



**MCPS RADON TESTING - EXECUTIVE SUMMARY**

Site Name	Beverly Farms Elementary School
Date of Report	2/3/2020
Round of Testing	Initial Follow-up Post Remediation 2 year testing <b>5 year testing</b> HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	47
# Rooms $\geq$ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	2.0 pCi/L

**Project Status**

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



2/3/2020

Mr. Richard Cox, MS  
Environmental Team Leader  
Montgomery County Public Schools  
Division of Maintenance  
Gaithersburg, Maryland 20879

Re: Radon Testing Services

KCI Job #12146341126

**Location: Beverly Farms Elementary School**

8501 Postoak Road  
Potomac, Maryland 20854

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 Beverly Farms Elementary School, located at 8501 Postoak Road in Potomac, Maryland 20854 (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 Provider (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/departments/facilities/maintenance/default.aspx?id=458858> or [www.epa.gov/radon](http://www.epa.gov/radon).

KCI visited the site on 12/16/2019 and deployed fifty-seven (57) 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.

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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 sixty (60) 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 12/19/2019 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 National Radon Safety Board (NRSB) radon measurement provider and is a 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 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 lower-20s and high temperatures were in the lower-40s. Maximum sustained winds ranged from 12-26 miles per hour. Average humidity was around 67%. 0.54 inches of precipitation (rain and snow) was recorded during the testing period.

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## **RESULTS**

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

The results of the radon test analysis indicated the following:

<b>Radon Concentration</b>	<b>Room</b>	<b>Result</b>
≥4.0 pCi/L	None	N/A
≤4.0 pCi/L	See Attachment B	See Attachment B

<b>Quality Control Samples</b>	
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 410-316-7800.

Sincerely,

Mr. Tyler P. McCleaf  
Radon Measurement Provider  
111004 RT

KCI Technologies, Inc.

Attachments:

A- Floor Plan with Test Locations

B - Tables 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 Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Beverly Farms Elementary School		
Test Period: 12/16/2019-12/19/2019		
Kit Number	Room / Area	Result
9341301	100	< 0.3
9341302	100A	0.6
9341303	100A.2 ISO	0.7
9341304	100A.3	0.7
9341305	100D	0.9
9341306	100E	1
9341307	100B	0.9
9341308	100C	< 0.3
9341309	100G	< 0.3
9341310	100G	0.8
9341311	100F	0.6
9341312	100H	< 0.3
9341313	100M	1
9341314	102	< 0.3
9341315	101	0.8
9341316	105	0.9
9341317	109	< 0.3
9341318	109	0.6
9341319	109B.3	< 0.3
9341320	117	< 0.3
9341321	117	< 0.3
9341322	117	< 0.3
9341323	121	< 0.3
9341324	123	< 0.3
9341325	127	< 0.3
9341326	129	< 0.3
9341327	133	< 0.3
9341332	145	< 0.3
9341333	146	1.2
9341334	146	1.6
9341335	146B	2
9341336	130	0.7
9341337	132	0.6
9341338	128	< 0.3
9341339	124	< 0.3
9341340	122	< 0.3
9341341	122	< 0.3
9341342	122B	< 0.3
9341343	122B	0.9
9341344	120	< 0.3
9341345	120	< 0.3
9341346	116	< 0.3
9341347	114	< 0.3
9341348	112	0.8
9341349	110	0.6
9341350	104	< 0.3
9341351	246	< 0.3
9341352	221	0.9
9341353	238	0.6
9341354	252	< 0.3



9341355	217	0.7
9341357	200	0.9
9341358	221	< 0.3
9341373	OFFICE BLANK	< 0.3
9341328	135	< 0.3
9341329	139	0.6
9341330	141	< 0.3
9341331	145	0.7

Table 2- Radon Testing Results			
Beverly Farms Elementary School			
Test Period: 12/16/2019-12/19/2019			
Kit Number	QC Type	Room / Area	Result
9341309	D	100G	<0.3
9341320	D	117	<0.3
9341321	FB	117	<0.3
9341331	D	145	0.7
9341341	D	122	<0.3
9341342	FB	122B	<0.3
9341358	D	221	<0.3
9341377	TRANSIT BLANK	NA	0.5
9341379	TRANSIT BLANK	NA	< 0.3
9341380	TRANSIT BLANK	NA	< 0.3
9341398	TRANSIT BLANK	NA	< 0.3



# ATTACHMENT C

## Laboratory Analytical Results

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December 23, 2019

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

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Radon test result report for:

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<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
9341328	135	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341329	139	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	0.6 ± 0.4	2019-12-23
9341330	141	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341331	145	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	0.7 ± 0.3	2019-12-23

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

Radon test result report for:  
**BEVERLY FARMS ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341301	100	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341302	100A	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	0.6 ± 0.3	2019-12-23
9341303	100A.2 ISO	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	0.7 ± 0.3	2019-12-23
9341304	100A.3	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	0.7 ± 0.3	2019-12-23
9341307	100B	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	0.9 ± 0.4	2019-12-23
9341308	100C	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341305	100D	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	0.9 ± 0.3	2019-12-23
9341306	100E	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	1.0 ± 0.4	2019-12-23
9341311	100F	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	0.6 ± 0.4	2019-12-23
9341310	100G	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	0.8 ± 0.4	2019-12-23
9341309	100G	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341312	100H	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341313	100M	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	1.0 ± 0.3	2019-12-23
9341315	101	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	0.8 ± 0.3	2019-12-23
9341314	102	2019-12-16 @ 8:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341350	104	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341316	105	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	0.9 ± 0.4	2019-12-23
9341317	109	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341318	109	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	0.6 ± 0.3	2019-12-23
9341319	109B.3	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341349	110	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	0.6 ± 0.3	2019-12-23
9341348	112	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	0.8 ± 0.4	2019-12-23
9341347	114	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341346	116	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341322	117	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341320	117	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341321	117	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341344	120	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341345	120	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341323	121	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341340	122	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341341	122	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341342	122B	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341343	122B	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	0.9 ± 0.4	2019-12-23
9341324	123	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341339	124	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341325	127	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23

December 23, 2019

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

Radon test result report for:  
**BEVERLY FARMS ES**  
**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341338	128	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341326	129	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341336	130	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	0.7 ± 0.4	2019-12-23
9341337	132	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	0.6 ± 0.4	2019-12-23
9341327	133	2019-12-16 @ 9:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341332	145	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341334	146	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	1.6 ± 0.4	2019-12-23
9341333	146	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	1.2 ± 0.3	2019-12-23
9341335	146B	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	2.0 ± 0.4	2019-12-23
9341357	200	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	0.9 ± 0.3	2019-12-23
9341355	217	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	0.7 ± 0.3	2019-12-23
9341352	221	2019-12-16 @ 11:00 am	2019-12-19 @ 10:00 am	0.9 ± 0.3	2019-12-23
9341358	221	2019-12-16 @ 10:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341353	238	2019-12-16 @ 11:00 am	2019-12-19 @ 10:00 am	0.6 ± 0.3	2019-12-23
9341351	246	2019-12-16 @ 11:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23
9341354	252	2019-12-16 @ 11:00 am	2019-12-19 @ 10:00 am	< 0.3	2019-12-23

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

# EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc Job Number 193598

NOMINAL Conditions: Radon Conc \_\_\_\_\_ pCi/L Rel. Hum \_\_\_\_\_ % Temp. \_\_\_\_\_ F

Temp °F 70.1  
RH % 50.1  
Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0815 Time Stop: 0815

(Group 1)  
Device No.'s: (20) Char. Bags-

9340001 thru 9340020

55

Temp °F 70.1  
RH % 50.1  
Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0829 Time Stop: 0820

(Group 2)  
Device No.'s: (20) Char. Bags-

9340021 thru 9340040

54

Temp °F 70.1  
RH % 50.1  
Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0825 Time Stop: 0825

(Group 3)  
Device No.'s: (20) Char. Bags-

9340041 thru 9340060

53

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



Radon test result report for:

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within $\pm 25\%$ of the chamber's reference value (25.7 pCi/L).
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Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340067	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 $\pm$ 2.4 D	2020-01-03
9340035	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	22.5 $\pm$ 2.3 D	2020-01-03
9340003	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 $\pm$ 2.4 D	2020-01-03
9340089	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	23.3 $\pm$ 2.3 D	2020-01-03
9340072	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	18.3 $\pm$ 2.0 D	2020-01-03
9340040	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 $\pm$ 2.6 D	2020-01-03
9340008	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.8 $\pm$ 2.5 D	2020-01-03
9340094	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.7 $\pm$ 2.5 D	2020-01-03
9340099	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.5 $\pm$ 2.6 D	2020-01-03
9340077	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.2 $\pm$ 2.5 D	2020-01-03
9340045	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.7 $\pm$ 2.4 D	2020-01-03
9340013	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.9 $\pm$ 2.6 D	2020-01-03
9340018	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	29.1 $\pm$ 2.8 D	2020-01-03
9341704	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 $\pm$ 2.4 D	2020-01-03
9340050	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.2 $\pm$ 2.6 D	2020-01-03
9340023	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.2 $\pm$ 2.7 D	2020-01-03
9341709	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.5 $\pm$ 2.4 D	2020-01-03
9340055	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.8 $\pm$ 2.6 D	2020-01-03
9340060	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 $\pm$ 2.5 D	2020-01-03
9340028	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.9 $\pm$ 2.3 D	2020-01-03
9341714	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.3 $\pm$ 2.7 D	2020-01-03
9340082	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.4 $\pm$ 2.6 D	2020-01-03
9340065	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.2 $\pm$ 2.4 D	2020-01-03
9340033	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.2 $\pm$ 2.5 D	2020-01-03
9341719	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.7 $\pm$ 2.5 D	2020-01-03
9340001	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.3 $\pm$ 2.5 D	2020-01-03
9340087	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.8 $\pm$ 2.4 D	2020-01-03
9340070	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	19.5 $\pm$ 2.4 D	2020-01-03
9340038	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.7 $\pm$ 2.3 D	2020-01-03
9340006	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 $\pm$ 2.4 D	2020-01-03
9340092	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	31.4 $\pm$ 2.8 D	2020-01-03
9340097	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.7 $\pm$ 2.5 D	2020-01-03
9340075	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	29.6 $\pm$ 2.6 D	2020-01-03
9340043	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.1 $\pm$ 2.6 D	2020-01-03
9340011	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.8 $\pm$ 2.5 D	2020-01-03
9340016	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.2 $\pm$ 2.4 D	2020-01-03
9341702	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 $\pm$ 2.5 D	2020-01-03

Radon test result report for:**S****N/A**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340048	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.5 ± 2.4 D	2020-01-03
9340021	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.7 ± 2.6 D	2020-01-03
9341707	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.8 ± 2.4 D	2020-01-03
9340053	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.8 ± 2.5 D	2020-01-03
9340058	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.5 ± 2.7 D	2020-01-03
9340026	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.9 ± 2.4 D	2020-01-03
9341712	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.3 ± 2.4 D	2020-01-03
9340080	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340063	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.8 ± 2.5 D	2020-01-03
9340031	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.9 ± 2.4 D	2020-01-03
9341717	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.7 ± 2.4 D	2020-01-03
9340085	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.5 D	2020-01-03
9340068	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.2 ± 2.5 D	2020-01-03
9340036	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.6 ± 2.3 D	2020-01-03
9340004	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.6 D	2020-01-03
9340090	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.3 ± 2.5 D	2020-01-03
9340073	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 ± 2.5 D	2020-01-03
9340041	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.6 ± 2.4 D	2020-01-03
9340009	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.1 ± 2.4 D	2020-01-03
9340095	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.2 ± 2.5 D	2020-01-03
9340100	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.5 ± 2.4 D	2020-01-03
9340078	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.0 ± 2.4 D	2020-01-03
9340046	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.0 ± 2.6 D	2020-01-03
9340014	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	21.8 ± 2.8 D	2020-01-03
9340019	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.0 ± 2.5 D	2020-01-03
9341705	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.8 ± 2.6 D	2020-01-03
9340051	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.5 ± 2.4 D	2020-01-03
9340056	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.7 ± 2.6 D	2020-01-03
9340024	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.3 ± 2.5 D	2020-01-03
9341710	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.2 ± 2.3 D	2020-01-03
9340061	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.9 ± 2.6 D	2020-01-03
9340029	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.0 ± 2.3 D	2020-01-03
9341715	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.0 ± 2.5 D	2020-01-03
9340083	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.9 ± 2.4 D	2020-01-03
9340066	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340034	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.4 ± 2.5 D	2020-01-03
9341720	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.3 ± 2.5 D	2020-01-03

