School / Facility Radon Testing Report Form

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

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

Attachment 2 – Laboratory Report(s)
Attachment 3 – Sampling Location Map(s) – indicating approximate location of samples, duplicates and blanks.

School Year: **23-24**

Facility:	Lois P. Rockwell Elementary School
Address:	24555 Cutsail Drive
	Damascus, MD 20872

Reason for Testing:	☐ Scheduled Re-Testing (2 or 5-year schedule) ☒ Clearance Testing (Post-Mitigation) ☐ System(s) Performance Testing (Post-Mitigation) ☐ New Construction/Facility
Facility Current Radon Status:	☒ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested
Round of Testing:	☒ Initial Testing **-or-** ☐ Follow-up Testing
Testing Status:	☒ No Further Testing Needed **-or-** ☐ Follow-Up Testing Required

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

Mitigation -	**Facility Radon Status:**
☒ Not Required or Considered ☐ Required (>8.0-pCi/L) ☐ Required (≥4.0-pCi/L) ☐ Consider (≥2.0 & <4.0-pCi/L)	☒ No Change in Status ☐ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)

Detector and Deployment

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

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

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

Testing

☒ Short-Term ☐ Long-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	02/05/2024 02/08/2024
Does the test period include weekends, school breaks or holidays?				☐ Yes ☒ No
*If "**Yes**" please explain/detail in the space below:*				
Was HVAC operating under occupied conditions?				☒ Yes ☐ No
*If "**No**" please explain/detail in the space below:*				

Testing (continued)

	Detectors Deployed		
	Ground-Contact	**Upper-Level(s)**	**Total**
Test Locations[1]	42	0	42
Duplicates[2]	4	0	4
Field Blanks[3]	2	0	2
		Grand Total	48

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

Quality Assurance / Quality Control (QA/QC)

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

Spike Samples[1]	6	Trip Blank(s)[2]	1	Office Blank(s)[3,4]	1

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

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

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

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

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

	Ground-Contact	Upper-Level(s)	Total
Number of test locations:	42	0	42
Number of locations ≥8.0-pCi/L:	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0
Number of locations ≥2.7 and ≤4-pCi/L:	0	0	0
Number of locations ≥2.0 and ≤4-pCi/L:	0	0	0
Number of missing required test locations[3]:	0	0	0
Percentage of missing test locations for the facility[4,5]:	0	0	0

1 – for locations with multiple test results, report consistent with Section 7.2(When Two Test Results Disagree) and 8.1.2 (Averaging) of ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings;
2 - the allowance is to be calculated individually for Ground-Contact and Upper-Level(s) Test Locations;
3 – includes missed or inaccessible locations upon deployment or retrieval, damaged (not able to analyze) and missing detectors upon retrieval;
4 – if all valid measurements are <4.0-pCi/L and the total number of test locations are ≥18, there is an allowance of ≤33%. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023;
5 – if any valid measurements are ≥4.0-pCi/L and the total number of test locations are ≥20, there is an allowance of ≤25% of the total locations tested. If less than 20 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023.

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

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

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

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

Follow-Up Testing (if required)

Required if –

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

Follow-up Testing:

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

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

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

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Lois P. Rockwell Elementary School		
Test Period: 02/05/2024 - 02/08/2024		
Kit Number	Room / Area	Result
11469573	A1	1.8
11285557	A10	1.0
11469295	A11	0.7
11469290	A12	0.7
11469281	A2	< 0.3
11469297	A2	1.3
11469298	A2	1.3
11469296	A3	1.2
11469576	A4	0.8
11469578	A5	0.6
11469577	A6	0.7
11469575	A7	0.7
11469553	A8	0.6
11464789	A9	< 0.3
11464790	A9	0.7
11469269	APR	0.5
11469293	APR	0.6
11469278	ASSISTANT PRINCIPAL	1.1
11469579	B12	0.5
11469580	B4	0.9
11469585	B9	< 0.3
11469280	BUILDING SERVICES MANAGER	1.6
11469288	CONFERENCE	0.7
11469568	GYM	1.1
11469569	GYM	1.8
11469570	GYM	1.5
11469277	GYM OFFICE	0.8
11469279	GYM OFFICE	< 0.3
11469291	HEALTH ROOM	1.1
11469292	HEALTH ROOM. OFFICE	0.8
11469561	K5 PARA	0.6
11469270	KITCHEN OFFICE	0.6
11469261	MAIN OFFICE	1.5
11469252	MC OFFICE	< 0.3
11469299	MEDIA CENTER	0.5
11469300	MEDIA CENTER	0.6
11469554	PA122	1.8
11469560	PA126	1.4

