



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	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	38
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.4 pCi/L

Project Status:

1. 5-Year retesting completed.



January 4, 2023

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

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

Location: Chevy Chase Elementary School
4015 Rosemary St.
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 Chevy Chase Elementary School, located at 4015 Rosemary St. 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.

KCI visited the site on December 5, 2022 and deployed forty-seven (47) 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 concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 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	None	N/A
<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		
Chevy Chase ES		
Test Period: 12/05/2022 - 12/08/2022		
Kit Number	Room / Area	Result
11105978	100	0.9
11105952	102	< 0.3
11114391	104	< 0.3
11133719	105	< 0.3
11114388	106	< 0.3
11133718	108	< 0.3
11114379	118	< 0.3
11133709	118	< 0.3
11133720	118	< 0.3
11133725	118	< 0.3
11133710	122	< 0.3
11132796	126	< 0.3
11138997	200	< 0.3
11114171	204	< 0.3
11114168	205	1.1
11114170	206	< 0.3
11138986	207	< 0.3
11114169	208	< 0.3
11138961	208	< 0.3
11138958	209	< 0.3
11138989	213	< 0.3
11138969	214	< 0.3
11138977	215	< 0.3
11138978	216	0.8
11114160	217	< 0.3
11114154	221	< 0.3
11114161	221	0.6
11114299	221	< 0.3
11114300	221	< 0.3
11114164	224	0.9
11114384	225	0.8
11114385	227	1.1
11114298	229	1.1
11114393	229	1.4
11105974	230	< 0.3
11114167	230	< 0.3
11105951	301	< 0.3
11114395	306	0.6
11132792	200A	< 0.3
11138998	200B	1.0
11106213	200C	< 0.3
11114173	200D	< 0.3

Table 1- Radon Testing Results		
Chevy Chase ES		
Test Period: 12/05/2022 - 12/08/2022		
Kit Number	Room / Area	Result
11138996	200F	0.8
11114174	200G	< 0.3
11114162	221C	0.9
11114392	229A	< 0.3
11133717	ORNER	< 0.3

Table 2- Radon Testing Results			
Chevy Chase ES			
Test Period: 12/05/22 - 12/08/22			
Kit Number	QC Type	Room / Area	Result
11114379	D	118	< 0.3
11133720	FB	118	< 0.3
11114169	D	208	< 0.3
11114299	D	221	< 0.3
11114161	FB	221	0.6
11114167	D	230	< 0.3
11133716	OB	OFFICE BLANK	< 0.3
11140129	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**CHEVY CHASE ES****1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11105978	100	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.9 ± 0.5	2022-12-14
11105952	102	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114391	104	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11133719	105	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114388	106	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11133718	108	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11133709	118	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11133720	118	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11133725	118	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114379	118	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11133710	122	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11132796	126	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138997	200	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11132792	200A	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138998	200B	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.0 ± 0.5	2022-12-14
11106213	200C	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114173	200D	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138996	200F	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11114174	200G	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114171	204	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114168	205	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.1 ± 0.5	2022-12-14
11114170	206	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138986	207	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138961	208	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114169	208	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138958	209	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138989	213	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138969	214	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138977	215	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11138978	216	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.4	2022-12-14
11114160	217	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114300	221	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114299	221	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114161	221	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.6 ± 0.4	2022-12-14
11114154	221	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114162	221C	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.9 ± 0.5	2022-12-14
11114164	224	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.9 ± 0.5	2022-12-14

December 14, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

CHEVY CHASE ES

1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11114384	225	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11114385	227	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.1 ± 0.5	2022-12-14
11114393	229	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11114298	229	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.1 ± 0.5	2022-12-14
11114392	229A	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11105974	230	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114167	230	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11105951	301	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11114395	306	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.6 ± 0.4	2022-12-14
11133717	ORNER	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14

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 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 μ 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).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
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

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

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



MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Chevy Chase Elementary School
Date of Report	January 31, 2018
Round of Testing	Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	34
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	1.7 pCi/L

Current Project Status at this time: Testing Completed; no further action at this time.



