



MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Burtonsville Elementary School
Date of Report	2/3/2020
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	58
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	2.6 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: Burtonsville Elementary School

15516 Old Columbia Pike
Burtonsville, Maryland 20866

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 Burtonsville Elementary School, located at 15516 Old Columbia Pike in Burtonsville, Maryland 20866 (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.

KCI visited the site on 12/16/2019 and deployed seventy-three (73) 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 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.

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	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 410-316-7800.

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		
Burtonsville Elementary School		
Test Period: 12/16/2019-12/19/2019		
Kit Number	Room / Area	Result
9341601	37	< 0.3
9341602	GYM OFFICE	0.6
9341603	GYM OFFICE	0.7
9341604	GYM	< 0.3
9341605	GYM	0.5
9341606	34	< 0.3
9341607	30	0.7
9341608	28	0.7
9341609	31	0.8
9341610	33	< 0.3
9341611	27	0.7
9341612	26	< 0.3
9341613	26	0.9
9341614	25	0.6
9341615	25	< 0.3
9341616	24	0.8
9341617	23	1.3
9341618	22	0.6
9341619	21	0.8
9341620	20	1.6
9341621	19	0.7
9341622	18	1.2
9341623	18	1
9341624	17	0.7
9341625	58	0.6
9341626	57A	0.6
9341627	57B	1
9341628	55	0.5
9341629	53	1.1
9341630	52	< 0.3
9341631	46	< 0.3
9341632	15	0.9
9341633	15	0.8
9341634	14	0.7
9341635	14	< 0.3
9341636	13	1
9341637	12	1.3
9341638	11	< 0.3
9341639	10	0.5
9341640	9	< 0.3
9341641	8	< 0.3
9341642	6	< 0.3
9341643	6	0.6
9341644	STAFF LOUNGE	< 0.3
9341645	5	1.1
9341646	4	< 0.3
9341647	3	< 0.3
9341648	2	< 0.3
9341649	1	< 0.3
9341650	MEDIA CENTER	1.5

9341651	MEDIA CENTER	1.2
9341652	303	1
9341653	303	0.7
9341654	304	1.1
9341655	304	< 0.3
9341656	MEDIA BACK	1.4
9341657	MEDIA BACK OFFICE	2.6
9341658	WORKROOM	1
9341659	ASST PRINCIPAL	0.8
9341660	CONFERENCE	1.1
9341661	MAIN OFFICE	0.7
9341662	HEALTH	1
9341663	HEALTH	0.6
9341664	45	0.5
9341665	44	1.1
9341666	43	0.8
9341667	42	1
9341668	PRINCIPAL	0.9
9341669	NURSE	1
9341670	ALL PURPOSE	0.9
9341671	ALL PURPOSE	0.9
9341672	ALL PURPOSE	< 0.3
9341673	ALL PURPOSE	0.8
9341381	OFFICE BLANK	0.7

Table 2- Radon Testing Results			
Burtonsville Elementary School			
Test Period: 12/16/2019-12/19/2019			
Kit Number	QC Type	Room / Area	Result
9341603	D	GYM OFFICE	0.7
9341613	D	26	0.9
9341615	FB	25	<0.3
9341623	D	18	1
9341633	D	15	0.8
9341635	FB	14	<0.3
9341643	D	6	0.6
9341653	D	303	0.7
9341655	FB	304	<0.3
9341663	D	HEALTH	0.6
9341672	FB	ALL PURPOSE	<0.3
9341673	D	ALL PURPOSE	0.8
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

Radon test result report for:
BURTONSVILLE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341649	1	2019-12-16 @ 10:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341639	10	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	0.5 ± 0.4	2019-12-23
9341638	11	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341637	12	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	1.3 ± 0.4	2019-12-23
9341636	13	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	1.0 ± 0.4	2019-12-23
9341635	14	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341634	14	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	0.7 ± 0.4	2019-12-23
9341632	15	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	0.9 ± 0.4	2019-12-23
9341633	15	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	0.8 ± 0.4	2019-12-23
9341624	17	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	0.7 ± 0.4	2019-12-23
9341622	18	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	1.2 ± 0.4	2019-12-23
9341623	18	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	1.0 ± 0.4	2019-12-23
9341621	19	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.7 ± 0.4	2019-12-23
9341648	2	2019-12-16 @ 10:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341620	20	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	1.6 ± 0.4	2019-12-23
9341619	21	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.8 ± 0.4	2019-12-23
9341618	22	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.6 ± 0.3	2019-12-23
9341617	23	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	1.3 ± 0.4	2019-12-23
9341616	24	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.8 ± 0.4	2019-12-23
9341615	25	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341614	25	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.6 ± 0.3	2019-12-23
9341613	26	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.9 ± 0.4	2019-12-23
9341612	26	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341611	27	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.7 ± 0.4	2019-12-23
9341608	28	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.7 ± 0.4	2019-12-23
9341647	3	2019-12-16 @ 10:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341607	30	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.7 ± 0.3	2019-12-23
9341652	303	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	1.0 ± 0.4	2019-12-23
9341653	303	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	0.7 ± 0.3	2019-12-23
9341654	304	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	1.1 ± 0.4	2019-12-23
9341655	304	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341609	31	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.8 ± 0.3	2019-12-23
9341610	33	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341606	34	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341601	37	2019-12-16 @ 7:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341646	4	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341667	42	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	1.0 ± 0.4	2019-12-23