Radon test result report for:**S****N/A**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340002	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.7 ± 2.5 D	2020-01-03
9340088	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.4 ± 2.5 D	2020-01-03
9340071	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.9 ± 2.4 D	2020-01-03
9340039	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.5 D	2020-01-03
9340007	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.4 D	2020-01-03
9340093	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.5 D	2020-01-03
9340098	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 ± 2.5 D	2020-01-03
9340076	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.5 D	2020-01-03
9340044	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 ± 2.5 D	2020-01-03
9340012	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	22.5 ± 2.2 D	2020-01-03
9340017	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.3 ± 2.5 D	2020-01-03
9341703	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.0 ± 2.5 D	2020-01-03
9340049	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.0 ± 2.5 D	2020-01-03
9340022	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.6 ± 2.6 D	2020-01-03
9341708	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.8 ± 2.8 D	2020-01-03
9340054	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.8 ± 2.5 D	2020-01-03
9340059	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.5 ± 2.6 D	2020-01-03
9340027	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.6 ± 2.5 D	2020-01-03
9341713	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340081	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	18.4 ± 2.1 D	2020-01-03
9340064	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340032	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.1 ± 2.4 D	2020-01-03
9341718	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	23.7 ± 2.4 D	2020-01-03
9340086	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.6 D	2020-01-03
9340069	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.6 ± 2.5 D	2020-01-03
9340037	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.4 ± 2.6 D	2020-01-03
9340005	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	???? DIF1	2020-01-03
9340091	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340096	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.2 ± 2.5 D	2020-01-03
9340074	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.7 ± 2.5 D	2020-01-03
9340042	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.6 ± 2.5 D	2020-01-03
9340010	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.5 ± 2.5 D	2020-01-03
9341701	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	22.9 ± 2.3 D	2020-01-03
9340047	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.7 ± 2.5 D	2020-01-03
9340015	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.4 ± 2.5 D	2020-01-03
9340020	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.1 ± 2.4 D	2020-01-03
9341706	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	31.0 ± 2.7 D	2020-01-03

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January 3, 2020

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

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Radon test result report for:

**S**

**N/A**

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<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
9340052	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.4 ± 2.6 D	2020-01-03
9340057	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 ± 2.5 D	2020-01-03
9340025	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.1 ± 2.4 D	2020-01-03
9341711	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	22.5 ± 2.2 D	2020-01-03
9340079	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.5 D	2020-01-03
9340062	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.6 ± 2.5 D	2020-01-03
9340030	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.0 ± 2.4 D	2020-01-03
9341716	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340084	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.5 ± 2.3 D	2020-01-03

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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 2019 Week 2

Name of Schools:

- |                               |                     |
|-------------------------------|---------------------|
| 1. Argyle M.S.                | 13. Candelwood E.S. |
| 2. Banneker M.S.              | 14. Drew E.S.       |
| 3. Bel Pre E.S.               | 15. Fallsmead E.S.  |
| 4. Bells Mill E.S.            | 16. Farquhar M.S.   |
| 5. Bethesda Maintenance Depot | 17. Kennedy H.S.    |
| 6. Beverly Farms E.S.         | 18. Luxmanor E.S.   |
| 7. Blake H.S.                 | 19. Magruder H.S.   |
| 8. Dufief E.S.                | 20. Redland M.S.    |
| 9. Briggs Chaney M.S.         | 21. Shriver E.S.    |
| 10. Brookhaven E.S.           | 22. Smith Center    |
| 11. Burtonsville E.S.         | 23. Viers Mill E.S. |
| 12. Cabin John M.S.           | 24. Wheaton H.S.    |

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	Date	Initials
Radon Test Kits Deployed	12/16/19 to 12/17/19	
Radon Test Kits Collected	12/19/19 to 12/20/19	
Radon Test Kits Shipped to Lab*	12/20/19	
Radon Test Kits Received by Lab*	12/23/19	

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



## MCPS RADON TESTING

### Executive Summary: Beverly Farms Elementary School

Date of Test Report:	3/15/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	43
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.0

#### Project Status:

Initial testing completed; no further action at this time.



March 15, 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 # 12146341.23

Location: Beverly Farms Elementary School  
8501 Post oak Road  
Potomac, MD 20854

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 Beverly Farms Elementary School, located at 8501 Post oak Road in Potomac, Maryland 20854 (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 January 4, 2016 and deployed fifty-seven (57) 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:

<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 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

<b>Radon Testing Results</b>		
<b>Beverly Farms E.S.</b>		
<b>Test Period: 01/04/16-01/07/16</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7704803	100	0.7
7704805	101	< 0.3
7704801	102	0.6
7704660	104	< 0.3
7706586	105	< 0.3
7704033	109	0.9
7706585	109	0.8
7704664	110	0.7
7704608	112	< 0.3
7706587	114	0.7
7706581	116	< 0.3
7704008	117	0.7
7706578	120	< 0.3
7706582	120	0.8
7706583	121	< 0.3
7706575	122	< 0.3
7706592	123	0.5
7704256	124	0.6
7706591	127	< 0.3
7706550	128	< 0.3
7706589	129	< 0.3
7708390	130	0.5
7706512	132	< 0.3
7706588	133	< 0.3
7706541	135	0.6
7706531	139	< 0.3
7704231	141	< 0.3
7706544	145	< 0.3
7704228	146	0.9
7706540	146	< 0.3
7710057	205	< 0.3
7708620	213	< 0.3
7710058	221	0.7
7706713	226	< 0.3
7704238	100A	< 0.3
7706706	100A.3	0.5
7704804	100B	< 0.3
7704224	100C	< 0.3
7706461	100D	0.9
7704605	100E	0.9
7704245	100F	0.8
7704246	100G	0.6
7704247	100H	< 0.3
7704802	100M	0.7
7704602	120B	0.7
7710054	146B	1.0