January 31, 2018

Mr. Richard Cox, MS
Team Leader
Montgomery County Public Schools
Division of Maintenance
Rockville, Maryland 20855

Re: Radon Testing Services

KCI Job #1214694182

Location: Chevy Chase Elementary School

4015 Rosemary St., Chevy Chase
Chevy Chase, Maryland 20815

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Chevy Chase Elementary School, located at 4015 Rosemary St., Chevy Chase 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 or www.epa.gov/radon.

KCI visited the site on November 28, 2017 and deployed forty-six (46) 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 Appendix 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, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on December 1, 2017 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, 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:

- Routine five-year retest.

These tests were conducted to:

- Verify radon levels remain low throughout 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 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.

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 30s and high temperatures ranged from the low-50s to mid-60s. Maximum sustained winds ranged from 8-15 miles per hour. Average humidity was around 65%. 0.02 Inches of precipitation was recorded during the testing period.

A magnitude 4.1 earthquake was reported on Thursday November 30 near Dover, Delaware approximately 95 miles east of Gaithersburg, Maryland. The earthquake occurred during or just after the radon testing period for this facility. In general, enhanced radon emissions have been observed prior to earthquakes and this has been recorded all over the world, according to the research article entitled *Radon-222: A Potential Short-Term Earthquake Precursor*, published June 30, 2015 in the Journal of Earth Science and Climate

Change. The nearby earthquake, which occurred during or prior to the testing period, may have resulted in higher-than-normal radon test results for this facility.

RESULTS

The sampling locations, field observations, 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). Missing/compromised tests, missed rooms, and locked rooms 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	None	N/A
≤4.0 pCi/L	See Attachment B	See Attachment B

Quality Control Samples	
Results of Blank Canisters:	The field blanks, office blank, 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 410-316-7800.

Sincerely,



James Moulds, CHMM
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments:

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

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		
Chevy Chase Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	Room / Area	Result
7976443	100	1.7
7976436	102	< 0.3
7976433	104	< 0.3
7976435	105	0.7
7976434	106	< 0.3
7976430	108	0.6
7976441	118	< 0.3
7976442	118	< 0.3
7976444	122	0.8
7976446	200	< 0.3
7976460	204	0.6
7976458	205	< 0.3
7976459	206	< 0.3
7976453	207	< 0.3
7976450	208	< 0.3
7976423	209	0.5
7976449	213	0.5
7976431	214	< 0.3
7976422	215	< 0.3
7976421	216	< 0.3
7976461	217	< 0.3
7976420	218	< 0.3
7976427	221	< 0.3
7976428	221	< 0.3
7976424	224	0.6
7976425	225	< 0.3
7976426	227	< 0.3
7976462	229	< 0.3
7976463	229	< 0.3
7976445	319	< 0.3
7976448	320	0.5
7976447	200A	< 0.3
7976451	200B	< 0.3
7976452	200D	< 0.3
7976456	200G	0.6
7976429	221C	< 0.3
7976467	229A	0.5

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Chevy Chase Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	QC Type	Result
7976440	D (102)	0.6
7976437	D (104)	0.7
7976438	D (106)	0.6
7976454	D (208)	0.6
7976432	D (214)	< 0.3
7976418	D (225)	< 0.3
7976439	FB (106)	< 0.3
7976455	FB (208)	< 0.3
7978000	OB (OB)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:
CHEVY CHASE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7976443	100	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	1.7 ± 0.3	2017-12-04
7976440	102	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	0.6 ± 0.3	2017-12-04
7976436	102	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976433	104	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976437	104	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	0.7 ± 0.3	2017-12-04
7976435	105	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	0.7 ± 0.3	2017-12-05
7976438	106	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	0.6 ± 0.3	2017-12-04
7976439	106	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976434	106	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976430	108	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	0.6 ± 0.3	2017-12-04
7976441	118	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976442	118	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976444	122	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	0.8 ± 0.3	2017-12-04
7976446	200	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976447	200A	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976451	200B	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-05
7976452	200D	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976456	200G	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	0.6 ± 0.3	2017-12-04
7976460	204	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	0.6 ± 0.3	2017-12-05
7976458	205	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976459	206	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976453	207	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976454	208	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	0.6 ± 0.3	2017-12-04
7976455	208	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976450	208	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976423	209	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	0.5 ± 0.3	2017-12-04
7976449	213	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	0.5 ± 0.3	2017-12-04
7976431	214	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976432	214	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-05
7976422	215	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976421	216	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976461	217	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-05
7976420	218	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976428	221	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976427	221	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976429	221C	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976424	224	2017-11-28 @ 8:00 am	2017-12-01 @ 11:00 am	0.6 ± 0.3	2017-12-04

