4$	2016-01-12
7711480	100N	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.3 \pm 0.3$	2016-01-11
7711476	100P	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.8 \pm 0.4$	2016-01-11
7711462	102	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.2 \pm 0.3$	2016-01-11
7711461	102A	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.4$	2016-01-12
7711493	104	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.1 \pm 0.4$	2016-01-12
7711401	104A	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7711485	104A	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	$1.3 \pm 0.3$	2016-01-11
7711486	104C	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-12
7711500	104D	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.8 \pm 0.4$	2016-01-12
7711489	104E	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.5 \pm 0.4$	2016-01-11
7711488	104F	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$2.2 \pm 0.4$	2016-01-11
7711377	108	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.5 \pm 0.4$	2016-01-12
7711378	108	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$2.0 \pm 0.4$	2016-01-12
7711387	110	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.3$	2016-01-11
7711382	112	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-11
7711385	114	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.9 \pm 0.4$	2016-01-11
7711390	120	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$2.0 \pm 0.4$	2016-01-11
7711397	128	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.7 \pm 0.3$	2016-01-11
7708686	13	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$0.8 \pm 0.3$	2016-01-12
7711388	130	@	@		
7711396	130	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.5 \pm 0.3$	2016-01-12
7711386	130A	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-11
7711391	134	@	@		

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
7711392	134	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11
7711383	137	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-11
7711399	139	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-11
7708115	140	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.3 \pm 0.3$	2016-01-11
7711389	141	@	@		
7711459	141	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.4$	2016-01-11
7711384	141	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.3 \pm 0.3$	2016-01-11
7711498	141B	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.6 \pm 0.4$	2016-01-11
7711484	141C	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-12
7711446	144	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.3 \pm 0.3$	2016-01-11
7707691	145	2016-01-04 @ 3:00 pm	2016-01-07 @ 10:00 am	$0.9 \pm 0.3$	2016-01-11
7708122	146	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.3 \pm 0.4$	2016-01-12
7711464	147	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.0 \pm 0.3$	2016-01-11
7711463	147	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.5 \pm 0.4$	2016-01-12
7711465	149	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.3 \pm 0.3$	2016-01-11
7707692	15	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-12
7711460	153	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7711452	153B	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.9 \pm 0.4$	2016-01-12
7711456	153C	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.5 \pm 0.3$	2016-01-11
7711455	156A	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7711469	157	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.9 \pm 0.3$	2016-01-11
7711457	157	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.9 \pm 0.3$	2016-01-12
7711470	158	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7711454	158LAB	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.6 \pm 0.3$	2016-01-11
7711451	159	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.2 \pm 0.4$	2016-01-12
7711478	160	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-12
7711477	162	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.6 \pm 0.3$	2016-01-11
7711450	162	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7711479	163	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.6 \pm 0.3$	2016-01-12
7711449	164	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.9 \pm 0.3$	2016-01-12
7711448	166	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7711394	167	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.2 \pm 0.3$	2016-01-11
7711453	168	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7707696	17	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$1.1 \pm 0.3$	2016-01-12
7711436	170	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.7 \pm 0.3$	2016-01-12
7711447	173	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-12
7708109	174	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11

January LABORATORY ANALYSIS 25, REPORT \*\*

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
7708110	178	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7708114	179	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7708117	179	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.7 \pm 0.3$	2016-01-11
7708113	180	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-12
7711431	181	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.5 \pm 0.3$	2016-01-11
7708118	182	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7711435	184	@	@		
7711393	186	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-12
7712699	189	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-11
7711445	190	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7711398	191	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-12
7708103	192	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7711395	193	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11
7707693	22	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$0.6 \pm 0.3$	2016-01-12
7707695	22	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7707700	24	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$1.0 \pm 0.3$	2016-01-11
7711503	29	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714982	31	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$0.9 \pm 0.3$	2016-01-11
7707506	34	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7707694	35	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-11
7707699	35	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$0.7 \pm 0.3$	2016-01-11
7708697	36	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7711496	37	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.4 \pm 0.4$	2016-01-11
7711491	38	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.9 \pm 0.4$	2016-01-11
7711495	40	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-12
7711380	42	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.1 \pm 0.3$	2016-01-11
7707697	43	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11
7711381	45	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11
7711494	46	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7711490	47	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7711492	48	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7707698	AUX GYM	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$0.7 \pm 0.3$	2016-01-11
7711475	CAFE	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7711458	CAFE	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.0 \pm 0.3$	2016-01-12

January LABORATORY ANALYSIS 15, REPORT \*\*

Radon test result report for: MCPS PHASE 3 & 4 TRANSIT BLANKS

7708200 TRANSIT 1 2015-12 7708190 TRANSIT 10 2015-12 7708189 TRANSIT 11 2015-12 7708181 TRANSIT 12 2015-12 7708188 TRANSIT 13 2015-12 7708186 TRANSIT 14 2015-12 7708186 TRANSIT 15 2015-12 7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708180 TRANSIT 2 2015-12 7708181 TRANSIT 20 2015-12 7708183 TRANSIT 21 2015-12 7708184 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708176 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708177 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708175 TRANSIT 29 2015-12 7708175 TRANSIT 29 2015-12 7708176 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708178 TRANSIT 29 2015-12 7708179 TRANSIT 29 2015-12 7708170 TRANSIT 29 2015-12 7708171 TRANSIT 29 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm	Ended  2015-12-21 @ 12:00 pm  2015-12-21 @ 12:00 pm	< 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3	Analyzed 2015-12-23 2015-12-23 2015-12-23 2015-12-23 2015-12-23 2015-12-23 2015-12-23
7708200 TRANSIT 1 2015-12 7708190 TRANSIT 10 2015-12 7708189 TRANSIT 11 2015-12 7708191 TRANSIT 12 2015-12 7708181 TRANSIT 13 2015-12 7708188 TRANSIT 14 2015-12 7708186 TRANSIT 15 2015-12 7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708180 TRANSIT 2 2015-12 7708181 TRANSIT 20 2015-12 7708183 TRANSIT 21 2015-12 7708184 TRANSIT 22 2015-12 7708175 TRANSIT 24 2015-12 7708176 TRANSIT 25 2015-12 7708177 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708175 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708176 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708178 TRANSIT 29 2015-12 7708179 TRANSIT 27 2015-12 7708170 TRANSIT 28 2015-12 7708171 TRANSIT 29 2015-12 7708172 TRANSIT 30 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm	< 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3	2015-12-23 2015-12-23 2015-12-23 2015-12-23 2015-12-23 2015-12-23
7708190 TRANSIT 10 2015-12 7708189 TRANSIT 11 2015-12 7708191 TRANSIT 12 2015-12 7708188 TRANSIT 13 2015-12 7708197 TRANSIT 14 2015-12 7708186 TRANSIT 15 2015-12 7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708180 TRANSIT 20 2015-12 7708183 TRANSIT 21 2015-12 7708179 TRANSIT 22 2015-12 7708179 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708170 TRANSIT 25 2015-12 7708171 TRANSIT 26 2015-12 7708172 TRANSIT 27 2015-12 7708173 TRANSIT 27 2015-12 7708174 TRANSIT 27 2015-12 7708175 TRANSIT 29 2015-12 7708176 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708178 TRANSIT 29 2015-12 7708179 TRANSIT 29 2015-12 7708170 TRANSIT 29 2015-12 7708171 TRANSIT 29 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm	< 0.3 < 0.3 < 0.3 < 0.3 < 0.3	2015-12-23 2015-12-23 2015-12-23 2015-12-23 2015-12-23
7708189 TRANSIT 11 2015-12 7708191 TRANSIT 12 2015-12 7708188 TRANSIT 13 2015-12 7708197 TRANSIT 14 2015-12 7708186 TRANSIT 15 2015-12 7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708180 TRANSIT 20 2015-12 7708183 TRANSIT 21 2015-12 7708178 TRANSIT 22 2015-12 7708179 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708170 TRANSIT 25 2015-12 7708171 TRANSIT 26 2015-12 7708172 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708174 TRANSIT 29 2015-12 7708175 TRANSIT 29 2015-12 7708176 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708178 TRANSIT 29 2015-12 7708179 TRANSIT 27 2015-12 7708170 TRANSIT 28 2015-12 7708171 TRANSIT 29 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm	< 0.3 < 0.3 < 0.3 < 0.3 < 0.3	2015-12-23 2015-12-23 2015-12-23 2015-12-23
7708191 TRANSIT 12 2015-12 7708188 TRANSIT 13 2015-12 7708197 TRANSIT 14 2015-12 7708186 TRANSIT 15 2015-12 7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708180 TRANSIT 20 2015-12 7708183 TRANSIT 21 2015-12 7708178 TRANSIT 22 2015-12 7708179 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708170 TRANSIT 25 2015-12 7708171 TRANSIT 25 2015-12 7708172 TRANSIT 26 2015-12 7708173 TRANSIT 27 2015-12 7708174 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708176 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708178 TRANSIT 29 2015-12 7708179 TRANSIT 29 2015-12 7708170 TRANSIT 29 2015-12 7708171 TRANSIT 29 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm 2-18 @ 12:00 pm 2-18 @ 12:00 pm 2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm	< 0.3 < 0.3 < 0.3	2015-12-23 2015-12-23
7708188 TRANSIT 13 2015-12 7708197 TRANSIT 14 2015-12 7708186 TRANSIT 15 2015-12 7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708180 TRANSIT 20 2015-12 7708183 TRANSIT 21 2015-12 7708178 TRANSIT 22 2015-12 7708179 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708170 TRANSIT 25 2015-12 7708171 TRANSIT 26 2015-12 7708172 TRANSIT 27 2015-12 7708173 TRANSIT 27 2015-12 7708174 TRANSIT 27 2015-12 7708175 TRANSIT 29 2015-12 7708176 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708178 TRANSIT 29 2015-12 7708179 TRANSIT 30 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm 2-18 @ 12:00 pm 2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm	< 0.3 < 0.3 < 0.3	2015-12-23
7708186 TRANSIT 15 2015-12 7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708181 TRANSIT 20 2015-12 7708180 TRANSIT 21 2015-12 7708183 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708177 TRANSIT 27 2015-12 7708178 TRANSIT 27 2015-12 7708179 TRANSIT 27 2015-12 7708170 TRANSIT 27 2015-12 7708171 TRANSIT 28 2015-12 7708172 TRANSIT 29 2015-12 7708173 TRANSIT 29 2015-12 7708174 TRANSIT 29 2015-12 7708175 TRANSIT 30 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm	< 0.3	
7708186 TRANSIT 15 2015-12 7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708181 TRANSIT 20 2015-12 7708180 TRANSIT 21 2015-12 7708183 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708177 TRANSIT 27 2015-12 7708178 TRANSIT 27 2015-12 7708179 TRANSIT 27 2015-12 7708170 TRANSIT 27 2015-12 7708171 TRANSIT 28 2015-12 7708172 TRANSIT 29 2015-12 7708173 TRANSIT 29 2015-12 7708174 TRANSIT 29 2015-12 7708175 TRANSIT 30 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm		2015 12 22
7708185 TRANSIT 16 2015-12 7708184 TRANSIT 17 2015-12 7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708180 TRANSIT 20 2015-12 7708183 TRANSIT 21 2015-12 7708178 TRANSIT 22 2015-12 7708179 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708170 TRANSIT 25 2015-12 7708171 TRANSIT 26 2015-12 7708172 TRANSIT 27 2015-12 7708173 TRANSIT 27 2015-12 7708174 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708176 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708178 TRANSIT 29 2015-12 7708179 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	ZU13-1Z-Z3
7708182 TRANSIT 18 2015-12 7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708181 TRANSIT 20 2015-12 7708180 TRANSIT 21 2015-12 7708183 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708175 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 3 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm		2015-12-23
7708187 TRANSIT 18 2015-12 7708199 TRANSIT 2 2015-12 7708181 TRANSIT 20 2015-12 7708180 TRANSIT 21 2015-12 7708183 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708174 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708175 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12			< 0.3	2015-12-23
7708199 TRANSIT 2 2015-12 7708181 TRANSIT 20 2015-12 7708180 TRANSIT 21 2015-12 7708183 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 3 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708181 TRANSIT 20 2015-12 7708180 TRANSIT 21 2015-12 7708183 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708176 TRANSIT 29 2015-12 7708177 TRANSIT 29 2015-12 7708178 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708180 TRANSIT 21 2015-12 7708183 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708183 TRANSIT 22 2015-12 7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708178 TRANSIT 23 2015-12 7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708179 TRANSIT 24 2015-12 7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708177 TRANSIT 25 2015-12 7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708176 TRANSIT 26 2015-12 7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708174 TRANSIT 27 2015-12 7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708173 TRANSIT 28 2015-12 7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708175 TRANSIT 29 2015-12 7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708198 TRANSIT 3 2015-12 7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708172 TRANSIT 30 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
	, 10 € 12.00 hiii	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708194 TRANSIT 5 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708196 TRANSIT 6 2015-12	-		< 0.3	2015-12-23
7708193 TRANSIT 7 2015-12	2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm	< 0.3	2015-12-23
7708192 TRANSIT 8 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm	2015-12-21 @ 12:00 pm 2015-12-21 @ 12:00 pm		2015-12-23
7708195 TRANSIT 9 2015-12	2-18 @ 12:00 pm 2-18 @ 12:00 pm 2-18 @ 12:00 pm	•	< 0.3	

