



**MCPS RADON TESTING – EXECUTIVE SUMMARY**

Site Name	North Chevy Chase Elementary School
Date of Test Report	1/04/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	55
# Rooms $\geq$ 4.0 pCi/L	1
Lowest Value	<0.3 pCi/L
Highest Value	4.3 pCi/L

Project Status:

1. Initial testing completed;
2. Mitigate Room 25



January 4, 2023

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

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

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Rd.  
Chevy Chase, MD 20815

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 North Chevy Chase Elementary School, located at 3700 Jones Bridge Rd. Chevy Chase, MD 20815 (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](http://www.epa.gov/radon).

KCI visited the site on December 5, 2022 and deployed sixty-four (64) 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 8, 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 low temperatures were in the 20s°F and high temperatures ranged to the mid-50s°F. Maximum sustained winds ranged from 0-12 miles per hour. Average humidity was around 75% with .04 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	25	4.3
<4.0 pCi/L	See Attachment B	

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

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

Sincerely,



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

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

# ATTACHMENT A

## Floor Plan With Test Locations

# ATTACHMENT B

## Radon Test Summary Spreadsheet

**Table Notes:**

AC- Activated Charcoal

ACI- Air Check, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

OC- Quality Control

Table 1- Radon Testing Results		
North Chevy Chase ES		
Test Period: 12/05/2022 - 12/08/2022		
Kit Number	Room / Area	Result
11287209	10	0.8
11287202	12	1.0
11287214	13	1.4
11287219	13	1.4
11287213	14	1.4
11287220	15	1.2
11287221	16	1.9
11287218	17	0.8
11287227	18	0.6
11287222	20	< 0.3
11287235	21	3.3
11287230	22	1.2
11287236	23	1.6
11287216	24	1.6
11287223	25	4.3
11287217	26	2.4
11287231	27	2.4
11287237	27	2.6
11287234	31	1.0
11287242	31	1.0
11287245	32	1.6
11287251	32	1.7
11287239	33	1.3
11287240	34	1.7
11287247	103	1.7
11287246	104	1.5
11287253	104	1.0
11287254	105	1.9
11287267	107	1.4
11287255	112	1.4
11287256	112	< 0.3
11287258	114	< 0.3
11287268	114	1.7
11287257	208	< 0.3
11287259	110A	1.8
11287260	118A	1.5
11287248	118B	2.0
11287261	118C	1.8
11287249	118D	1.9
11287262	118E	2.0
11287243	APR	1.2
11287244	APR	1.6



Table 1- Radon Testing Results		
North Chevy Chase ES		
Test Period: 12/05/2022 - 12/08/2022		
Kit Number	Room / Area	Result
11287224	BLDG SERVICE OFFICE	1.2
11287201	CONFERENCE ROOM	2.3
11287210	COUNSELOR	1.2
11287250	GYM	1.1
11287252	GYM	0.9
11287241	GYM OFFICE	1.2
11287204	HEALTH	2.2
11287203	MAIN OFFICE	2.1
11287207	MEDIA	1.0
11287215	MEDIA	1.8
11287208	MEDIA OFFICE	1.5
11287229	MEDIA OFFICE	0.8
11287226	MEDIA WORKROOM	1.2
11287228	MEDIA WORKROOM	1.4
11287211	PRINCIPAL	2.4
11287206	SPEECH	1.6
11287212	STAFF DEVELOPMENT	2.1
11287232	STAFF LOUNGE	1.4
11287225	STAFF OFFICE 1	1.7
11287238	STAFF OFFICE 2	1.3
11287233	STAFF OFFICE 3	1.2
11287205	STAFF ROOM	1.1

Table 2- Radon Testing Results			
North Chevy Chase ES			
Test Period: 12/05/22 - 12/08/22			
Kit Number	QC Type	Room / Area	Result
11287219	D	13	1.4
11287237	D	27	2.6
11287242	FB	31	1.0
11287245	D	32	1.6
11287253	D	104	1.0
11287255	D	112	1.4
11287258	FB	114	< 0.3
11287229	FB	Media office	0.8
11287226	D	Media workroom	1.2
11133716	OB	OFFICE BLANK	< 0.3
11140129	TB	TRAVEL BLANK	< 0.3