Table 1- Radon Testing Results		
Lois P. Rockwell Elementary School		
Test Period: 02/05/2024 - 02/08/2024		
Kit Number	Room / Area	Result
11285589	PHONE ROOM	0.7
11469287	PRINCIPAL	0.9
11469284	SPEECH	0.7
11469285	SPEECH	0.9
11469294	SPEECH	0.6
11469283	SRA	1.0
11469286	STAFF LOUNGE	1.0
11469254	STAGE	< 0.3
11469562	THERAPY	< 0.3
11469289	WORK ROOM	0.8

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Lois P. Rockwell Elementary School							
Test Period: 02/5/2024 - 02/8/2024							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	**Result**	**Room / Area**	**Result**	**Room / Area**	**Result**	**Room / Area**	**Result**
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Lois P. Rockwell Elementary School			
Test Period: 02/05/2024 - 02/08/2024			
Kit Number	**QC Type**	**Room / Area**	**Result**
11469297	D	A2	1.3
11469281	FB	A2	<0.3
11464790	D	A9	0.7
11469569	D	Gym	1.8
11469279	FB	Gym office	<0.3
11469285	D	Speech	0.9
11470089	OB	OFFICE BLANK	< 0.3
11470096	TB	TRAVEL BLANK	< 0.3

Table 4 - Summary of Invalid Measurement Locations		
Lois P. Rockwell Elementary School		
Test Period: 02/5/24 - 02/8/24		
Kit Number	**Room/Area**	**Result**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

February 12, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
LOIS P. ROCKWELL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11469573	A1	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	1.8 ± 0.4	2024-02-12
11285557	A10	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	1.0 ± 0.3	2024-02-12
11469295	A11	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.7 ± 0.3	2024-02-12
11469290	A12	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.7 ± 0.4	2024-02-12
11469281	A2	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	< 0.3	2024-02-12
11469298	A2	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	1.3 ± 0.4	2024-02-12
11469297	A2	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	1.3 ± 0.4	2024-02-12
11469296	A3	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	1.2 ± 0.3	2024-02-12
11469576	A4	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.8 ± 0.3	2024-02-12
11469578	A5	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.6 ± 0.3	2024-02-12
11469577	A6	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.7 ± 0.3	2024-02-12
11469575	A7	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.7 ± 0.3	2024-02-12
11469553	A8	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.6 ± 0.3	2024-02-12
11464790	A9	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.7 ± 0.3	2024-02-12
11464789	A9	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	< 0.3	2024-02-12
11469293	APR	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.6 ± 0.3	2024-02-12
11469269	APR	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.5 ± 0.3	2024-02-12
11469278	ASSISTANT PRINCIPAL	2024-02-05 @ 12:00 pm	2024-02-08 @ 10:00 am	1.1 ± 0.3	2024-02-12
11469579	B12	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.5 ± 0.3	2024-02-12
11469580	B4	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.9 ± 0.4	2024-02-12
11469585	B9	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	< 0.3	2024-02-12
11469280	BUILDING SERVICES MANAGER	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	1.6 ± 0.4	2024-02-12
11469288	CONFERENCE	2024-02-05 @ 12:00 pm	2024-02-08 @ 10:00 am	0.7 ± 0.3	2024-02-12
11469568	GYM	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	1.1 ± 0.4	2024-02-12
11469569	GYM	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	1.8 ± 0.4	2024-02-12
11469570	GYM	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	1.5 ± 0.4	2024-02-12
11469279	GYM OFFICE	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	< 0.3	2024-02-12
11469277	GYM OFFICE	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.8 ± 0.3	2024-02-12
11469291	HEALTH ROOM	2024-02-05 @ 12:00 pm	2024-02-08 @ 10:00 am	1.1 ± 0.4	2024-02-12
11469292	HEALTH ROOM. OFFICE	2024-02-05 @ 12:00 pm	2024-02-08 @ 10:00 am	0.8 ± 0.3	2024-02-12
11469561	K5 PARA	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.6 ± 0.3	2024-02-12
11469270	KITCHEN OFFICE	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.6 ± 0.3	2024-02-12
11469261	MAIN OFFICE	2024-02-05 @ 12:00 pm	2024-02-08 @ 10:00 am	1.5 ± 0.4	2024-02-12
11469252	MC OFFICE	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	< 0.3	2024-02-12
11469299	MEDIA CENTER	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.5 ± 0.3	2024-02-12
11469300	MEDIA CENTER	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.6 ± 0.3	2024-02-12
11469554	PA122	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	1.8 ± 0.4	2024-02-12