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

# December LABORATORY ANALYSIS 23, 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

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

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

### **EXPOSURE IN BOWSER-MORNER RADON CHAMBER**

CLIENT KCI Technologies.	Inc. Job Number 173224
	pCi/L Rel. Hum <u>49.6</u> % Temp. <u>69.9</u>
Date Start: 12/18/15 Date Stop: 12/21/5	Date Start: Date Stop:
Time Start: <u>0929</u> Time Stop: <u>0929</u>	Time Start: Time Stop:
Device No.'s: 7705132,7766208	Device No.'s:
7706211,7706366,	
7706380, 7706381	
F3 Loft	
Date Start: Date Stop:	Date Start: Date Stop:
Time Start: Time Stop:	Time Start: Time Stop:
Device No.'s:	Device No.'s:
	-
1	
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 =  $7 \mu R/h$  Elevation = 820 ft



### 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 IV

#### Name of Schools:

1.	Albert Einstein HS	12. Herbert Hoover MS	23. Stephen Knolls School
2.	Bel Pre ES	13. Kohn F. Kennedy HS	24. Strathmore ES
3.	Benjamin Banneker MS	14. Julius West MS	25. Summit Hall ES
4.	Bethesda Chevy Chase HS	15. Kensington Parkwood ES	26. Travilah ES
5.	Beverly Farms ES	16. Lakewood ES	27. Twinbrook ES
6.	Cabin John MS	17. Mill Creek ES	28. Waters Landing ES
7.	Chevy Chase ES	18. Montgomery Blair HS	29. Watkins Mill HAS
8.	Farmland ES	19. Montgomery Village MS	30. Weller Road ES
9.	Forest Oak MS	20. Northwood HS	31. White Oak MS
10	. Gaithersburg HS	21. Paint Branch ES	32. Winston Churchill HS
11	. Garrett Park ES	22. Rock Creek Forest ES	

	Date	Initials
Radon Test Kits Deployed	1/4/16	JM
Radon Test Kits Sampled	1/7/16	JM
Radon Test Kits Shipped to Lab*	1/8/16	JM
Radon Test Kits Received by Lab*	1/11/16	JM

<sup>\*</sup>All samples sent to Air Check, Inc., 1936 Butler Bridge Road, Mills River, NC 28758

Note: tests kits deployed at Montgomery Blair HS 1/4/16 and 1/5/16, test kits sampled at Montgomery Blair HS 1/7/16 and 1/8/16



# MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

# **Executive Summary: Montgomery Village Middle School**

19300 Watkins Mill Road, Montgomery Village, MD 20886

Date of Test Report:	3/15/2019
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:	4
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.4
High Value:	1.3

**Project Status** 

**Retesting completed:** No further action at this time.



March 15, 2019

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

Re: Radon Testing Services

Location: Montgomery Village Middle School

19300 Watkins Mill Road,

Montgomery Village, MD 20886

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 Montgomery Village Middle School, located at 19300 Watkins Mill Road, Montgomery Village, MD 20886 (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 <a href="https://www.montgomerycountymd.gov/dep/air/radon">www.montgomerycountymd.gov/dep/air/radon</a> or <a href="https://www.montgomerycountymd.gov/dep/air/radon">www.montgomerycoun

PSI visited the site on February 25, 2019 and deployed four (4) activated charcoal (AC) radon test kit. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on February 28, 2019 to retrieve the radon sampling test kit. A floor plan map of the building with the test location is included as Attachment A of this report.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007).

#### **Evaluation of Testing Conditions:**

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

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



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

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

#### **Results:**

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	None	NA
≤ 4.0 pCi/L	See Attack	nment 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

Non-April Fourth

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					
	Montgomery Village Middle Sch	ool			
	Testing period: 2/25/19 - 2/28/	19			
Kit Number	Room / Area	Result (pCi/L)			
3923437	147	1.0			
3923448	149	1.3			
3923443	Aux Gym	0.4			
3923468	Conference Room 029	0.5			

### 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

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

Laboratory Report for: Property Tested: Project # 04481387-1

Intertek-PSI (VA) MCPS Radon Survey Montgomery Village MS 2930 Eskridge Road 651 Saybrooke Oaks Blvd. Fairfax VA 22031 Gaithersburg MD 20877

Log Number	Device Number		Test Expo	sure Duratio	on:	Area Tested	Result pCi/L
3220643	3923437	02/25/2019	10:30 am	02/28/2019	9:20 am	Floor Main Room 147	1.0
3220644	3923448	02/25/2019	10:32 am	02/28/2019	9:21 am	Floor Main Room 149	1.3
3220645	3923443	02/25/2019	10:33 am	02/28/2019	9:22 am	Floor Main Room Aux Gym	0.4
3220646	3923468	02/25/2019	10:42 am	02/28/2019	9:23 am	Floor Main Conference Room (029)	0.5

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

Distributed by: Intertek-PSI (VA)

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

Report Reviewed By: \_

Disclaimer:

Report Approved By:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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

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



# MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

# **Executive Summary: Montgomery Village Middle School**

19300 Watkins Mill Road, Montgomery Village, MD 20886

Date of Test Report:	02/21/2019
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:	96
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	2.8

#### **Project Status**

**Initial testing complete:** Missing or compromised samples need re-test.



February 21, 2019

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

Re: Radon Testing Services

Location: Montgomery Village Middle School

19300 Watkins Mill Road,

Montgomery Village, MD 20886

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 Montgomery Village Middle School, located at 19300 Watkins Mill Road, Montgomery Village, MD 20886 (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 <a href="https://www.montgomerycountymd.gov/dep/air/radon">www.montgomerycountymd.gov/dep/air/radon</a> or <a href="https://www.epa.gov/radon">www.epa.gov/radon</a>.