December 19, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
CHEVY CHASE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7976418	225	2017-11-28 @ 8:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976425	225	2017-11-28 @ 8:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976426	227	2017-11-28 @ 9:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976462	229	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976463	229	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-05
7976467	229A	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	0.5 ± 0.3	2017-12-04
7976445	319	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7976448	320	2017-11-28 @ 10:00 am	2017-12-01 @ 11:00 am	0.5 ± 0.3	2017-12-04
7978000	OB	2017-11-28 @ 12:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05

Air Chek, Inc. 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 Phase

Names of Schools:

- | | |
|------------------------------------|-----------------------------------|
| 1. Chevy Chase Elementary School | 15. Viers Mill Elementary School |
| 2. Greencastle Elementary School | 16. Albert Einstein High School |
| 3. English Manor | 17. Wayside Elementary School |
| 4. Rock View Elementary School | 18. Thomas S. Wootton High School |
| 5. Wheaton Woods Elementary School | 19. Highland Elementary School |
| 6. Sequoyah Elementary School | 20. Bethesda Transportation Depot |
| 7. Fallsmead Elementary School | 21. Bethesda Maintenance Depot |
| 8. Beall Elementary School | 22. Travilah Elementary School |
| 9. Stephen Knolls School | 23. Lathrop E. Smith Center |
| 10. Maryvale Elementary School | |
| 11. Redland Middle School | |
| 12. Walt Whitman High School | |
| 13. Springbrook High School | |
| 14. Blair G. Ewing Center | |

	Date	Initials
Radon Test Kits Deployed	11/28/17	JM
Radon Test Kits Collected	12/01/17	JM
Radon Test Kits Shipped to Lab*	12/01/17	JM
Radon Test Kits Received by Lab*	12/05/17	JM

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

Radon test result report for:**TRANSIT 1****NONE**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978062	TRANSIT 1	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975804	TRANSIT 10	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7977990	TRANSIT 11	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978201	TRANSIT 12	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978203	TRANSIT 13	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978206	TRANSIT 14	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978246	TRANSIT 15	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978239	TRANSIT 16	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978226	TRANSIT 17	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975078	TRANSIT 18	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975077	TRANSIT 19	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978074	TRANSIT 2	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975076	TRANSIT 20	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975684	TRANSIT 21	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975683	TRANSIT 22	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975601	TRANSIT 23	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978011	TRANSIT 24	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978012	TRANSIT 25	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978094	TRANSIT 26	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7975624	TRANSIT 27	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7834562	TRANSIT 28	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7977995	TRANSIT 29	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978098	TRANSIT 3	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7977992	TRANSIT 30	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978719	TRANSIT 4	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-05
7978732	TRANSIT 5	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7978731	TRANSIT 6	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975806	TRANSIT 7	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975815	TRANSIT 8	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04
7975805	TRANSIT 9	2017-11-27 @ 4:00 pm	2017-11-30 @ 4:00 pm	< 0.3	2017-12-04

December 19, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within $\pm 25\%$ of the chamber's reference value (27.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7975075	S1	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	25.6 \pm 0.7	2017-12-07
7975064	S2	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	27.4 \pm 0.8	2017-12-07
7975063	S3	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	26.3 \pm 0.7	2017-12-07
7975065	S4	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	23.0 \pm 0.7	2017-12-07
7975069	S5	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	25.6 \pm 0.7	2017-12-07
7975070	S6	2017-12-01 @ 11:00 am	2017-12-04 @ 11:00 am	23.0 \pm 0.7	2017-12-07

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 182393

NOMINAL Conditions: Radon Conc 27.7 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/1/17 Date Stop: 12/4/17 Date Start: _____ Date Stop: _____