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

February 12, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
LOIS P. ROCKWELL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11469560	PA126	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	1.4 ± 0.4	2024-02-12
11285589	PHONE ROOM	2024-02-05 @ 12:00 pm	2024-02-08 @ 10:00 am	0.7 ± 0.4	2024-02-12
11469287	PRINCIPAL	2024-02-05 @ 12:00 pm	2024-02-08 @ 10:00 am	0.9 ± 0.3	2024-02-12
11469284	SPEECH	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.7 ± 0.3	2024-02-12
11469285	SPEECH	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	0.9 ± 0.3	2024-02-12
11469294	SPEECH	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	0.6 ± 0.3	2024-02-12
11469283	SRA	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	1.0 ± 0.4	2024-02-12
11469286	STAFF LOUNGE	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	1.0 ± 0.4	2024-02-12
11469254	STAGE	2024-02-05 @ 12:00 pm	2024-02-08 @ 11:00 am	< 0.3	2024-02-12
11469562	THERAPY	2024-02-05 @ 1:00 pm	2024-02-08 @ 11:00 am	< 0.3	2024-02-12
11469289	WORK ROOM	2024-02-05 @ 12:00 pm	2024-02-08 @ 10:00 am	0.8 ± 0.3	2024-02-12

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

February 13, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
KCI
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11470089	OB	2024-02-05 @ 8:00 am	2024-02-08 @ 12:00 pm	< 0.3	2024-02-12
11478304	OB	2024-02-06 @ 8:00 am	2024-02-09 @ 12:00 pm	< 0.3	2024-02-12
11470096	TB	2024-02-05 @ 8:00 am	2024-02-08 @ 12:00 pm	< 0.3	2024-02-12
11478309	TB	2024-02-06 @ 8:00 am	2024-02-09 @ 12:00 pm	< 0.3	2024-02-12

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

January 29, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
STORAGE
KCI

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 213819

NOMINAL Conditions: Radon Conc 50.0 pCi/L Rel. Hum 28.9 % Temp. 69.1 F

Date Start: 2/23/24 Date Stop: 2/26/24

Time Start: 0812 Time Stop: 0812

Device No.'s: (6) CHAR BAGS

11478400, 11477842, 11477845,

11477852, 11477996, 11477999

E3 Left

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

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

March 1, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
FEB SK
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11477842	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	50.3 ± 4.0	2024-03-01
11477845	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	55.3 ± 4.4	2024-03-01
11477852	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	49.4 ± 4.0	2024-03-01
11477996	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	49.8 ± 4.0	2024-03-01
11477999	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	55.4 ± 4.4	2024-03-01
11478400	NA	2024-02-23 @ 8:00 am	2024-02-26 @ 8:00 am	47.0 ± 3.8	2024-03-01

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing February 5th to February 8th 2024

Name of Schools:

1. Cedar Grove ES
2. College Gardens ES
3. Lois P. Rockwell ES
4. Clarksburg HS
5. Bayard Rustin ES
6. Sequoyah ES
7. Sherwood ES
8. Carver Educational Center

	Date	Initials
Radon Test Kits Deployed	02/05/2024	
Radon Test Kits Collected	02/08/2024	
Radon Test Kits Shipped to Lab*	02/08/2024	
Radon Test Kits Received by Lab*	02/12/2024	

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

Attachment 3:

Sampling Location Map

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Lois P. Rockwell Elementary School
Date of Test Report	1/12/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	42
# Rooms ≥ 4.0 pCi/L	3
Lowest Value	<0.3 pCi/L
Highest Value	5.0 pCi/L

Project Status:

1. Initial testing completed;
2. Mitigate Rooms Gym and Kitchen.

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

January 12, 2023

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

Re: **Radon Testing Services**
KCI Job # 122210551

Location: Lois P. Rockwell Elementary School
24555 Cutsail Drive
Damascus, MD 20872

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the Lois P. Rockwell Elementary School, located at 24555 Cutsail Dr. Damascus, MD 20872 (subject site).

Scope of Services:

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

KCI visited the site on December 13, 2022 and deployed forty-eight (48) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

KCI returned to the site on December 16, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc.

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

Evaluation of Testing Conditions:

These tests represent:

- Follow up to initial testing.

These tests were conducted to:

- Evaluate radon 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 were between 22°F and 53°F. Maximum sustained winds ranged from 0-20 miles per hour. Average humidity was around 70% with 1.98 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	Gym	4.7
	Gym	5.0
	Kitchen	3.8
<4.0 piC/L	See Attachment B	