PSI visited the site on December 4, 2018 and deployed one hundred and seventeen (117) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on December 7, 2018 to retrieve the radon sampling test kits. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, PSI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, PSI submitted ten (10) test kits to Bowser-Morner Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner Inc. prior to being returned to the laboratory for analysis.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007) and 2 Saber Way, Haverhill, Massachusetts (certification # ARL0017).



#### **Evaluation of Testing Conditions:**

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

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

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

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

#### **Results:**

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	None	NA
≤ 4.0 pCi/L	See Attack	nment 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

Non-April Coulin

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					
	ontgomery Village Middle Sch					
Testing period: 12/4/18 - 12/7/18						
Kit Number	Room / Area	Result (pCi/L)				
3926430	10 (MISSING)					
3917886	13	0.6				
3917885	15	1.0				
3926429	17	0.6				
3917887	18	<0.4				
3926240	20	<0.4				
3926423	22	0.5				
3926422	24	1.1				
	29 (MISSING)					
3926233	31	0.4				
3926237	34	1.2				
3926231	35	0.9				
3926232	36	1.6				
3926425	37	1.3				
3926424	38	2.1				
3926421	39	0.8				
3926239	40	0.7				
3926236	42	0.7				
3926235	43	1.1				
3926234	45	1.2				
3917889	46	0.7				
3926238	47	<0.4				
3926428	48	<0.4				
3926225	100	1.2				
3926212	100C	0.6				
3926213	100D	2.2				
3926230	100E	1.2				
3926214	100F	1.4				
3926215	100G	0.9				
3926216	100H	1.1				
3926229	100J	1.1				
3926219	100L	0.8				
3926272	100N	0.4				
3926217	100P	0.6				
3926218	102	0.7				
3926276	102A	0.7				
3926226	102D	1.1				
3926221	104	<0.4				
3926274	104	1.2				
3926222	104A	1.0				
3926271	104C	0.9				
3926275	104D	0.9				
3926277	104E	1.1				
3926274 3926222 3926271 3926275	104 104A 104C 104D	1.2 1.0 0.9 0.9				

	Radon Testing Results						
	Montgomery Village Middle Scho						
	Testing period: 12/4/18 - 12/7/18						
Kit Number	Room / Area	Result (pCi/L)					
3926278	104F	0.9					
3926273	110	0.7					
3926279	112	1.3					
3927091	114	1.3					
3927092	116	1.6					
3927099	120	1.0					
3926431	128	0.9					
3926432	130	0.7					
3926433	132B	0.7					
3926438	132C	0.6					
3926417	132D	0.5					
3926418	132E	0.4					
3926436	134	1.3					
3926435	134	<0.4					
3927093	137	1.6					
3927096	139	1.6					
3926419	140	0.5					
3927094	141	1.4					
3926227	141	1.7					
3926228	141	2.0					
3926224	141B	2.8					
3926223	141C	2.0					
3926414	142	<0.4					
3926250	143	1.7					
3926241	144	2.2					
3926248	145	0.8					
3926247	146	2.1					
	147 (INACCESSIBLE)						
	149 (INACCESSIBLE)						
3927100	151	0.9					
3926243	152G	0.8					
3926249	153	1.4					
3926254	156A	0.7					
3926253	157	1.1					
3926260	158	0.6					
3926257	158A	1.3					
3926258	159	1.7					
3926255	160	0.9					
3926251	162	0.7					
3926259	163	1.8					
3927097	164	1.1					
3927095	166	1.3					
3926333	167	2.1					

Radon Testing Results							
Montgomery Village Middle School							
Т	Testing period: 12/4/18 - 12/7/18						
Kit Number	Room / Area	Result (pCi/L)					
3926336	168	0.6					
3926331	170	<0.4					
3926332	173	1.7					
3926420	174	0.5					
3926440	178	1.3					
3926411	179	0.7					
3926415	180	0.6					
3926413	181	0.7					
3926412	182	0.5					
3926439	184	0.6					
3926334	186	<0.4					
3926339	189	0.5					
3926337	190	0.6					
3926340	191	1.5					
3926338	192	0.4					
3926335	193	0.4					
	Aux Gym (MISSED)						
3926256	Cafeteria	0.6					
3926242	Cafeteria	0.9					
3926246	Kitchen	0.6					

	Radon Testing Results					
Montgomery Village Middle School						
7	Testing period: 12/4/18 - 12/7,	/18				
Kit Number	QC Type	Result (pCi/L)				
3917888	10 (D)	0.4				
3917890	48 (D)	<0.4				
3926211	100 (D)	1.1				
3926220	100N (D)	0.7				
3926280	112 (D)	0.9				
3926434	132B (D)	<0.4				
3927098	139 (D)	<0.4				
3926252	162 (D)	1.2				
3926437	174 (D)	<0.4				
3926416	180 (D)	0.7				
3922989	Field Blank	0.5				
3922987	Field Blank	<0.4				
3922990	Field Blank	<0.4				
3922988	Office Blank	<0.4				
3922986	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** 



NELAC NY 11769 NRPP 103216 AL NRSB ARL0017 EPA Method #402-R-92-004 Charcoal Canister NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey

Montgomery Village MS

Montgomery Village AA 20886

Log Number	Device Number		Test Expo	sure Duration:		Area Tested	Result pCi/L
2405145	3926274	12/04/2018	9:29 am	12/07/2018 6:2	20 am	Not Indicated	1.2
2405146	3926417	12/04/2018	10:06 am	12/07/2018 6:4	40 am	Not Indicated	0.5
2405147	3926272	12/04/2018	9:22 am	12/07/2018 6:1	16 am	Not Indicated	0.4
2405148	3926225	12/04/2018	9:15 am	12/07/2018 6:0	09 am	First Floor Room 100	1.2
2405149	3926211	12/04/2018	9:15 am	12/07/2018 6:0	09 am	First Floor Room 100	1.1
2405150	3926212	12/04/2018	9:16 am	12/07/2018 6:1	10 am	First Floor Room 100C	0.6
2405151	3926213	12/04/2018	9:16 am	12/07/2018 6:1	10 am	First Floor Room 100D	2.2
2405152	3926230	12/04/2018	9:17 am	12/07/2018 6:1	11 am	First Floor Room 100E	1.2
2405153	3926214	12/04/2018	9:17 am	12/07/2018 6:1	11 am	First Floor Room 100F	1.4
2405154	3926215	12/04/2018	9:18 am	12/07/2018 6:1	12 am	First Floor Room 100G	0.9
2405155	3926216	12/04/2018	9:18 am	12/07/2018 6:1	13 am	First Floor Room 100H	1.1

**Comment:** AMENDED REPORT for 3926274, 3926417 and 3926272 on 2/1/2019 to add dates and times. A copy of this report was emailed to Intertek-PSI (VA).

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Report Approved By:

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NELAC NY 11769 NRPP 103216 AL NRSB ARL0017 EPA Method #402-R-92-004 Charcoal Canister NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey

Montgomery Village MS

Montgomery Village AA 20886

Log Number	Device Number		Test Expo	sure Duratio	on:	Area Tested	Result pCi/L
2405156	3926229	12/04/2018	9:19 am	12/07/2018	6:13 am	First Floor Room 100J	1.1
2405157	3926219	12/04/2018	9:20 am	12/07/2018	6:14 am	First Floor Room 100L	0.8
2405158	3926220	12/04/2018	9:22 am	12/07/2018	6:16 am	First Floor Room 100N	0.7
2405159	3926217	12/04/2018	9:26 am	12/07/2018	6:17 am	First Floor Room 100P	0.6
2405160	3926218	12/04/2018	9:27 am	12/07/2018	6:17 am	First Floor Room 102	0.7
2405161	3926276	12/04/2018	9:27 am	12/07/2018	6:18 am	First Floor Room 102A	0.7
2405162	3926226	12/04/2018	9:28 am	12/07/2018	6:18 am	First Floor Room 102D	1.1
2405163	3926221	12/04/2018	9:29 am	12/07/2018	6:19 am	First Floor Room 104	< 0.4
2405164	3926222	12/04/2018	9:30 am	12/07/2018	6:20 am	First Floor Room 104A	1.0
2405165	3926271	12/04/2018	9:31 am	12/07/2018	6:21 am	First Floor Room 104C	0.9
2405166	3926275	12/04/2018	9:33 am	12/07/2018	12:00 am	First Floor Room 104D	0.9

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NELAC NY 11769 NRPP 103216 AL NRSB ARL0017 EPA Method #402-R-92-004 Charcoal Canister NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey
Montgomery Village MS

Montgomery Village AA 20886

- 3	Device Number	Test Exposure Duration	on:	Area Tested	Result pCi/L
2405167 39	926277 12/04/2018	9:34 am 12/07/2018	6:23 am	First Floor Room 104E	1.1
2405168 39	926278 12/04/2018	9:34 am 12/07/2018	6:24 am	First Floor Room 104F	0.9
2405169 39	926223 12/04/2018	9:35 am 12/07/2018	6:24 am	First Floor Room 141C	2.0
2405170 39	926224 12/04/2018	9:36 am 12/07/2018	6:25 am	First Floor Room 141B	2.8
2405171 39	926273 12/04/2018	9:38 am 12/07/2018	6:25 am	First Floor Room 110	0.7
2405172 39	926279 12/04/2018	9:41 am 12/07/2018	6:26 am	First Floor Room 112	1.3
2405173 39	926280 12/04/2018	9:41 am 12/07/2018	6:26 am	First Floor Room 112	0.9
2405174 39	927091 12/04/2018	9:42 am 12/07/2018	6:27 am	First Floor Room 114	1.3
2405175 39	927092 12/04/2018	9:43 am 12/07/2018	6:28 am	First Floor Room 116	1.6
2405176 39	926227 12/04/2018	9:44 am 12/07/2018	6:30 am	First Floor Room 141	1.7
2405177 39	926228 12/04/2018	9:45 am 12/07/2018	6:30 am	First Floor Room 141	2.0