Time Start: 1049 Time Stop: 1049 Time Start: _____ Time Stop: _____

Device No.'s: (6) Char. Bags. Device No.'s: _____

7975075, 7975064, 7975063, _____

7975065, 7975069, 7975070 _____

F4 Right

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

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

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

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

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

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

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

RADON SCREENING SURVEY – FOLLOW-UP CHEVY CHASE ELEMENTARY SCHOOL

901 Cannon Road, Silver Spring, Maryland 20904

EXECUTIVE SUMMARY

Date of Test Report:	3/11/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	1
# Rooms \geq 4.0 pCi/L:	0
Low Value:	<0.3
High Value:	0.7
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) 1/28/16 Initial	Result (pCi/L) 3/11/16 Follow-Up	Average Result (pCi/L)
229	--- Missing	0.7	0.7



MCPS RADON TESTING

Executive Summary: Chevy Chase Elementary School

Date of Test Report:	3/11/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	1
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	0.7

Project Status:

Retesting completed; no further action at this time.



March 11, 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: Chevy Chase Elementary School
4015 Rosemary Street
Chevy Chase, Maryland 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 Chevy Chase Elementary School, located at 4015 Rosemary Street 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 or www.epa.gov/radon.

KCI visited the site on February 23, 2016 and deployed three (3) 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 26, 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		
Chevy Chase Elementary School		
Test Period: 02/23/16-02/26/16		
Kit Number	Room / Area	Result
7719194	229	0.6

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Chevy Chase Elementary School		
Test Period: 02/23/16-02/26/16		
Kit Number	QC Type	Result
7719496	D (229)	0.7
7719500	FB (229)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

March 8, 2016 **** LABORATORY ANALYSIS REPORT ****

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719194	229	2016-02-23 @ 10:00 am	2016-02-26 @ 9:00 am	0.6 ± 0.3	2016-03-01
7719496	229	2016-02-23 @ 10:00 am	2016-02-26 @ 9:00 am	0.7 ± 0.3	2016-03-01
7719500	229	2016-02-23 @ 10:00 am	2016-02-26 @ 9:00 am	< 0.3	2016-03-01

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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

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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

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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 μR/h Elevation = 820 ft**



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 9

Name of Schools:

- | | | |
|--------------------------|---------------------------|------------------------|
| 1. Rocking Horse Road ES | 16. Broad Acres ES | 31. Rosa Parks MS |
| 2. Rockwell ES | 17. Belmont ES | 32. Rosemary Hills ES |
| 3. Oakland Terrace ES | 18. Emory Grove Center | 33. Sequoyah ES |
| 4. Rosemont ES | 19. Forest Knolls ES | 34. Damascus HS |
| 5. Beall ES | 20. Baker MS | 35. Einstein ES |
| 6. Cresthaven ES | 21. MLK MS | 36. Forest Oak MS |
| 7. Quince Orchard HS | 22. Richard Montgomery HS | 37. Hoover MS |
| 8. Smith Center | 23. Sherwood HS | 38. Julius West MS |
| 9. Ashburton ES | 24. Walter Johnson HS | 39. John F. Kennedy HS |
| 10. Bannockburn ES | 25. Diamond ES | 40. Travilah ES |
| 11. Bradley Hills ES | 26. Newport Mill MS | 41. Watkins Mill HS |
| 12. Cannon Road ES | 27. Drew ES | 42. Northwood HS |
| 13. Flora M. Singer ES | 28. Monocacy ES | 43. Lincoln Center |
| 14. Clarksburg HS | 29. Potomac ES | |
| 15. Briggs Chaney MS | 30. Rock Terrace School | |

	Date	Initials
Radon Test Kits Deployed	2/22/16	JM
Radon Test Kits Collected	2/25/16	JM
Radon Test Kits Shipped to Lab*	2/25/16	JM
Radon Test Kits Received by Lab*	2/29/16	JM

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



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: Chevy Chase Elementary School

Date of Test Report:	1/28/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	36
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.2

Project Status:

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



January 28, 2016

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

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

Location: Chevy Chase Elementary School
4015 Rosemary Street
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 Chevy Chase Elementary School, located at 4015 Rosemary Street 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 or www.epa.gov/radon.