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table 1- Radon Testing Results		
Lois P. Rockwell ES		
Test Period: 12/13/2022 - 12/16/2022		
Kit Number	Room / Area	Result
11286833	126	2.8
11286804	A1	2.9
11286844	A10	1.2
11286846	A11	0.9
11286826	A2	1.9
11286823	A3	0.9
11286853	A4	0.5
11286818	A5	0.7
11286825	A6	0.5
11286854	A7	0.9
11286840	A8	0.8
11286809	A9	1.5
11286831	A9	1.5
11286815	AP	1.2
11286828	APR	1.9
11286835	APR	1.5
11286834	B13	0.9
11286859	B2	1.3
11286841	B6	0.8
11286836	BUILDING SERVICES	2.7
11286830	CAFFREY	0.9
11286811	CONFERENCE	1.9
11286843	GYM	4.7
11286852	GYM	5.0
11286810	GYM OFFICE	2.9
11286819	GYM OFFICE	< 0.3
11286820	GYM OFFICE	2.7
11286813	HEALTH ROOM	1.8
11286807	HEALTH ROOM OFFICE	1.5
11286837	KITCHEN	3.8
11286808	MAIN OFFICE	2.2
11286805	MC	1.2
11286806	MC	0.9
11286827	MC OFFICE	0.8
11286851	MC OFFICE	0.9
11286824	OBSERVATION 2	2.1
11286839	OBSERVATION 2	< 0.3
11286847	OBSERVATION 2	2.6
11286845	PARAEDUCATORS	1.6
11286814	PRINCIPAL	1.1
11286861	SPEECH	0.8
11286822	STAFF LOUNGE	1.7

Table 1- Radon Testing Results		
Lois P. Rockwell ES		
Test Period: 12/13/2022 - 12/16/2022		
Kit Number	Room / Area	Result
11286829	STAFF LOUNGE	1.8
11286816	STAFF SUPPORT 1	1.2
11286821	STAFF SUPPORT 2	1.4
11286838	STAGE	1.2
11286832	THERAPY	1.0
11286812	WORK ROOM	1.4

Table 2- Radon Testing Results			
Lois P. Rockwell ES			
Test Period: 12/13/22 - 12/16/22			
Kit Number	QC Type	Room / Area	Result
11286809	D	A9	1.5
11286820	D	Gym office	2.7
11286819	FB	Gym office	< 0.3
11286847	D	Observation 2	2.6
11286839	FB	Observation 2	< 0.3
11286822	D	Staff lounge	1.7
11286988	OB	OFFICE BLANK	< 0.3
11286990	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Lois P. Rockwell ES		
Test Period: 12/13/22 - 12/16/22		
Kit Number	Room/Area	Result
	N/A	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Lois P. Rockwell ES		
Test Period: 12/13/22 - 12/16/22		
Kit Number	Room/Area	Result
11286843	GYM	4.7
11286852	GYM	5.0
11286837	KITCHEN	3.8

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 19, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
LOIS P. ROCKWELL
1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11286833	126	2022-12-13 @ 10:00 am	2022-12-16 @ 9:00 am	2.8 ± 0.3	2022-12-19
11286804	A1	2022-12-13 @ 10:00 am	2022-12-16 @ 9:00 am	2.9 ± 0.3	2022-12-19
11286844	A10	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.2 ± 0.3	2022-12-19
11286846	A11	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	0.9 ± 0.3	2022-12-19
11286826	A2	2022-12-13 @ 10:00 am	2022-12-16 @ 9:00 am	1.9 ± 0.3	2022-12-19
11286823	A3	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	0.9 ± 0.3	2022-12-19
11286853	A4	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	0.5 ± 0.3	2022-12-19
11286818	A5	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	0.7 ± 0.3	2022-12-19
11286825	A6	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	0.5 ± 0.3	2022-12-19
11286854	A7	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	0.9 ± 0.3	2022-12-19
11286840	A8	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	0.8 ± 0.3	2022-12-19
11286831	A9	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.5 ± 0.3	2022-12-19
11286809	A9	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.5 ± 0.3	2022-12-19
11286815	AP	2022-12-13 @ 8:00 am	2022-12-16 @ 8:00 am	1.2 ± 0.3	2022-12-19
11286828	APR	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.9 ± 0.3	2022-12-19
11286835	APR	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.5 ± 0.3	2022-12-19
11286834	B13	2022-12-13 @ 10:00 am	2022-12-16 @ 9:00 am	0.9 ± 0.3	2022-12-19
11286859	B2	2022-12-13 @ 10:00 am	2022-12-16 @ 9:00 am	1.3 ± 0.3	2022-12-19
11286841	B6	2022-12-13 @ 10:00 am	2022-12-16 @ 9:00 am	0.8 ± 0.3	2022-12-19
11286836	BUILDING SERVICES	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	2.7 ± 0.4	2022-12-19
11286830	CAFFREY	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	0.9 ± 0.3	2022-12-19
11286811	CONFERENCE	2022-12-13 @ 8:00 am	2022-12-16 @ 8:00 am	1.9 ± 0.3	2022-12-19
11286843	GYM	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	4.7 ± 0.4	2022-12-19
11286852	GYM	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	5.0 ± 0.4	2022-12-19
11286810	GYM OFFICE	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	2.9 ± 0.4	2022-12-19
11286820	GYM OFFICE	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	2.7 ± 0.3	2022-12-19
11286819	GYM OFFICE	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	< 0.3	2022-12-19
11286813	HEALTH ROOM	2022-12-13 @ 8:00 am	2022-12-16 @ 8:00 am	1.8 ± 0.3	2022-12-19
11286807	HEALTH ROOM OFFICE	2022-12-13 @ 8:00 am	2022-12-16 @ 9:00 am	1.5 ± 0.3	2022-12-19
11286837	KITCHEN	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	3.8 ± 0.4	2022-12-19
11286808	MAIN OFFICE	2022-12-13 @ 8:00 am	2022-12-16 @ 8:00 am	2.2 ± 0.3	2022-12-19
11286806	MC	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	0.9 ± 0.3	2022-12-19
11286805	MC	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.2 ± 0.3	2022-12-19
11286851	MC OFFICE	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	0.9 ± 0.3	2022-12-19
11286827	MC OFFICE	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	0.8 ± 0.3	2022-12-19
11286847	OBSERVATION 2	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	2.6 ± 0.3	2022-12-19
11286839	OBSERVATION 2	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	< 0.3	2022-12-19