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Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey

Montgomery Village MS

Montgomery Village AA 20886

Log Device Number Number	Test Exposure Duration:	Area Tested	Result pCi/L
2405178 3927093 12/04/2018	9:46 am 12/07/2018 6:31 am	First Floor Room 137	1.6
2405179 3927094 12/04/2018	3 9:47 am 12/07/2018 6:31 am	First Floor Room 141	1.4
2405180 3927096 12/04/2018	9:48 am 12/07/2018 6:32 am	First Floor Room 139	1.6
2405181 3927098 12/04/2018	9:48 am 12/07/2018 6:32 am	First Floor Room 139	< 0.4
2405182 3927099 12/04/2018	9:52 am 12/07/2018 6:33 am	First Floor Room 120	1.0
2405183 3926436 12/04/2018	9:55 am 12/07/2018 6:34 am	First Floor Room 134	1.3
2405184 3926435 12/04/2018	3 10:00 am 12/07/2018 6:35 am	First Floor Room 134	< 0.4
2405185 3926431 12/04/2018	3 10:01 am 12/07/2018 6:37 am	First Floor Room 128	0.9
2405186 3926432 12/04/2018	3 10:02 am 12/07/2018 6:38 am	First Floor Room 130	0.7
2405187 3926433 12/04/2018	3 10:03 am 12/07/2018 6:39 am	First Floor Room 132B	0.7
2405188 3926434 12/04/2018	3 10:04 am 12/07/2018 6:39 am	First Floor Room 132B	< 0.4

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Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey
Montgomery Village MS

Montgomery Village AA 20886

Log Number	Device Number		Test Expo	sure Duratio	n:	Area Tested	Result pCi/L
2405189	3926438	12/04/2018	10:05 am	12/07/2018	6:40 am	First Floor Room 132C	0.6
2405190	3926418	12/04/2018	10:07 am	12/07/2018	6:41 am	First Floor Room 132E	0.4
2405191	3926419	12/04/2018	10:08 am	12/07/2018	6:42 am	First Floor Room 140	0.5
2405192	3926420	12/04/2018	10:09 am	12/07/2018	6:42 am	First Floor Room 174	0.5
2405193	3926437	12/04/2018	10:10 am	12/07/2018	6:43 am	First Floor Room 174	< 0.4
2405194	3926414	12/04/2018	10:11 am	12/07/2018	6:44 am	First Floor Room 142	< 0.4
2405195	3926415	12/04/2018	10:12 am	12/07/2018	6:45 am	First Floor Room 180	0.6
2405196	3926416	12/04/2018	10:13 am	12/07/2018	6:45 am	First Floor Room 180	0.7
2405197	3926440	12/04/2018	10:13 am	12/07/2018	6:46 am	First Floor Room 178	1.3
2405198	3926411	12/04/2018	10:14 am	12/07/2018	6:47 am	First Floor Room 179	0.7
2405199	3926412	12/04/2018	10:15 am	12/07/2018	6:47 am	First Floor Room 182	0.5

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Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey

Montgomery Village MS

Montgomery Village AA 20886

- 3	Device Number		Test Expo	sure Duratio	n:	Area Tested	Result pCi/L
2405200 3	3926413 1	12/04/2018	10:15 am	12/07/2018	6:48 am	First Floor Room 181	0.7
2405201 3	3926439 1	12/04/2018	10:16 am	12/07/2018	6:48 am	First Floor Room 184	0.6
2405202 3	3926334 1	12/04/2018	10:16 am	12/07/2018	6:49 am	First Floor Room 186	< 0.4
2405203	3926339 1	12/04/2018	10:17 am	12/07/2018	6:50 am	First Floor Room 189	0.5
2405204 3	3926340 1	12/04/2018	10:17 am	12/07/2018	6:50 am	First Floor Room 191	1.5
2405205 3	3926337 1	12/04/2018	10:18 am	12/07/2018	6:51 am	First Floor Room 190	0.6
2405206 3	3926338 1	12/04/2018	10:18 am	12/07/2018	6:52 am	First Floor Room 192	0.4
2405207 3	3926335 1	12/04/2018	10:19 am	12/07/2018	6:53 am	First Floor Room 193	0.4
2405208 3	3926331 1	12/04/2018	10:20 am	12/07/2018	6:54 am	First Floor Room 170	< 0.4
2405209 3	3926336 1	12/04/2018	10:20 am	12/07/2018	6:54 am	First Floor Room 168	0.6
2405210 3	3926332 1	12/04/2018	10:21 am	12/07/2018	6:55 am	First Floor Room 173	1.7

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Montgomery Village MS

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Log Number	Device Number		Test Expo	sure Duration:		Area Tested	Result pCi/L
2405211	3926333	12/04/2018	10:22 am	12/07/2018 6:56	6 am	First Floor Room 167	2.1
2405212	3927095	12/04/2018	10:23 am	12/07/2018 6:57	7 am	First Floor Room 166	1.3
2405213	3927097	12/04/2018	10:24 am	12/07/2018 6:57	7 am	First Floor Room 164	1.1
2405214	3926251	12/04/2018	10:25 am	12/07/2018 6:58	8 am	First Floor Room 162	0.7
2405215	3926252	12/04/2018	10:25 am	12/07/2018 6:58	8 am	First Floor Room 162	1.2
2405216	3926255	12/04/2018	10:26 am	12/07/2018 6:59	9 am	First Floor Room 160	0.9
2405217	3926260	12/04/2018	10:27 am	12/07/2018 7:00	0 am	First Floor Room 158	0.6
2405218	3926259	12/04/2018	10:30 am	12/07/2018 7:01	1 am	First Floor Room 163	1.8
2405219	3926258	12/04/2018	10:32 am	12/07/2018 7:01	1 am	First Floor Room 159	1.7
2405220	3926257	12/04/2018	10:34 am	12/07/2018 7:02	2 am	First Floor Room 158A	1.3
2405221	3926248	12/04/2018	12:00 pm	12/07/2018 7:03	3 am	First Floor Room 145	0.8

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Laboratory Report for:

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2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey Montgomery Village MS

Montgomery Village AA 20886

Log Number	Device Number		Test Expo	sure Duration:	Area Tested	Result pCi/L
2405222	3926249	12/04/2018	10:38 am	12/07/2018 7:04 ar	m First Floor Room 153	1.4
2405223	3926253	12/04/2018	10:39 am	12/07/2018 7:05 ar	m First Floor Room 157	1.1
2405224	3926254	12/04/2018	10:40 am	12/07/2018 7:06 ar	m First Floor Room 156A	0.7
2405225	3926250	12/04/2018	10:42 am	12/07/2018 7:07 ar	m First Floor Room 143	1.7
2405226	3926247	12/04/2018	10:43 am	12/07/2018 7:07 ar	m First Floor Room 146	2.1
2405227	3926241	12/04/2018	10:44 am	12/07/2018 7:08 ar	m First Floor Room 144	2.2
2405228	3926256	12/04/2018	10:45 am	12/07/2018 7:09 ar	m First Floor Room 152	0.6
2405229	3926242	12/04/2018	10:46 am	12/07/2018 7:09 ar	m First Floor Room 152	0.9
2405230	3926246	12/04/2018	10:47 am	12/07/2018 7:12 ar	m First Floor Kitchen	0.6
2405231	3926243	12/04/2018	10:48 am	12/07/2018 7:13 ar	m First Floor Room 152G	0.8
2405232	3927100	12/04/2018	10:52 am	12/07/2018 7:11 ar	m First Floor Room 151	0.9

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Laboratory Report for:

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2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey Montgomery Village MS

Montgomery Village AA 20886

Log Number	Device Number		Test Expo	sure Duratio	n:	Area Tested	Result pCi/L
2405233	3926428	12/04/2018	11:03 am	12/07/2018	7:15 am	Ground Floor Room 048	< 0.4
2405234	3917890	12/04/2018	11:03 am	12/07/2018	7:15 am	Ground Floor Room 048	< 0.4
2405235	3917889	12/04/2018	11:04 am	12/07/2018	7:16 am	Ground Floor Room 046	0.7
2405236	3926238	12/04/2018	11:05 am	12/07/2018	7:16 am	Ground Floor Room 047	< 0.4
2405237	3926234	12/04/2018	11:06 am	12/07/2018	7:17 am	Ground Floor Room 045	1.2
2405238	3926235	12/04/2018	11:07 am	12/07/2018	7:18 am	Ground Floor Room 043	1.1
2405239	3926236	12/04/2018	11:08 am	12/07/2018	7:19 am	Ground Floor Room 042	0.7
2405240	3926239	12/04/2018	11:09 am	12/07/2018	7:20 am	Ground Floor Room 040	0.7
2405241	3926424	12/04/2018	11:10 am	12/07/2018	7:21 am	Ground Floor Room 038	2.1
2405242	3926425	12/04/2018	11:11 am	12/07/2018	7:21 am	Ground Floor Room 037	1.3
2405243	3926231	12/04/2018	11:12 am	12/07/2018	7:22 am	Ground Floor Room 035	0.9

