



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 \geq 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.



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 pCi/L	Gym	4.7
	Gym	5.0
	Kitchen	3.8
<4.0 pCi/L	See Attachment B	

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

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

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table 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

ATTACHMENT C

Laboratory Analytical Results

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

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



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	BULLY
Radon Test Kits Collected	12/16/2022	BULLY
Radon Test Kits Shipped to Lab*	12/16/2022	BULLY
Radon Test Kits Received by Lab*	12/19/2022	BULLY

*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 \geq 4.0 pCi/L:	0
Low Value:	<0.3
High Value:	1.6
Confirmed Rooms \geq 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events \geq 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



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 \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.6

Project Status:

Retesting completed; no further action at this time.



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 $\leq 65^{\circ}$ 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. 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 pCi/L	none	n/a
< 4.0 pCi/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. Mouldale
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

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: 11/30/16 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 _____

ε3 Left

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

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

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

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

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

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

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

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 \geq 4.0 pCi/L:	0
Low Value:	<0.3
High Value:	1.6
Confirmed Rooms \geq 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events \geq 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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 9

Name of Schools:

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

	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



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 \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.8

Project Status:

Initial testing completed; compromised samples need re-test.



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 $\leq 65^{\circ}$ 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 pCi/L	none	n/a
< 4.0 pCi/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. Mouldale
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

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

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, Device No.'s: _____

7706211, 7706366, _____

7706380, 7706381 _____

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 μ R/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.

<u>Canister Number</u>	<u>Location</u>	<u>Start Time</u>	<u>End Time</u>	<u>pCi/l</u>
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