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

December 19, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
LOIS P. ROCKWELL
1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11286824	OBSERVATION 2	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	2.1 ± 0.3	2022-12-19
11286845	PARAEDUCATORS	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.6 ± 0.3	2022-12-19
11286814	PRINCIPAL	2022-12-13 @ 8:00 am	2022-12-16 @ 8:00 am	1.1 ± 0.3	2022-12-19
11286861	SPEECH	2022-12-13 @ 9:00 am	2022-12-16 @ 9:00 am	0.8 ± 0.3	2022-12-19
11286829	STAFF LOUNGE	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.8 ± 0.3	2022-12-19
11286822	STAFF LOUNGE	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.7 ± 0.3	2022-12-19
11286816	STAFF SUPPORT 1	2022-12-13 @ 8:00 am	2022-12-16 @ 8:00 am	1.2 ± 0.3	2022-12-19
11286821	STAFF SUPPORT 2	2022-12-13 @ 8:00 am	2022-12-16 @ 8:00 am	1.4 ± 0.3	2022-12-19
11286838	STAGE	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.2 ± 0.3	2022-12-19
11286832	THERAPY	2022-12-13 @ 9:00 am	2022-12-16 @ 8:00 am	1.0 ± 0.3	2022-12-19
11286812	WORK ROOM	2022-12-13 @ 8:00 am	2022-12-16 @ 8:00 am	1.4 ± 0.3	2022-12-19

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – April 2022 Schools – Retesting

Name of Schools:

1. Mill Creek Towne ES
2. Clarksburg ES
3. Little Bennett ES
4. Lois P. Rockwell ES
5. Roberto Clemente MS

	Date	Initials
Radon Test Kits Deployed	12/13/2022	BMM
Radon Test Kits Collected	12/16/2022	BMM
Radon Test Kits Shipped to Lab*	12/16/2022	BMM
Radon Test Kits Received by Lab*	12/19/2022	BMM

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

RADON SCREENING SURVEY – FOLLOW-UP ROCKWELL ELEMENTARY SCHOOL

24555 Cutsail Drive, Damascus, Maryland 20872

EXECUTIVE SUMMARY

Date of Test Report:	3/15/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	2
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	<0.3
High Value:	1.6
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 2/29/16 (Rev 1 Initial)	Result (pCi/L) 3/15/16 Follow-Up	Average Result (pCi/L)
CR-A9	0.9 Tampered	0.5	0.7
MPR	1.2 Tampered	1.6 Tampered	1.4

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: Lois P. Rockwell Elementary School

Date of Test Report:	3/15/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	2
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.6

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 15, 2016

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

Re: **Radon Testing Services**
KCI Job # 12146341.29

Location: Lois P. Rockwell Elementary School
24555 Cutsail Drive
Damascus, MD 20872

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 Lois P. Rockwell Elementary School, located at 24555 Cutsail Drive in Damascus, Maryland 20872 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #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 22, 2016 and deployed four (4) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on February 25, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

KCI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. Note that strong storms and heavy rainfall were recorded during the test period. The unusual weather conditions may have resulted in atypical radon test results for this facility.