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Montgomery Village AA 20886

Log Number	Device Number		Test Expo	sure Duratio	on:	Area Tested	Result pCi/L
2405244	3926232	12/04/2018	11:13 am	12/07/2018	7:22 am	Ground Floor Room 036	1.6
2405245	3926237	12/04/2018	11:14 am	12/07/2018	7:23 am	Ground Floor Room 034	1.2
2405246	3926233	12/04/2018	11:15 am	12/07/2018	7:23 am	Ground Floor Room 031	0.4
2405247	3926421	12/04/2018	11:16 am	12/07/2018	7:24 am	Ground Floor Room 039	0.8
2405248	3926422	12/04/2018	11:17 am	12/07/2018	7:24 am	Ground Floor Room 024	1.1
2405249	3926423	12/04/2018	11:18 am	12/07/2018	7:25 am	Ground Floor Room 022	0.5
2405250	3926240	12/04/2018	11:19 am	12/07/2018	7:25 am	Ground Floor Room 020	< 0.4
2405251	3926429	12/04/2018	11:20 am	12/07/2018	7:26 am	Ground Floor Room 017	0.6
2405252	3917887	12/04/2018	11:21 am	12/07/2018	7:27 am	Ground Floor Room 018	< 0.4
2405253	3917885	12/04/2018	11:22 am	12/07/2018	7:28 am	Ground Floor Room 015	1.0
2405254	3917886	12/04/2018	11:23 am	12/07/2018	7:29 am	Ground Floor Room 013	0.6

**Comment:** AMENDED REPORT for 3926274, 3926417 and 3926272 on 2/1/2019 to add dates and times. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: 12/10/2018 Date Analyzed: 12/11/2018 Date Reported: 01/15/2019

Report Reviewed By: \_\_\_\_\_\_\_\_\_

Report Approved By:

Disclaimer:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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.



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

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Montgomery Village MS

Montgomery Village AA 20886

Log Number	Device Number		Test Expo	sure Duration:		Area Tested	Result pCi/L
2405255	3917888	12/04/2018	11:25 am	12/07/2018 7:32	am	Ground Floor Room 010	0.4
2405256	3922989	12/04/2018	9:15 am	12/07/2018 7:32	am	Bldg Montgomery Village Middle School Flr NA R	0.5
2405257	3922987	12/04/2018	9:15 am	12/07/2018 7:32	am	FIr NA Rm NA	< 0.4
2405258	3922990	12/04/2018	9:15 am	12/07/2018 7:32	am	FIr NA Rm NA	< 0.4
2405259	3922986	12/04/2018	9:15 am	12/07/2018 7:32	am	FIr NA Rm NA	< 0.4
2405260	3922988	12/04/2018	6:00 am	12/07/2018 6:00	pm	FIr NA Rm NA	< 0.4

Comment: AMENDED REPORT for 3926274, 3926417 and 3926272 on 2/1/2019 to add dates and times. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 12/10/2018 Date Analyzed: 12/11/2018 Date Reported: 01/15/2019 Date Logged:

Report Reviewed By: \_\_\_\_\_\_\_\_\_

Report Approved By:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

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



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 Device Number Number	Test Exposure Duration:	Area Tested	Result pCi/L
3204125 3926831 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	36.1
3204126 3926832 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	34.8
3204127 3926833 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	33.7
3204128 3926834 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	35.8
3204129 3926835 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	35.0
3204130 3926836 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	34.5
3204131 3926837 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	34.6
3204132 3926838 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	34.3
3204133 3926839 12/07/2018	3 9:47 am 12/10/2018 9:47 am	Spike	33.2
3204134 3926840 12/07/2018	3 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 12/12/2018 Date Analyzed: 12/12/2018 Date Reported: 12/13/2018 Date Logged:

Report Reviewed By: \_

Report Approved By:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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

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Disclaimer:

### **EXPOSURE IN BOWSER-MORNER RADON CHAMBER**

CLIENT Intertell - P5	工	Job Number 187732
NOMINAL Conditions: Radon Conc 39.6	pCi/L Rel. Hum	49.1 % Temp. 70.1
Date Start: 12/7/18 Date Stop: 12/10/18	Pate Start:	Date Stop:
Time Start: <u>0947</u> Time Stop: <u>0947</u>	Time Start:	Time Stop:
Device No.'s: (10) Char. Cans-	Device No.'s:_	
3926831 thro 3926840		
Gu Left		
Date Start: Date Stop:	Date Start:	Date Stop:
Time Start: Time Stop:	Time Start:	Time Stop:
Device No.'s:	Device No.'s:_	74
Date Start: Date Stop:	Date Start:	Date Stop:
Time Start: Time Stop:	Time Start:	Time Stop:
Device No.'s:	Device No.'s:	
		2

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



### **Chain of Custody**

Project Name: MCPS Radon Survey 2018

Name of Schools:

1. Grosvenor Center (Luxmanor ES)

2. Montrose Center

3. Gibbs ES

4. Westbrook ES

5. Hadley Farms (Resnik ES)

6. Kingsview MS

7. Longview School

8. Lynnbrook Center

9. Magruder HS

10. McAuliffe ES

11. McNair ES

12. Mill Creek Towne ES

13. Martin Luther King MS

14. Montgomery Village MS

15. Great Seneca Creek ES

16. Quince Orchard HS

17. Redland MS

18. North Bethesda MS

19. Spark Matsunaga ES

20. Whetstone ES

21. Wood Acres ES

	Date	Initials
Radon Test Kits Deployed	12/04/2018	NL
Radon Test Kits Sampled	12/07/2018	NL
Radon Test Kits Shipped to Lab*	12/07/2018	NL
Radon Test Kits Received by Lab*	12/08/2018;	1.4.1
Madoli Test Kits Received by Lab.	12/09/2018	NL

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

# RADON SCREENING SURVEY – FOLLOW-UP MONTGOMERY VILLAGE MIDDLE SCHOOL

### 19300 Watkins Mill Road, Montgomery Village, Maryland 20886

### **EXECUTIVE SUMMARY**

Date of Test Report:	3/24/16 Follow-Up
Round of Testing:	Initial
	Follow-up
	Post Remediation
# Rooms Tested	4
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	<0.4
High Value:	0.9
Confirmed Rooms ≥ 4.0 pCi/L US EPA	0
Action Level	

### Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L)	Result (pCi/L)	Average Result
	1/29/16 Initial	3/24/16 Follow-Up	(pCi/L)
134	Missing	<0.4	<0.4
141	Missing	0.8	0.8
184	Missing	<0.4	<0.4
130	Missing	<0.4	<0.4



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

### MCPS RADON TESTING

Executive Summary: Montgomery Village Middle School

Date of Test Report:	3/24/2016
Round of Testing:	Initial
	Follow-up
	Post Remediation
# Rooms Tested:	4
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0.4
High Value:	0.9

Project Status:

Retesting completed; no further action at this time.

#### ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 24, 2016

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

Re: Radon Testing Services

KCI Job # 12146341.30

Location: Montgomery Village Middle School

19300 Watkins Mill Road

Montgomery Village, Maryland 20886

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 Montgomery Village Middle School, located at 19300 Watkins Mill Road in Montgomery Village, Maryland 20886 (subject site).

### **Scope of Services:**

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

KCI visited the site on February 29, 2016 and deployed nine (9) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on March 3, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is

a NRSB certified analytical laboratory for radon analysis (certification # ARL0007) located at 929 Mount Zion Road, Lebanon, Pennsylvania.

### **Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}$  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 Attachn	nent B		

Notes:

D- Duplicate sample

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

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

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

Sincerely,

James M. Moulsdale

Radon Measurement Specialist

KCI Technologies, Inc.

James Makler

Attachments: A- Floor Plan with Test Locations

B- Table 1-Radon Test Summary Spreadsheet

C- Laboratory Analytical Results

# ATTACHMENT A

### Floor Plan With Test Locations

# ATTACHMENT B

# Radon Test Summary Spreadsheet

### **Table Notes:**

**AC-** Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

**OB- Office Blank\*** 

PM- Project Manager

QC- Quality Control

\*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 10 testing. Office blanks were not submitted under each school individually.

	Radon Testing Results	
	Montgomery Village Middle School	
	Test Period: 02/29/16-03/03/16	
Kit Number	Room / Area	Result
3028887	130	<0.4
3028792	134	<0.4
3028798	141	0.4
3028816	141	0.8
3028819	184	<0.4
3028796 *	134 (Tampered)	<0.4

	Radon Testing Results	
Мо	ntgomery Village Middle School	
-	Test Period: 02/29/16-03/03/16	
Kit Number	QC Type	Result
3028795	D (130)	<0.4
3028800	D (141)	0.9
3028799	FB (134)	<0.4

# ATTACHMENT C

# Laboratory Analytical Results



NRPP 10511AL NRSB ARL0007 EPA Method #402-R-92-004 **Charcoal Canister** NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies 936 Ridgebrook Rd Sparks MD 21152 Montgomery Village M.S. 19300 Watkins Mill Rd

Montgomery Village MD 20886

Log Number	Device Number	Test Exposui	re Duration	:	Area Tested	Result (pCi/L)
3015301	3028798	02/29/2016 12:33 pm	03/03/2016	10:52 am	Building 1 Unit 141 First Floor	0.4
3015302	3028816	02/29/2016 12:33 pm	03/03/2016	10:52 am	Building 1 Unit 141 First Floor	0.8
3015303	3028800	02/29/2016 12:33 pm	03/03/2016	10:52 am	Building 1 Unit 141 First Floor	0.9
3015304	3028796	02/29/2016 12:48 pm	03/03/2016	10:55 am	Building 1 Unit 134 First Floor	<0.4
3015305	3028792	02/29/2016 12:48 pm	03/03/2016	11:00 am	Building 1 Unit 134 First Floor	<0.4
3015306	3028799	02/29/2016 12:48 pm	03/03/2016	11:00 am	Building 1 Unit 134 First Floor	<0.4
3015307	3028819	02/29/2016 12:55 pm	03/03/2016	10:54 am	Building 1 Unit 184 First Floor	<0.4
3015308	3028887	02/29/2016 1:00 pm	03/03/2016	10:57 am	Building 1 Unit 130 First Floor	<0.4
3015309	3028795	02/29/2016 1:01 pm	03/03/2016	10:57 am	Building 1 Unit 130 First Floor	<0.4

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

Distributed by: KCI Technologies, Inc.