KCI visited the site on January 4, 2016 and deployed forty-six (46) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on January 7, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler

Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 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 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		
Chevy Chase ES		
Test Period: 01/04/16-01/07/16		
Kit Number	Room / Area	Result
7712515	100	0.9
7712516	102	0.6
7712519	104	< 0.3
7712518	105	0.5
7712521	106	0.6
7712524	108	< 0.3
7712525	118	< 0.3
7712526	118	0.7
7712527	122	0.8
7720485	200	< 0.3
7712514	204	< 0.3
7712508	205	< 0.3
7712513	206	0.8
7712510	207	< 0.3
7712509	208	< 0.3
7712505	209	< 0.3
7712507	213	0.7
7712506	214	< 0.3
7712504	215	0.6
7712501	216	0.6
7712502	217	0.5
7712503	218	0.6
7720499	221	< 0.3
7720500	221	< 0.3
7720495	225	0.6
7720497	227	< 0.3
7720493	229	1.2
7712529	319	0.7
7712528	320	0.7
7720489	200A	< 0.3
7720490	200B	< 0.3
7720491	200D	0.6
7720488	200G	0.5
7720498	221C	< 0.3
7720494	* 229 (Missing)	0
7720492	229A	0.8

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Chevy Chase ES		
Test Period: 01/04/16-01/07/16		
Kit Number	QC Type	Result
7712517	D (102)	0.6
7712520	D (104)	< 0.3
7712522	D (106)	< 0.3
7720486	D (200)	0.9
7712511	D (207)	0.8
7720496	D (225)	0.5
7712523	FB (106)	< 0.3
7720487	FB (200)	< 0.3
7712512	FB (207)	< 0.3
7712531	OB (0)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 25, 2016
** LABORATORY ANALYSIS REPORT **

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712531	0	2016-01-04 @ 6:00 pm	2016-01-07 @ 3:00 pm	< 0.3	2016-01-11
7712515	100	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	0.9 ± 0.3	2016-01-11
7712516	102	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	0.6 ± 0.3	2016-01-12
7712517	102	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	0.6 ± 0.3	2016-01-12
7712519	104	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7712520	104	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7712518	105	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	0.5 ± 0.3	2016-01-11
7712522	106	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7712521	106	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	0.6 ± 0.3	2016-01-12
7712523	106	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7712524	108	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7712525	118	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	< 0.3	2016-01-12
7712526	118	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	0.7 ± 0.3	2016-01-12
7712527	122	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	0.8 ± 0.3	2016-01-12
7720485	200	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7720486	200	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.9 ± 0.3	2016-01-11
7720487	200	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7720489	200A	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7720490	200B	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7720491	200D	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.3	2016-01-11
7720488	200G	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.5 ± 0.3	2016-01-11
7712514	204	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7712508	205	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7712513	206	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	0.8 ± 0.3	2016-01-12
7712510	207	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7712512	207	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7712511	207	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.8 ± 0.3	2016-01-12
7712509	208	2016-01-04 @ 11:00 am	2016-01-07 @ 11:00 am	< 0.3	2016-01-11
7712505	209	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7712507	213	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.7 ± 0.4	2016-01-12
7712506	214	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7712504	215	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.4	2016-01-12
7712501	216	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.3	2016-01-11
7712502	217	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.5 ± 0.3	2016-01-11
7712503	218	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.4	2016-01-12
7720499	221	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7720500	221	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12

January 25, 2016 **** LABORATORY ANALYSIS REPORT ****

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

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7720498	221C	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7720496	225	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.5 ± 0.3	2016-01-11
7720495	225	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.3	2016-01-12
7720497	227	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7720494	229	@	@		
7720493	229	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	1.2 ± 0.4	2016-01-12
7720492	229A	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.8 ± 0.3	2016-01-11
7712529	319	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	0.7 ± 0.4	2016-01-12
7712528	320	2016-01-04 @ 12:00 pm	2016-01-07 @ 11:00 am	0.7 ± 0.3	2016-01-11

January 15, 2016
** LABORATORY ANALYSIS REPORT **

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

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

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



Chain of Custody

Project Name: MCPS Radon Phase IV

Name of Schools:

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

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

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

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