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

The field blank, office blanks, 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

*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 9 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
Lois P Rockwell		
Test Period: 02/22/16-02/25/16		
Kit Number	**Room / Area**	**Result**
7731627	* APR (Tampered)	1.6
7731629	CR-A9	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Lois P Rockwell		
Test Period: 02/22/16-02/25/16		
Kit Number	**QC Type**	**Result**
7731631	D (CR-A9)	0.5
7731628	FB (CR-A9)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 8, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

LOIS P ROCKWELL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7731627	APR	2016-02-22 @ 11:00 am	2016-02-25 @ 9:00 am	1.6 ± 0.3	2016-02-29
7731628	CR-A9	2016-02-22 @ 11:00 am	2016-02-25 @ 9:00 am	< 0.3	2016-02-29
7731629	CR-A9	2016-02-22 @ 11:00 am	2016-02-25 @ 9:00 am	< 0.3	2016-02-29
7731631	CR-A9	2016-02-22 @ 11:00 am	2016-02-25 @ 9:00 am	0.5 ± 0.3	2016-02-29

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

March 9, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS
Phase 9 Office Blanks

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712568	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7712584	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7719460	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7719481	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7719497	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29
7719498	0	2016-02-22 @ 6:00 pm	2016-02-25 @ 3:00 pm	< 0.3	2016-02-29

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

March 9, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS
Phase 9 Office Blanks

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7731626	0	2016-02-23 @ 2:00 pm	2016-02-26 @ 3:00 pm	< 0.3	2016-03-01
7731633	0	2016-02-23 @ 2:00 pm	2016-02-26 @ 3:00 pm	< 0.3	2016-03-01
7735204	0	2016-02-23 @ 2:00 pm	2016-02-26 @ 3:00 pm	< 0.3	2016-03-01

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

February 23, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT- PHASE 7, 8, 9
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7734937	1	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734946	10	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734955	11	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734956	12	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734959	13	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734930	14	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734953	15	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734954	16	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734940	17	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734949	18	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734948	19	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734939	2	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734942	20	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734929	21	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734933	22	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734934	23	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734936	24	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734943	25	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734944	26	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734935	27	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734928	28	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734952	29	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734947	3	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734931	30	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734932	31	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718520	32	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718523	33	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718522	34	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718521	35	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734945	4	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734960	5	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734958	6	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734951	7	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734957	8	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734938	9	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23

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

February 15, 2016

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

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

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 KCF Technologies Inc. Job Number 173704

NOMINAL Conditions: Radon Conc 5.9 pCi/L Rel. Hum 45.9 % Temp. 79.0 F

Date Start: 1/30/16 Date Stop: 2/1/16	Date Start: _____ Date Stop: _____
Time Start: 0926 Time Stop: 0926	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags -	Device No.'s: _____
7718281, 7718282, 7718291,	_____
7718288, 7718289, 7718273	_____
E3 Left	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

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

RADON SCREENING SURVEY – FOLLOW-UP ROCKWELL ELEMENTARY SCHOOL

24555 Cutsail Drive, Damascus, Maryland 20872

EXECUTIVE SUMMARY

Date of Test Report:	3/15/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	2
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	<0.3
High Value:	1.6
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 1/25/16 (Initial)	Result (pCi/L) 3/15/16 Follow-Up	Average Result (pCi/L)
CR-A9	0.9 Tampered	0.5	0.7
MPR	1.2 Tampered	1.6 Tampered	1.4

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 9

Name of Schools:

1. Banneker MS
2. Bethesda-Chevy Chase HS
3. Burtonsville ES
4. Chevy Chase ES
5. Clopper Mill ES
6. Edison HS
7. Flower Hill ES
8. Flower Valley ES
9. Greencastle ES
10. Maryvale ES
11. Montgomery Blair HS
12. Poolesville HS
13. Rachel Carson ES
14. Stedwick ES
15. Watkins Mill ES
16. Laytonsville ES
17. Lincoln Center

	Date	Initials
Radon Test Kits Deployed	2/23/16	JM
Radon Test Kits Collected	2/26/16	JM
Radon Test Kits Shipped to Lab*	2/26/16	JM
Radon Test Kits Received by Lab*	3/01/16	JM

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: Lois P. Rockwell Elementary School

Date of Test Report:	2/29/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	37
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.8

Project Status:
Initial testing completed; compromised samples need re-test.

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

February 29, 2016 (Rev 1)

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

Re: **Radon Testing Services**
KCI Job # 12146341.19

Location: Lois P. Rockwell Elementary
School 24555 Cutsail Drive
Damascus, MD 20872

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 Lois P. Rockwell Elementary School, located at 24555 Cutsail Drive in Damascus, Maryland 20872 (subject site).