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

Report Reviewed By: \_\_

Carolyn D. Koke, President, AccuStar Labs

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

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Disclaimer:

Send Written Report To:

888-480-8812 www.accustarlabs.com

Radon Device Type Open Face Canister

Site Tested:

Site Name Address

> KCI Technologies, Inc. 936 Ridgebrook Road

City / Town Address

Harboney Villege MS. 1930 LET KIND MILL Rd

Mortgown Villege

Test Country Montgomery County State/Province Postal Code MD

21152

State/Province Postal Code MD Report Country Baltimore County Email Address tehsin@kci.com

Sparks

City / Town Address Address Name

Project Number 12146341

Contact Information:

Tehsin Aurangabadwala 410-891-1726 Contact

Signature

Cert. Number Technician Telephone

Lab Use Only										
Stop Time	MX 25:01	10:52 DM	WM 25:01	IC; SS AIM	TIES AM	4:00	-W h5:0)	10:57 AM	1057 Bm	
Stop Date mm/dd/yyyy	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016	03/03/2016
Start Time	(2:33 pm	(2:33 pm	12:33 pry		12-48 PM	wd 8h:2)	12.55pm	13:00pr	13:01 pm	
Start Date	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016	02/29/2016
Name of Room	• 12	78°	710	78.	1/2	710	710	71.		
Floor		_	_	_	(	,	-	~	-	
Unit Number	141		=	134	134	134	h81	130	130	
Building Number	-	-	Ľ	_		_		_	_	
Device Number	3028798	325816	3028800	328746	302 8792	3028799	११४४६०८	3028887	3028795	
Lab Use Only										

1 of 2



NRPP 10511AL NRSB ARL0007 EPA Method #402-R-92-004 Charcoal Canister NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies

936 Ridgebrook Rd

Sparks MD 21152

MCPS Radon Phase 10 Office Blank

Log Number Device Number

Test Exposure Duration:

Area Tested

Result (pCi/L)

3015360

3028828

02/29/2016 9:30 am

03/03/2016 9:30 am

Office Blank

<0.4

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

Distributed by: KCI Technologies, Inc.

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

Report Reviewed By:

Report Approved By:

Carolyn D. Koke, President, AccuStar Labs

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

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Disclaimer:

Radon Device Type Open Face Canister

888-480-8812 www.accustarlabs.com Send Written Report To:

Send Written Report To:	Report To:			Site T
Name	KCI Technologies, Inc	gies, I	nc	Site N
Address	936 Ridgebrook Road	ok Ro	ad	Addre
Address				Addre
City / Town	Sparks			City /
State/Province Postal Code MD 21152	Postal Code	MD	21152	State/
Report Country Baltimore County	Baltimore Cou	unty		Test (

Tested:		Contact Information:	ation:
Name	KCI OFFICE	Contact	Tehsin Aurangabadwala
ress	936 Ridgebrook Road	Telephone	410-891-1726
ress			
/ Town	Sparks	Technician	
e/Province	e/Province Postal Code MD 21152	Cert. Number	
t Country	t Country Montgomery County	Signature	
ect Number 12146341	12146341		

Email Address tehsin@kci.com	ss tehsin(	@kci.com			Project Number 12146341						
Lab Use	Device	Building	Unit	Floor	Name of Room	Start Date	Start Time	Stop Date	Stop Time	Lab Use	

Lab Use Only						
Stop Time	9:30 am					
Stop Date mm/dd/yyyy	03/03/2016					
Start Time	9:30 am					
Start Date	02/29/2016					
Name of Room	OFFICE (TEMP - 70F)					
Floor	1					
Unit Number	0					
Building Number						
Device Number	3028828					
Lab Use Only						

1 of 2



NRPP 10511AL NRSB ARL0007 EPA Method #402-R-92-004 **Charcoal Canister** NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested:

KCI Technologies

**MCPS** 

936 Ridgebrook Rd

Transit Blanks

Sparks MD 21152

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

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

Distributed by: KCI Technologies, Inc.

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

> Report Reviewed By: Cristo Sates Report Approved By: Buly D. Kole Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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

explain if NO Do not use this form in explain if NO Were general operating New Jersey or Florida conditions maintained? conditions maintained? Yes - No Call for correct forms. Were closed building Multi-Page Report Y-N 0 LAB USE ONLY 1/27/2016 3010588 3028953 ACPC275B EXP12/31/2018 Certilled I coror # # Discrepancies will invalidate tests Normal Temp. Wgt. Gain Yes - No Yes - No Instructions on back of form Read instructions carefully Teros Include AM/PM Stop Time 9130an Both Placed by and Retrieved by signatures are required KCI Technologies, Inc. Date Stop Date 1/22/1 gran. a. Accustar Labs
929 Mt. Zion Rd., Lebanon, PA 17046 RECEIVED JAN 2NFORMATION FORM - Large Buildings Include AM/PM Start Time Canisters retrieved by Owner waives confidentiality ams Email: County Canisters placed by AccuStar Labs - Lebanon, PA Projects - Apartments by signing here Zip Start Date 19/10 91110 1/6/ Attention: Fax: O て Floor State: Zip Structure Type: (circle one or more) Basement - Crawlspace - Slab on Grade - Other Phone: ROOM NAME & NUMBER - LOCATION OF DETECTOR IN - Public School 3010590 Other 3010589 3010588 3010591 State ROOM (indicate duplicates and blanks) Follow Up Test Private Day Care - Private School 1 ransat Residential - Non Residential Day Care in Public School Name of Building/Project or Owner Initial Screening Post Mitigation Trans, t Tack raks, 1 ransit Return canisters for analysis to: Transi rans, 1 Projects Contact Name: 49.3 Company Name: Mc 936 Detector Serial# 410-5 Site Address: **Building Type:** (Circle all that apply) Test Site Info 8955 Test Purpose: 4568 3028953 800-523-4964 200 Send Results To: (Circle One) Address: Phone: City: City:

9

3 6

# 9

If a recalculation is requested there is a \$10.00 recalc fee PER Canister. Make sure information is complete and correct.

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

Cor

i.

0

4 ouls dale

ame

EMAIL Results to:

NEHA 10511AL NRSB ARL 0007

Revision 5 4/2015

Rainy Y-N

Yes - No

Normal Humidity Windy Y-N

### EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologie	es Inc.	Job Number 173618	
NOMINAL Conditions: Radon Conc 45.3			
Date Start: 123/16 Date Stop: 1/25/16	Date Start:	Date Stop:	
Time Start: 🔿 😪 / Time Stop: 🔿 😤 /	Time Start:	Time Stop:	
Device No.'s: (6) Char. Cans.	Device No.'s:_		
302,8985 thnu 302,8990			
E2 LOFT			
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 =  $7 \mu R/h$  Elevation = 820 ft



NRPP 10511AL NRSB ARL0007 EPA Method #402-R-92-004 Charcoal Canister NRPP Device Code 6048 NRSB Device Code 10317

Laboratory Report for:

Property Tested:

KCI Technologies 936 Ridgebrook Rd Sparks MD 21152 **MCPS** 

Radon Spike Sample Laboratory Results

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3010551	3028985	01/23/2016 8:20 am	01/25/2016 8:20 am	1 First Floor	24.2
3010552	3028986	01/23/2016 8:20 am	01/25/2016 8:20 am	2 First Floor	25.7
3010553	3028987	01/23/2016 8:20 am	01/25/2016 8:20 am	3 First Floor	23.8
3010554	3028988	01/23/2016 8:20 am	01/25/2016 8:20 am	4 First Floor	23.3
3010555	3028989	01/23/2016 8:20 am	01/25/2016 8:20 am	5 First Floor	24.0
3010556	3028990	01/23/2016 8:20 am	01/25/2016 8:20 am	6 First Floor	24.4

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

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

Distributed by: KCI Technologies, Inc.

Report Reviewed By: Criste Sates Report Approved By: Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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

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

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

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

RECEIVED JAN 27 2016

Name of Building/Project or Owner MCPS Hungerlerd Site Address: 350

Test Site Info

なな Rockville City:

Mouls dalp Projects Contact Name: James

County Monropemery 20880 410-891-1842 Zip Phone: State MD

Do not use this form in New Jersey or Florida Call for correct forms. Multi-Page Report Y-N DCI/L LAB USE ONLY Wgt. Gain Email: James, montsdale Okci, can Stop Time Include AM/PM 08:20

Certified Testers Provide # Both Placed by and Retrieved by signatures/are required Stop Date 1/52/16 Start Time Include AM/PM 08:20 Canisters placed by\_ Start Date 1/23/16 Floor Structure Type: (circle one or more) Basement - Crawlspace - Slab on Grade - Other ROOM NAME & NUMBER - LOCATION OF DETECTOR IN 3010553 3010552 3010556 3010554 3010555 3010551 ROOM (indicate duplicates and blanks) Follow Up Test Initial Screening 2 N 3 5 Detector Serial# Test Purpose: 8990 6868208 3028988 302 3987 3028985 3028986 1302

Send Results To:

ナック Technologies Company Name: Address:

Attention: James

Zin

State:

Fax:

Q

291-1842 Park 1221 Phone: City:

EMAIL Results to: UMES Moulsdale @ LC. COM Make sure information is complete and correct.