# ATTACHMENT C

## Laboratory Analytical Results

Radon test result report for:  
**NORTH CHEVY CHASE ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287209	10	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287247	103	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287246	104	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.5 ± 0.5	2022-12-14
11287253	104	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.5	2022-12-14
11287254	105	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.9 ± 0.5	2022-12-14
11287267	107	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287259	110A	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.8 ± 0.5	2022-12-14
11287255	112	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287256	112	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287258	114	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287268	114	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287260	118A	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.5 ± 0.5	2022-12-14
11287248	118B	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	2.0 ± 0.6	2022-12-14
11287261	118C	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.8 ± 0.5	2022-12-14
11287249	118D	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.9 ± 0.5	2022-12-14
11287262	118E	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	2.0 ± 0.5	2022-12-14
11287202	12	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.0 ± 0.5	2022-12-14
11287219	13	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287214	13	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287213	14	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287220	15	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287221	16	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.9 ± 0.5	2022-12-14
11287218	17	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287227	18	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.6 ± 0.5	2022-12-14
11287222	20	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11287257	208	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287235	21	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	3.3 ± 0.6	2022-12-14
11287230	22	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287236	23	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.6	2022-12-14
11287216	24	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.5	2022-12-14
11287223	25	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	4.3 ± 0.8	2022-12-14
11287217	26	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287237	27	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.6 ± 0.6	2022-12-14
11287231	27	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287234	31	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.6	2022-12-14
11287242	31	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.6	2022-12-14
11287251	32	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14

Radon test result report for:  
**NORTH CHEVY CHASE ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287245	32	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.6 ± 0.5	2022-12-14
11287239	33	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.3 ± 0.5	2022-12-14
11287240	34	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287244	APR	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.6 ± 0.5	2022-12-14
11287243	APR	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287224	BLDG SERVICE OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287201	CONFERENCE ROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.3 ± 0.6	2022-12-14
11287210	COUNSELOR	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287252	GYM	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	0.9 ± 0.5	2022-12-14
11287250	GYM	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.1 ± 0.5	2022-12-14
11287241	GYM OFFICE	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287204	HEALTH	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.2 ± 0.5	2022-12-14
11287203	MAIN OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.1 ± 0.5	2022-12-14
11287215	MEDIA	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.8 ± 0.5	2022-12-14
11287207	MEDIA	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.0 ± 0.5	2022-12-14
11287208	MEDIA OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.5 ± 0.5	2022-12-14
11287229	MEDIA OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287226	MEDIA WORKROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287228	MEDIA WORKROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287211	PRINCIPAL	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287206	SPEECH	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.6	2022-12-14
11287212	STAFF DEVELOPMENT	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.1 ± 0.6	2022-12-14
11287232	STAFF LOUNGE	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287225	STAFF OFFICE 1	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287238	STAFF OFFICE 2	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.3 ± 0.5	2022-12-14
11287233	STAFF OFFICE 3	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287205	STAFF ROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.1 ± 0.5	2022-12-14

# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KC1 TECHNOLOGIES, INC Job Number 208343

NOMINAL Conditions: Radon Conc 34.7 pCi/L Rel. Hum 49.4 % Temp. 69.6 F

Date Start: 12/24/22 Date Stop: 12/27/22 Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0810 Time Stop: 0810 Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: (5) CHAR BAGS - Device No.'s: \_\_\_\_\_

11285109, 11285110, 11285101

THRU 11285103

BY LEFT

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_

Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_ Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_ Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: \_\_\_\_\_ Device No.'s: \_\_\_\_\_

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

December 29, 2022

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

Radon test result report for:

**OFFICE**

**MA** MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within  $\pm 25\%$  of the chamber's reference value (34.7 pCi/L).