Scope of Services:

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

KCI visited the site on December 15, 2016 and deployed hundred forty-eight (48) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on December 18, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	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		
Rockwell E.S.		
Test Period: 12/15/15-12/18/15		
Kit Number	**Room / Area**	**Result**
7705119	ASPRN	0.9
7705116	BSO	1.6
7705106	COM	2.4
7704303	CONF	1.1
7704685	CR-A1	1.2
7705109	CR-A10	0.9
7705128	CR-A11	1.4
7704678	CR-A2	1.1
7706609	CR-A3	0.8
7704695	CR-A4	1.0
7705110	CR-A5	0.5
7705121	CR-A6	0.9
7704682	CR-A7	0.5
7704260	CR-A8	1.3
7705124	* CR-A9 (Tampered)	0.9
7706610	CR-ART	0.8
7704689	CR-B11	1.5
7704340	CR-B14	1.4
7704692	CR-B6	0.6
7704241	GYM	2.2
7705127	GYM	2.1
7704302	HE	1.3
7705117	HE-A	0.9
7704244	HEO	0.8
7704257	IMC	1.6
7704677	IMC	2.0
7705108	KIT	2.8
7704307	Main Office	1.5
7704259	MP	1.7
7705129	MPR	1.7
7705107	* MPR (Tampered)	1.2
7704686	OBS	1.5
7705125	OFF	1.0
7704308	PRN	1.2
7704693	SP	1.7
7705118	SR	1.0
7704339	STAFF	1.0
7705126	STO	1.7
7704258	THA	1.2
7705120	WR	0.9

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Rockwell E.S.		
Test Period: 12/15/15-12/18/15		
Kit Number	**QC Type**	**Result**
7704301	D (CONF)	1.1
7704691	D (CR-A4)	1.2
7706619	D (CR-B6)	0.6
7704319	D (KIT)	2.6
7704700	FB (CR-A6)	< 0.3
7704248	FB (CR-B14)	< 0.3
7705104	FB (WR)	< 0.3
7704361	OB (OFFICE BLANK)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 31, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

ROCKWELL E.S.
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7705119	ASPRN	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	0.9 ± 0.3	2015-12-22
7705116	BSO	2015-12-15 @ 3:00 pm	2015-12-18 @ 10:00 am	1.6 ± 0.3	2015-12-22
7705106	COM	2015-12-15 @ 3:00 pm	2015-12-18 @ 11:00 am	2.4 ± 0.4	2015-12-22
7704301	CONF	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	1.1 ± 0.3	2015-12-22
7704303	CONF	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	1.1 ± 0.3	2015-12-22
7704685	CR-A1	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.2 ± 0.3	2015-12-22
7705109	CR-A10	2015-12-15 @ 3:00 pm	2015-12-18 @ 11:00 am	0.9 ± 0.3	2015-12-22
7705128	CR-A11	2015-12-15 @ 3:00 pm	2015-12-18 @ 11:00 am	1.4 ± 0.3	2015-12-22
7704678	CR-A2	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.1 ± 0.3	2015-12-22
7706609	CR-A3	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	0.8 ± 0.3	2015-12-22
7704691	CR-A4	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.2 ± 0.3	2015-12-22
7704695	CR-A4	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.0 ± 0.3	2015-12-22
7705110	CR-A5	2015-12-15 @ 5:00 pm	2015-12-18 @ 11:00 am	0.5 ± 0.3	2015-12-22
7704700	CR-A6	2015-12-15 @ 5:00 pm	2015-12-18 @ 11:00 am	< 0.3	2015-12-22
7705121	CR-A6	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	0.9 ± 0.3	2015-12-22
7704682	CR-A7	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	0.5 ± 0.3	2015-12-22
7704260	CR-A8	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.3 ± 0.3	2015-12-22
7705124	CR-A9	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	0.9 ± 0.3	2015-12-22
7706610	CR-ART	2015-12-15 @ 5:00 pm	2015-12-18 @ 11:00 am	0.8 ± 0.3	2015-12-22
7704689	CR-B11	2015-12-15 @ 5:00 pm	2015-12-18 @ 11:00 am	1.5 ± 0.3	2015-12-22
7704340	CR-B14	2015-12-15 @ 5:00 pm	2015-12-18 @ 11:00 am	1.4 ± 0.3	2015-12-22
7704248	CR-B14	2015-12-15 @ 5:00 pm	2015-12-18 @ 11:00 am	< 0.3	2015-12-22
7706619	CR-B6	2015-12-15 @ 5:00 pm	2015-12-18 @ 11:00 am	0.6 ± 0.3	2015-12-22
7704692	CR-B6	2015-12-15 @ 5:00 pm	2015-12-18 @ 11:00 am	0.6 ± 0.3	2015-12-22
7705127	GYM	2015-12-15 @ 3:00 pm	2015-12-18 @ 11:00 am	2.1 ± 0.4	2015-12-22
7704241	GYM	2015-12-15 @ 3:00 pm	2015-12-18 @ 11:00 am	2.2 ± 0.3	2015-12-22
7704302	HE	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	1.3 ± 0.3	2015-12-22
7705117	HE-A	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	0.9 ± 0.3	2015-12-22
7704244	HEO	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	0.8 ± 0.3	2015-12-22
7704257	IMC	2015-12-15 @ 3:00 pm	2015-12-18 @ 11:00 am	1.6 ± 0.3	2015-12-22
7704677	IMC	2015-12-15 @ 3:00 pm	2015-12-18 @ 11:00 am	2.0 ± 0.3	2015-12-22
7704319	KIT	2015-12-15 @ 3:00 pm	2015-12-18 @ 10:00 am	2.6 ± 0.4	2015-12-22
7705108	KIT	2015-12-15 @ 3:00 pm	2015-12-18 @ 10:00 am	2.8 ± 0.4	2015-12-22
7704307	MAIN	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	1.5 ± 0.3	2015-12-22
7704259	MP	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.7 ± 0.3	2015-12-22
7705107	MPR	2015-12-15 @ 3:00 pm	2015-12-18 @ 10:00 am	1.2 ± 0.3	2015-12-22
7705129	MPR	2015-12-15 @ 3:00 pm	2015-12-18 @ 10:00 am	1.7 ± 0.3	2015-12-22