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

800-523-4964 fax 717-2 NEHA 10511AL NRSB ARL 0007 Jonest Shipping: 929 Mt Zion Road, Lel Mailing: PO Box 990

3010551 3028985 ACPC275B EXP12/31/2018

KCI Technologies, Inc.

Rainy Y-N explain if NO Yes-No Yes No Windy YeN Normal Temp. ormal Humidity IYes - No

1/27/2016

Yes- No explain if NO

conditions maintained?

Were closed building

conditions maintained?

Were general operating

Date

#

#

22

Canisters retrieved by Owner waives confidentiality

by signing here

-(Public School

Private Day Care - Private School Residential - Non Residential

Day Care in Public School

Other

Real Estate -

Post Mitigation

Building Type: (Circle all that apply)

Circle One)

Revision 5 4/2015



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

### MCPS RADON TESTING

Executive Summary: Montgomery Village Middle School

Date of Test Report:	1/29/2016	
Round of Testing:	Initial	
	Follow-up	
	Post Remediation	
# Rooms Tested:	95	
# Rooms $\geq$ 4.0 pCi/L:	0	
Low Value:	< 0.3	
High Value:	2.2	

### Project Status:

Initial testing completed; missing or compromised samples need re-test.

### ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

January 29, 2016

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

Re: Radon Testing Services

KCI Job # 12146341.22

Location: Montgomery Village Middle School

19300 Watkins Mill Road

Montgomery Village, MD 20886

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 Montgomery Village Middle School, located at 19300 Watkins Mill Road in Montgomery Village, Maryland 20886 (subject site).

### **Scope of Services:**

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

KCI visited the site on January 4, 2016 and deployed one hundred eight (108) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on January 7, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a

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

### **Evaluation of Testing Conditions:**

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages  $\leq 65^{\circ}$  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

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

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

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

Sincerely,

James M. Moulsdale

Radon Measurement Specialist

KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations

B- Table 1-Radon Test Summary Spreadsheet

C- Laboratory Analytical Results

# ATTACHMENT A

### Floor Plan With Test Locations

### ATTACHMENT B

### Radon Test Summary Spreadsheet

#### **Table Notes:**

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

**OB- Office Blank** 

PM- Project Manager

QC- Quality Control

Kit Number         Room / Area         Result           7708689         10         0.7           7708686         13         0.8           7707692         15         1           7707693         22         0.6           7707700         24         1           7711503         29         <0.3           7714982         31         0.9           7707506         34         1           7707699         35         0.7           7708697         36         1           7711496         37         1.4           7711495         40         0.8           7711380         42         1.1           7707697         43         0.8           7711494         46         1           7711494         46         1           7711490         47         1           7711491         48         <0.3           7711492         48         <0.3           7711493         100         1.2           7711493         100         1.2           7711493         104         1.1           77711387         108         2 <th colspan="5">Radon Testing Results Montgomery Village MS</th>	Radon Testing Results Montgomery Village MS				
7708689         10         0.7           7708686         13         0.8           7707692         15         1           7707696         17         1.1           7707693         22         0.6           7707700         24         1           7711503         29         <0.3           7714982         31         0.9           7707506         34         1           7707699         35         0.7           7708697         36         1           7711496         37         1.4           7711491         38         1.9           7711495         40         0.8           7711380         42         1.1           7707697         43         0.8           7711494         46         1           7711490         47         1           7711491         48         <0.3           7711473         100         1.2           7711493         104         1.1           7711387         108         2           7711387         10         1.7					
7708689         10         0.7           7708686         13         0.8           7707692         15         1           7707696         17         1.1           7707693         22         0.6           7707700         24         1           7711503         29         <0.3           7714982         31         0.9           7707506         34         1           7707699         35         0.7           7708697         36         1           7711496         37         1.4           7711491         38         1.9           7711495         40         0.8           7711380         42         1.1           7707697         43         0.8           7711494         46         1           7711490         47         1           7711491         48         <0.3           7711473         100         1.2           7711462         102         1.2           7711493         104         1.1           7711387         108         2           7711387         10         1.7					
7708686         13         0.8           7707692         15         1           7707696         17         1.1           7707693         22         0.6           7707700         24         1           7711503         29         <0.3           7714982         31         0.9           7707506         34         1           7707699         35         0.7           7708697         36         1           7711496         37         1.4           7711491         38         1.9           7711495         40         0.8           7711380         42         1.1           7707697         43         0.8           7711494         46         1           7711490         47         1           7711492         48         <0.3           7711473         100         1.2           7711462         102         1.2           7711493         104         1.1           7711387         108         2           7711387         110         1.7					
7707692         15         1           7707696         17         1.1           7707693         22         0.6           7707700         24         1           7711503         29         < 0.3					
7707696         17         1.1           7707693         22         0.6           7707700         24         1           7711503         29         < 0.3					
7707693         22         0.6           7707700         24         1           7711503         29         < 0.3					
7707700         24         1           7711503         29         < 0.3					
7711503         29         < 0.3					
7714982         31         0.9           7707506         34         1           7707699         35         0.7           7708697         36         1           7711496         37         1.4           7711491         38         1.9           7711380         42         1.1           7707697         43         0.8           7711381         45         0.8           7711494         46         1           7711490         47         1           7711473         100         1.2           7711462         102         1.2           7711493         104         1.1           7711387         108         2           7711387         110         1.7					
7707506       34       1         7707699       35       0.7         7708697       36       1         7711496       37       1.4         7711491       38       1.9         7711495       40       0.8         7711380       42       1.1         7707697       43       0.8         7711381       45       0.8         7711494       46       1         7711490       47       1         7711473       100       1.2         7711462       102       1.2         7711493       104       1.1         7711378       108       2         7711387       110       1.7					
7707699         35         0.7           7708697         36         1           7711496         37         1.4           7711491         38         1.9           7711495         40         0.8           7711380         42         1.1           7707697         43         0.8           7711381         45         0.8           7711494         46         1           7711490         47         1           7711473         100         1.2           7711462         102         1.2           7711493         104         1.1           7711378         108         2           7711387         110         1.7					
7708697       36       1         7711496       37       1.4         7711491       38       1.9         7711495       40       0.8         7711380       42       1.1         7707697       43       0.8         7711381       45       0.8         7711494       46       1         7711490       47       1         7711473       100       1.2         7711462       102       1.2         7711493       104       1.1         7711378       108       2         7711387       110       1.7					
7711496       37       1.4         7711491       38       1.9         7711495       40       0.8         7711380       42       1.1         7707697       43       0.8         7711381       45       0.8         7711494       46       1         7711490       47       1         7711473       100       1.2         7711462       102       1.2         7711493       104       1.1         7711378       108       2         7711387       110       1.7					
7711491       38       1.9         7711495       40       0.8         7711380       42       1.1         7707697       43       0.8         7711381       45       0.8         7711494       46       1         7711490       47       1         7711492       48       < 0.3					
7711495       40       0.8         7711380       42       1.1         7707697       43       0.8         7711381       45       0.8         7711494       46       1         7711490       47       1         7711492       48       < 0.3					
7711380       42       1.1         7707697       43       0.8         7711381       45       0.8         7711494       46       1         7711490       47       1         7711492       48       < 0.3					
7707697       43       0.8         7711381       45       0.8         7711494       46       1         7711490       47       1         7711492       48       < 0.3					
7711381     45     0.8       7711494     46     1       7711490     47     1       7711492     48     < 0.3					
7711494     46     1       7711490     47     1       7711492     48     < 0.3					
7711490     47     1       7711492     48     < 0.3					
7711492       48       < 0.3					
7711473     100     1.2       7711462     102     1.2       7711493     104     1.1       7711378     108     2       7711387     110     1.7					
7711462     102     1.2       7711493     104     1.1       7711378     108     2       7711387     110     1.7					
7711493     104     1.1       7711378     108     2       7711387     110     1.7					
7711378     108     2       7711387     110     1.7					
7711387 110 1.7					
7711385 114 1.9					
7711390 120 2					
7711397 128 0.7					
7711396 130 0.5					
7711392 134 0.8					
7711383 137 1.7					
7711399 139 1.7					
7708115 140 1.3					
7711384 141 1.3					
7711459 141 1.6					
7711446 144 1.3					
7707691 145 0.9					
7708122 146 1.3					
7711464 147 1					
7711465 149 1.3					
7711460 153 < 0.3					
7711457 157 0.9					
7711470 158 < 0.3					
7711451 159 1.2					
7711478 160 0.8					

Table Note:
\* Missing or Compromised Sample

	Radon Testing Results					
	Montgomery Village MS					
Test Period: 01/04/16-01/07/16						
Kit Number	Room / Area	Result				
7711450	162	< 0.3				
7711479	163	0.6				
7711449	164	0.9				
7711448	166	1				
7711394	167	1.2				
7711453	168	< 0.3				
7711436	170	0.7				
7711447	173	0.6				
7708109	174	0.8				
7708110	178	< 0.3				
7708117	179	0.7				
7708113	180	0.6				
7711431	181	0.5				
7708118	182	< 0.3				
7711393	186	0.8				
7712699	189	0.6				
7711445	190	< 0.3				
7711398	191	0.6				
7708103	192	< 0.3				
7711395	193	0.8				
7711467	100C	1.1				
7711468	100D	1.6				
7711471	100E	1.3				
7711483	100G	1				
7711466	100H	1.1				
7711474	100J	1.1				
7711481	100L	1.6				
7711482	100L	1.6				
7711480	100N	1.3				
7711476	100P	1.8				
7711461	102A	1.6				
7711485	104A	1.3				
7711486	104C	1.7				
7711500	104D	1.8				
7711489	104E	1.5				
7711488	104F	2.2				
7711386	130A	0.6				
7711391	* 134 (Missing)	0				
7711389	* 141 (Missing)	0				
7711498	141B	1.6				
7711484	141C	1.7				
7711452	153B	0.9				
7711456	153C	0.5				
7711455	156A	< 0.3				
7711454	158LAB	0.6				
7711435	* 184 (Missing)	0				
7707698	AUX GYM	0.7				
7711458	CAFE	1				
7711475	CAFE	< 0.3				
1111713	UAI L	٠.٥٠				