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>Beverly Farms E.S.</b>		
<b>Test Period: 01/04/16-01/07/16</b>		
<b>Kit Number</b>	<b>QC Type</b>	<b>Result</b>
7706721	D (102)	< 0.3
7710056	D (104)	< 0.3
7706452	D (110)	< 0.3
7704239	D (121)	< 0.3
7706741	D (145)	0.6
7706535	D (205)	0.8
7706716	D (226)	< 0.3
7710059	FB (112)	< 0.3
7706590	FB (123)	< 0.3
7710055	FB (221)	< 0.3
7710053	OB (0)	< 0.3

Table Note:

\* Missing or Compromised Sample

# ATTACHMENT C

## Laboratory Analytical Results

Radon test result report for:  
**BEVERLY FARMS E.S.**

**1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7710053	0	2016-01-04 @ 10:00 am	2016-01-07 @ 2:00 pm	< 0.3	2016-01-11
7704803	100	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	0.7 ± 0.3	2016-01-12
7704238	100A	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11
7706706	100A.3	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.5 ± 0.3	2016-01-12
7704804	100B	2016-01-04 @ 2:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11
7704224	100C	2016-01-04 @ 2:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11
7706461	100D	2016-01-04 @ 2:00 pm	2016-01-07 @ 1:00 pm	0.9 ± 0.4	2016-01-12
7704605	100E	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	0.9 ± 0.3	2016-01-12
7704245	100F	2016-01-04 @ 2:00 pm	2016-01-07 @ 1:00 pm	0.8 ± 0.3	2016-01-12
7704246	100G	2016-01-04 @ 2:00 pm	2016-01-07 @ 12:00 pm	0.6 ± 0.3	2016-01-12
7704247	100H	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7704802	100M	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	0.7 ± 0.3	2016-01-12
7704805	101	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7704801	102	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.6 ± 0.3	2016-01-12
7706721	102	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7704660	104	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11
7710056	104	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706586	105	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706585	109	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.8 ± 0.3	2016-01-12
7704033	109	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.9 ± 0.4	2016-01-12
7704664	110	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	0.7 ± 0.3	2016-01-12
7706452	110	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7704608	112	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7710059	112	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706587	114	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.7 ± 0.3	2016-01-12
7706581	116	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7704008	117	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.7 ± 0.3	2016-01-12
7706578	120	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706582	120	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.8 ± 0.3	2016-01-12
7704602	120B	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.7 ± 0.3	2016-01-11
7704239	121	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7706583	121	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7706575	122	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706590	123	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706592	123	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.5 ± 0.3	2016-01-12
7704256	124	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	0.6 ± 0.3	2016-01-12
7706591	127	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11



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

Radon test result report for:  
**BEVERLY FARMS E.S.**

1

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7706550	128	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7706589	129	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7708390	130	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.5 ± 0.3	2016-01-12
7706512	132	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11
7706588	133	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706541	135	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	0.6 ± 0.3	2016-01-11
7706531	139	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7704231	141	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-11
7706544	145	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-11
7706741	145	2016-01-04 @ 4:00 pm	2016-01-07 @ 1:00 pm	0.6 ± 0.4	2016-01-12
7706540	146	2016-01-04 @ 3:00 pm	2016-01-07 @ 12:00 pm	< 0.3	2016-01-12
7704228	146	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.9 ± 0.4	2016-01-12
7710054	146B	2016-01-04 @ 4:00 pm	2016-01-07 @ 12:00 pm	1.0 ± 0.4	2016-01-12
7710057	205	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706535	205	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.8 ± 0.3	2016-01-12
7708620	213	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7710055	221	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7710058	221	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	0.7 ± 0.3	2016-01-12
7706713	226	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12
7706716	226	2016-01-04 @ 3:00 pm	2016-01-07 @ 1:00 pm	< 0.3	2016-01-12

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  $\mu$ 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