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

December 31, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

ROCKWELL E.S.
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7704686	OBS	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.5 ± 0.3	2015-12-22
7705125	OFF	2015-12-15 @ 3:00 pm	2015-12-18 @ 11:00 am	1.0 ± 0.3	2015-12-22
7704308	PRN	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	1.2 ± 0.3	2015-12-22
7704693	SP	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.7 ± 0.3	2015-12-22
7705118	SR	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	1.0 ± 0.3	2015-12-22
7704339	STAFF	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	1.0 ± 0.3	2015-12-22
7705126	STO	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.7 ± 0.3	2015-12-22
7704258	THA	2015-12-15 @ 4:00 pm	2015-12-18 @ 11:00 am	1.2 ± 0.3	2015-12-22
7705104	WR	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	< 0.3	2015-12-22
7705120	WR	2015-12-15 @ 2:00 pm	2015-12-18 @ 10:00 am	0.9 ± 0.3	2015-12-22

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

December 31, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

ROCKWELL E.S.
OFFICE BLANK

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7704361	MAIN	2015-12-15 @ 2:00 pm	2015-12-18 @ 2:00 pm	< 0.3	2015-12-22

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

December 29, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT DEC 14 2015
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7704395	TRANSIT 1	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706508	TRANSIT 10	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706510	TRANSIT 11	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706511	TRANSIT 12	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706505	TRANSIT 13	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704371	TRANSIT 14	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706506	TRANSIT 15	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704381	TRANSIT 16	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704399	TRANSIT 17	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704390	TRANSIT 18	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704396	TRANSIT 2	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704364	TRANSIT 3	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704370	TRANSIT 4	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704368	TRANSIT 5	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706524	TRANSIT 6	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706526	TRANSIT 7	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706518	TRANSIT 8	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706516	TRANSIT 9	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16

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

December 23, 2015

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

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

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

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

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

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

A.B.E. Radiation Measurements Laboratory

Division of Health Physics Associates, Inc.
1005 Old 22 PO Box 214 Lenhartsville, PA 19534
dee@radprotection.com
(610) 756-4153 (Voice) (610) 756-0042 (FAX)

December 22, 2015

MA Cecil & Associates, Inc.
4475 Shannon Way
Port Republic, MD 20676

Attn: Kimberly Tayman

re: **Radon Sampling,** Lois P. Rockwell Elementary School,
24555 Cutsail Dr., Damascus, MD 20872.
Dates of tests: December 9 to 11, 2015
Chamber Spikes: 2.9 % Deviation; September 19 to 21, 2015

Dear Ms. Tayman:

The following is a report of the radon sampling your company conducted at the referenced property using activated charcoal. The charcoal analysis procedures have passed the US EPA's Radon Measurement Proficiency Testing program, and A.B.E. Radiation Measurements Lab is certified by the PA DEP as a laboratory (certification number 0048). The table lists each sample location and the net radon levels in picocuries per liter (pCi/l). Screening testing should be conducted under "closed house" conditions; however, A.B.E. Radiation Measurements Laboratory has no control over how the test device is treated in our absence or the degree of ventilation at the property over the course of the test.

Canister Number	Location	Start Time	End Time	pCi/l
174389	Conference Room	16:24	16:30	1.6

CONCLUSIONS

The radon concentration measured during the test was below the US EPA screening guideline of less than 4.0 pCi/l and remedial action to reduce the radon concentration is not indicated based on the results of this test. Because of the variability of radon air concentrations over the course of a year, follow-up biannual testing during a different season, under occupied conditions, is recommended to better estimate the annual average air concentrations.

The results of this test are valid only for the date, time and conditions under which the test was conducted and only for the client ordering the test.

Should you wish to discuss this report, please do not hesitate to contact us at (610) 756-4153.

Thank you for the opportunity to serve you.

Sincerely,

A. LaMastra
President