Table Note:
\* Missing or Compromised Sample

Radon Testing Results  Montgomery Village MS  Test Period: 01/04/16-01/07/16						
	Test Fellou. 01/04/10-01/01/10					
Kit Number	QC Type	Result				
7706214	D (10)	1				
7711377	D (108)	1.5				
7711388	* D (130:Missing)	0				
7711463	D (147)	1.5				
7711469	D (157)	0.9				
7711477	D (162)	0.6				
7708114	D (179)	< 0.3				
7707694	D (35)	0.6				
7711472	FB (100)	< 0.3				
7711401	FB (104A)	< 0.3				
7707695	FB (22)	< 0.3				
7714429	OB (0)	< 0.3				
7714430	OB (0)	< 0.3				

### ATTACHMENT C

### Laboratory Analytical Results

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
7714429	0	2016-01-04 @ 4:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-11
7714430	0	2016-01-04 @ 4:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-11
7706214	10	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$1.0 \pm 0.3$	2016-01-12
7708689	10	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$0.7 \pm 0.3$	2016-01-12
7711472	100	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7711473	100	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.2 \pm 0.3$	2016-01-12
7711467	100C	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.1 \pm 0.3$	2016-01-11
7711468	100D	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.4$	2016-01-12
7711471	100E	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.3 \pm 0.3$	2016-01-12
7711483	100G	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.0 \pm 0.3$	2016-01-12
7711466	100H	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.1 \pm 0.4$	2016-01-12
7711474	100J	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.1 \pm 0.4$	2016-01-12
7711482	100L	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.3$	2016-01-11
7711481	100L	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.4$	2016-01-12
7711480	100N	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.3 \pm 0.3$	2016-01-11
7711476	100P	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.8 \pm 0.4$	2016-01-11
7711462	102	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.2 \pm 0.3$	2016-01-11
7711461	102A	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.4$	2016-01-12
7711493	104	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.1 \pm 0.4$	2016-01-12
7711401	104A	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7711485	104A	2016-01-04 @ 1:00 pm	2016-01-07 @ 12:00 pm	$1.3 \pm 0.3$	2016-01-11
7711486	104C	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-12
7711500	104D	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.8 \pm 0.4$	2016-01-12
7711489	104E	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.5 \pm 0.4$	2016-01-11
7711488	104F	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$2.2 \pm 0.4$	2016-01-11
7711377	108	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.5 \pm 0.4$	2016-01-12
7711378	108	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$2.0 \pm 0.4$	2016-01-12
7711387	110	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.3$	2016-01-11
7711382	112	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-11
7711385	114	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.9 \pm 0.4$	2016-01-11
7711390	120	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$2.0 \pm 0.4$	2016-01-11
7711397	128	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.7 \pm 0.3$	2016-01-11
7708686	13	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$0.8 \pm 0.3$	2016-01-12
7711388	130	@	@		
7711396	130	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.5 \pm 0.3$	2016-01-12
7711386	130A	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-11
7711391	134	@	@		

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
7711392	134	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11
7711383	137	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-11
7711399	139	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-11
7708115	140	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.3 \pm 0.3$	2016-01-11
7711389	141	@	@		
7711459	141	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.6 \pm 0.4$	2016-01-11
7711384	141	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.3 \pm 0.3$	2016-01-11
7711498	141B	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.6 \pm 0.4$	2016-01-11
7711484	141C	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.7 \pm 0.4$	2016-01-12
7711446	144	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.3 \pm 0.3$	2016-01-11
7707691	145	2016-01-04 @ 3:00 pm	2016-01-07 @ 10:00 am	$0.9 \pm 0.3$	2016-01-11
7708122	146	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.3 \pm 0.4$	2016-01-12
7711464	147	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.0 \pm 0.3$	2016-01-11
7711463	147	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.5 \pm 0.4$	2016-01-12
7711465	149	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.3 \pm 0.3$	2016-01-11
7707692	15	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-12
7711460	153	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7711452	153B	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.9 \pm 0.4$	2016-01-12
7711456	153C	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.5 \pm 0.3$	2016-01-11
7711455	156A	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7711469	157	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.9 \pm 0.3$	2016-01-11
7711457	157	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.9 \pm 0.3$	2016-01-12
7711470	158	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7711454	158LAB	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.6 \pm 0.3$	2016-01-11
7711451	159	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.2 \pm 0.4$	2016-01-12
7711478	160	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-12
7711477	162	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.6 \pm 0.3$	2016-01-11
7711450	162	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7711479	163	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.6 \pm 0.3$	2016-01-12
7711449	164	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$0.9 \pm 0.3$	2016-01-12
7711448	166	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7711394	167	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$1.2 \pm 0.3$	2016-01-11
7711453	168	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7707696	17	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$1.1 \pm 0.3$	2016-01-12
7711436	170	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.7 \pm 0.3$	2016-01-12
7711447	173	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-12
7708109	174	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11

January LABORATORY ANALYSIS 25, REPORT \*\*

# Radon test result report for: MONTGOMERY VILLAGE MS MAIN

Kit#	Room Id	Started	Ended	pCi/L	Analyzed
7708110	178	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7708114	179	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7708117	179	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.7 \pm 0.3$	2016-01-11
7708113	180	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-12
7711431	181	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.5 \pm 0.3$	2016-01-11
7708118	182	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7711435	184	@	@		
7711393	186	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-12
7712699	189	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-11
7711445	190	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7711398	191	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-12
7708103	192	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7711395	193	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11
7707693	22	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$0.6 \pm 0.3$	2016-01-12
7707695	22	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7707700	24	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$1.0 \pm 0.3$	2016-01-11
7711503	29	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7714982	31	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$0.9 \pm 0.3$	2016-01-11
7707506	34	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7707694	35	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$0.6 \pm 0.3$	2016-01-11
7707699	35	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$0.7 \pm 0.3$	2016-01-11
7708697	36	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7711496	37	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.4 \pm 0.4$	2016-01-11
7711491	38	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.9 \pm 0.4$	2016-01-11
7711495	40	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-12
7711380	42	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.1 \pm 0.3$	2016-01-11
7707697	43	2016-01-04 @ 3:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11
7711381	45	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$0.8 \pm 0.3$	2016-01-11
7711494	46	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7711490	47	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	$1.0 \pm 0.3$	2016-01-11
7711492	48	2016-01-04 @ 1:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7707698	AUX GYM	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	$0.7 \pm 0.3$	2016-01-11
7711475	CAFE	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7711458	CAFE	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	$1.0 \pm 0.3$	2016-01-12

January LABORATORY ANALYSIS 15, 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 LABORATORY ANALYSIS 23, 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

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

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

### **EXPOSURE IN BOWSER-MORNER RADON CHAMBER**

CLIENT KCI Technologies.	Inc. Job Number 173224
	pCi/L Rel. Hum <u>49.6</u> % Temp. <u>69.9</u>
Date Start: 12/18/15 Date Stop: 12/21/5	Date Start: Date Stop:
Time Start: <u>0929</u> Time Stop: <u>0929</u>	Time Start: Time Stop:
Device No.'s: 7705132,7766208	Device No.'s:
7706211,7706366,	
7706380, 7706381	
F3 Loft	
Date Start: Date Stop:	Date Start: Date Stop:
Time Start: Time Stop:	Time Start: Time Stop:
Device No.'s:	Device No.'s:
	-
1	
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 =  $7 \mu R/h$  Elevation = 820 ft



#### 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 IV

#### Name of Schools:

1.	Albert Einstein HS	12. Herbert Hoover MS	23. Stephen Knolls School
2.	Bel Pre ES	13. Kohn F. Kennedy HS	24. Strathmore ES
3.	Benjamin Banneker MS	14. Julius West MS	25. Summit Hall ES
4.	Bethesda Chevy Chase HS	15. Kensington Parkwood ES	26. Travilah ES
5.	Beverly Farms ES	16. Lakewood ES	27. Twinbrook ES
6.	Cabin John MS	17. Mill Creek ES	28. Waters Landing ES
7.	Chevy Chase ES	18. Montgomery Blair HS	29. Watkins Mill HAS
8.	Farmland ES	19. Montgomery Village MS	30. Weller Road ES
9.	Forest Oak MS	20. Northwood HS	31. White Oak MS
10.	Gaithersburg HS	21. Paint Branch ES	32. Winston Churchill HS
11.	Garrett Park ES	22. Rock Creek Forest FS	

	Date	Initials
Radon Test Kits Deployed	1/4/16	JM
Radon Test Kits Sampled	1/7/16	JM
Radon Test Kits Shipped to Lab*	1/8/16	JM
Radon Test Kits Received by Lab*	1/11/16	JM

<sup>\*</sup>All samples sent to Air Check, Inc., 1936 Butler Bridge Road, Mills River, NC 28758

Note: tests kits deployed at Montgomery Blair HS 1/4/16 and 1/5/16, test kits sampled at Montgomery Blair HS 1/7/16 and 1/8/16