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
11285110	SK1	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	31.7 $\pm$ 2.5	2022-12-29
11285101	SK2	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	30.1 $\pm$ 2.4	2022-12-29
11285103	SK3	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	34.0 $\pm$ 2.7	2022-12-29
11285102	SK4	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	30.9 $\pm$ 2.5	2022-12-29
11285109	SK5	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	32.0 $\pm$ 2.6	2022-12-29

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





## Radon Test Kit Chain of Custody

Project Name: MCPS Radon – April 2022 Schools – Retesting

Name of Schools:

1. Lynnbrook Center
2. Chevy Chase ES
3. North Chevy Chase ES
4. Wood Acres ES
5. Ashburton ES
6. Carderock Springs ES
7. North Bethesda MS
8. Brooke Grove ES

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	Date	Initials
Radon Test Kits Deployed	12/05/2022	Bully
Radon Test Kits Collected	12/08/2022	Bully
Radon Test Kits Shipped to Lab*	12/08/2022	Bully
Radon Test Kits Received by Lab*	12/14/2022	Bully

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

**RADON SCREENING SURVEY – FOLLOW-UP NORTH CHEVY CHASE ELEMENTARY  
SCHOOL**

3700 Jones Bridge Road, Chevy Chase, Maryland 20815

**EXECUTIVE SUMMARY**

Date of Test Report:	3/7/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	4
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7
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) 3/3/16 (Rev 1) Initial	Result (pCi/L) 3/7/16 Follow-Up	Average Result (pCi/L)
32	5.0	1.7	3.4
MAIN OFFICE	1.6 (tampered)	0.8	1.2
Principal's Office	missing	0.6	0.6
MPR	missing	1.4 (tampered)	1.4



## MCPS RADON TESTING

### Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/7/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	4
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7

#### Project Status:

Retesting completed; use the average of the initial and re-test results in a room to determine if remediation is necessary.

Retesting completed; missing or compromised samples need re-test.



March 7, 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 # 12146341.28

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Road  
Chevy Chase, MD 20815

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 North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (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](http://www.montgomerycountymd.gov/dep/air/radon) or [www.epa.gov/radon](http://www.epa.gov/radon).

KCI visited the site on February 8, 2016 and deployed six (6) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. 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 11, 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:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
$\geq 4.0$ 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 8 testing. Office blanks were not submitted under each school individually.

<b>Radon Testing Results</b>		
<b>North Chevy Chase Elementary School</b>		
<b>Test Period: 02/08/16-02/11/16</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7730299	32	1.7
7730295	MAIN OFFICE	0.8
7730297	* MPR (tampered)	1.4
7730296	PRINC OFF	0.6

Table Note:

\* Missing or Compromised Sample

Radon Testing Results		
North Chevy Chase Elementary School		
Test Period: 02/08/16-02/11/16		
Kit Number	QC Type	Result
7730298	* D (MPR:tampered)	1.3
7730300	FB (32)	< 0.3

Table Note:

\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

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February 25, 2016  
**LABORATORY ANALYSIS  
REPORT \*\***

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Radon test result report for:  
**NORTH CHEVY CHASE ELEMENTARY SCHOOL  
MAIN**

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<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
7730299	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.7 ± 0.4	2016-02-15
7730300	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	< 0.3	2016-02-15
7730295	MAIN OFFICE	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.8 ± 0.3	2016-02-15
7730297	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.4 ± 0.4	2016-02-15
7730298	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.3 ± 0.3	2016-02-15
7730296	PRINC OFF	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.6 ± 0.3	2016-02-15

---

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

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February 25, 2016 **\*\* LABORATORY ANALYSIS REPORT \*\***

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Radon test result report for:

**MCPS RADON  
PHASE 8  
OFFICE BLANKS**

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<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
7729754	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729757	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729758	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15

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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**

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
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 \_\_\_\_\_  
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 μR/h Elevation = 820 ft**



## Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 8

Name of Schools:

1. Blair G. Ewing Center
2. Cedar Grove ES
3. Clarksburg ES
4. Cloverly ES
5. Cold Spring ES
6. Damascus ES
7. Dufief ES
8. East Silver Spring
9. Georgian Forest ES
10. Germantown ES
11. Glenallen ES
12. Jackson Road ES
13. Jones Lane ES
14. Lake Seneca ES
15. Laytonsville ES
16. Montgomery Knolls ES
17. North Chevy Chase ES
18. Oakview ES
19. Randolph Maint
20. Robert Frost MS
21. Shady Grove Maint
22. Viers Mill ES

---

	Date	Initials
Radon Test Kits Deployed	2/8/16	JM
Radon Test Kits Collected	2/11/16	JM
Radon Test Kits Shipped to Lab*	12/11/16	JM
Radon Test Kits Received by Lab*	12/15/16	JM

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



### MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/3/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	50
# Rooms $\geq$ 4.0 pCi/L:	1
Low Value:	< 0.3
High Value:	5.0

Rooms with results  $\geq$  4.0 pCi/L:  
Room CR32 (5.0 pCi/L)

Project Status:

Initial testing completed; re-test needed for results  $\geq$  4.0 pCi/L.  
Initial testing completed; missing or compromised samples need re-test.



March 3, 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 # 12146341.20

Location: North Chevy Chase Elementary School  
3700 Jones Bridge Road  
Chevy Chase, MD 20815

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 North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (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](http://www.montgomerycountymd.gov/dep/air/radon) or [www.epa.gov/radon](http://www.epa.gov/radon).

KCI visited the site on December 21, 2015 and deployed sixty (60) 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 24, 2015 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

**Evaluation of Testing Conditions:**

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

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
$\geq 4.0$ pCi/L	CR32	5.0
$< 4.0$ 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		
North Chevy Chase E.S		
Test Period: 12/21/15-12/24/15		
Kit Number	Room / Area	Result
7712046	112	1.8
7712042	114	2.0
7712058	205	1.8
7712052	110A	2.0
7712038	118A	2.3
7712041	118B	2.5
7712049	118C	3.0
7712055	118D	2.7
7712039	BLDG SER	1.5
7712032	CF21	1.7
7712002	CONF RM	1.8
7712012	COUNSELOR RM	1.2
7712013	CR10	1.4
7712043	CR103	2.2
7712047	CR104	1.2
7712051	CR105	2.5
7712037	CR107	2.5
7712016	CR12	1.4
7712017	CR13	1.2
7712001	CR14	1.4
7712019	CR15	1.1
7712015	CR16	1.9
7712020	CR17	0.8
7712024	CR18	0.7
7712021	CR20	1.1
7712028	CR22	1.2
7712031	CR23	2.1
7712025	CR24	1.9
7712029	CR25	1.6
7712027	CR26	1.8
7712026	CR27	1.3
7712050	CR31	< 0.3
7712045	CR32	5.0
7712054	CR33	1.0
7712059	CR34	2.0
7712009	DEVEL TEACH OFF	2.9
7712053	GYM	< 0.3
7712070	GYM	0.6
7712057	GYM OFF	1.4
7712008	HEALTH RM	1.8
7712004	* MAIN OFF (tampered)	1.6
7712018	MEDIA CTR	1.3
7712022	MEDIA CTR	1.2
7712011	MEDIA CTR OFF	1.3
7712033	* MPR (missing)	-
7712014	PHONE ROOM	1.8

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>North Chevy Chase E.S</b>		
<b>Test Period: 12/21/15-12/24/15</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7712003	* PRINC OFF (missing)	-
7712034	SLOUNGE	0.9
7712036	SOFF1	0.8
7712030	SOFF2	1.2
7712005	SPEECH OFF	2.1
7712007	STAFF WORK	1.8

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>North Chevy Chase E.S</b>		
<b>Test Period: 12/21/15-12/24/15</b>		
<b>Kit Number</b>	<b>QC Type</b>	<b>Result</b>
7712056	D (118C)	2.5
7712035	D (BLDG SER)	1.4
7712006	D (CONF RM)	2.1
7712023	D (MEDIA CTR)	1.7
7712044	* D (MPR:missing)	-
7712010	FB (PHONE RM)	< 0.3
7712040	FB (SOFF2)	< 0.3
7712192	OB (0)	< 0.3

Table Note:

\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

January 14, 2016  
**LABORATORY ANALYSIS  
REPORT \*\***

Radon test result report for:  
**NORTH CHEVY CHASE E.S  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712192	00	2015-12-21 @ 6:00 pm	2015-12-24 @ 2:00 pm	< 0.3	2015-12-29
7712052	110A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712046	112	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712042	114	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712038	118A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.3 ± 0.4	2015-12-29
7712041	118B	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712049	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	3.0 ± 0.5	2015-12-29
7712056	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712055	118D	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.7 ± 0.4	2015-12-29
7712058	205	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712035	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712039	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.5 ± 0.4	2015-12-29
7712032	CF21	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.7 ± 0.4	2015-12-29
7712002	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712006	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	2.1 ± 0.4	2015-12-29
7712012	COUNSELOR RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712013	CR10	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712043	CR103	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.2 ± 0.4	2015-12-29
7712047	CR104	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712051	CR105	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712037	CR107	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712016	CR12	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712017	CR13	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712001	CR14	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712019	CR15	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.4	2015-12-29
7712015	CR16	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712020	CR17	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712024	CR18	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7712021	CR20	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.3	2015-12-29
7712028	CR22	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712031	CR23	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712025	CR24	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712029	CR25	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.6 ± 0.4	2015-12-29
7712027	CR26	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712026	CR27	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712050	CR31	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712045	CR32	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	5.0 ± 0.6	2015-12-29

January 14, 2016 **LABORATORY ANALYSIS REPORT \*\***

Radon test result report for:  
**NORTH CHEVY CHASE E.S  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712054	CR33	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.0 ± 0.3	2015-12-29
7712059	CR34	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	2.0 ± 0.4	2015-12-29
7712009	DEVEL TEACH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.9 ± 0.5	2015-12-29
7712053	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712070	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	0.6 ± 0.3	2015-12-29
7712057	GYM OFF	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.4 ± 0.4	2015-12-29
7712008	HEALTH RM	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712004	MAIN OFF	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.6 ± 0.4	2015-12-29
7712022	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.2 ± 0.4	2015-12-29
7712023	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.7 ± 0.4	2015-12-29
7712018	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.3 ± 0.4	2015-12-29
7712011	MEDIA CTR OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712033	MPR	@	@		
7712044	MPR	@	@		
7712010	PHONE RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712014	PHONE ROOM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712003	PRINC OFF	@	@		
7712034	SLOUNGE	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.9 ± 0.4	2015-12-29
7712036	SOFF1	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712030	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712040	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712005	SPEECH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712007	STAFF WORK	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29

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  $\mu$ R/h Elevation = 820 ft**



## Chain of Custody

Project Name: MCPS Radon Phase II

School Names:

- |                           |                             |                           |
|---------------------------|-----------------------------|---------------------------|
| 1. Bannockburn ES         | 11. Sherwood HS             | 21. Fairland ES           |
| 2. Walt Whitman HS        | 12. Hadley Farms            | 22. Cannon Road ES        |
| 3. Walter Johnson HS      | 13. S. Christa McAuliffe ES | 23. Richard Montgomery HS |
| 4. North Chevy Chase ES   | 14. Ronald A. McNair ES     | 24. Brooke Grove ES       |
| 5. Piney Branch ES        | 15. MLK MS                  | 25. Belmont ES            |
| 6. Forest Knolls ES       | 16. Ashburton ES            | 26. Emory Grove           |
| 7. Newport Mill MS        | 17. Bradley Hills ES        | 27. Clarksburg HS         |
| 8. Broad Acres ES         | 18. Flora M. Singer ES      | 28. Clarksburg ES         |
| 9. Briggs Chaney MS       | 19. Woodlin ES              | 29. John T. Baker MS      |
| 10. Blair G. Ewing Center | 20. Montgomery Knolls ES    |                           |

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	Date	Initials
Radon Test Kits Deployed	12/21/2015	<i>JM</i>
Radon Test Kits Collected	12/24/2015	<i>JM</i>
Radon Test Kits Shipped to Lab*	12/24/2015	<i>JM</i>
Radon Test Kits Received by Lab*	12/28/2015	<i>JM</i>

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