Radon test result report for:
BURTONSVILLE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341666	43	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	0.8 ± 0.4	2019-12-23
9341665	44	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	1.1 ± 0.4	2019-12-23
9341664	45	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	0.5 ± 0.4	2019-12-23
9341631	46	2019-12-16 @ 9:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341645	5	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	1.1 ± 0.3	2019-12-23
9341630	52	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341629	53	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	1.1 ± 0.4	2019-12-23
9341628	55	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	0.5 ± 0.4	2019-12-23
9341626	57A	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	0.6 ± 0.4	2019-12-23
9341627	57B	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	1.0 ± 0.4	2019-12-23
9341625	58	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	0.6 ± 0.4	2019-12-23
9341642	6	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341643	6	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	0.6 ± 0.3	2019-12-23
9341641	8	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341640	9	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341672	ALL PURPOSE	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	< 0.3	2019-12-23
9341670	ALL PURPOSE	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	0.9 ± 0.4	2019-12-23
9341673	ALL PURPOSE	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	0.8 ± 0.4	2019-12-23
9341671	ALL PURPOSE	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	0.9 ± 0.4	2019-12-23
9341659	ASST PRINCIPAL	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	0.8 ± 0.4	2019-12-23
9341660	CONFERENCE	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	1.1 ± 0.4	2019-12-23
9341605	GYM	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.5 ± 0.4	2019-12-23
9341604	GYM	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341603	GYM OFFICE	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.7 ± 0.3	2019-12-23
9341602	GYM OFFICE	2019-12-16 @ 8:00 am	2019-12-19 @ 8:00 am	0.6 ± 0.4	2019-12-23
9341662	HEALTH	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	1.0 ± 0.4	2019-12-23
9341663	HEALTH	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	0.6 ± 0.4	2019-12-23
9341661	MAIN OFFICE	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	0.7 ± 0.4	2019-12-23
9341656	MEDIA BACK	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	1.4 ± 0.4	2019-12-23
9341657	MEDIA BACK OFFICE	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	2.6 ± 0.4	2019-12-23
9341650	MEDIA CENTER	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	1.5 ± 0.4	2019-12-23
9341651	MEDIA CENTER	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	1.2 ± 0.4	2019-12-23
9341669	NURSE	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	1.0 ± 0.4	2019-12-23
9341668	PRINCIPAL	2019-12-16 @ 11:00 am	2019-12-19 @ 9:00 am	0.9 ± 0.4	2019-12-23
9341644	STAFF LOUNGE	2019-12-16 @ 9:00 am	2019-12-19 @ 8:00 am	< 0.3	2019-12-23
9341658	WORKROOM	2019-12-16 @ 10:00 am	2019-12-19 @ 9:00 am	1.0 ± 0.4	2019-12-23

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).

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

January 3, 2020

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

S

N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
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

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. |

	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: Burtonsville 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:	0.8
High Value:	0.9

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: Burtonsville Elementary School
15516 Old Columbia Pike
Burtonsville, MD 20866

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 Burtonsville Elementary School, located at 15516 Old Columbia Pike in Burtonsville, Maryland 20866 (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		
Burtonsville Elementary School		
Test Period: 02/23/16-02/26/16		
Kit Number	Room / Area	Result
7719192	MPR	0.9

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Burtonsville Elementary School		
Test Period: 02/23/16-02/26/16		
Kit Number	QC Type	Result
7719197	D (MPR)	0.8
7719182	FB (MPR)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

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

Radon test result report for:
**BURTONSVILLE ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719182	MPR	2016-02-23 @ 1:00 pm	2016-02-26 @ 12:00 pm	< 0.3	2016-03-01
7719192	MPR	2016-02-23 @ 1:00 pm	2016-02-26 @ 12:00 pm	0.9 ± 0.3	2016-03-01
7719197	MPR	2016-02-23 @ 1:00 pm	2016-02-26 @ 12:00 pm	0.8 ± 0.3	2016-03-01

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

March 9, 2016 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
MCPS
Phase 9 Office Blanks

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

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

March 9, 2016 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
MCPS
Phase 9 Office Blanks

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

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

February 23, 2016
LABORATORY ANALYSIS REPORT

Radon test result report for:
TRANSIT- PHASE 7, 8, 9
NONE

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

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: Burtonsville Elementary School

Date of Test Report:	3/10/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	59
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.7

Project Status:

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



March 10, 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 # 12146341.22

Location: Burtonsville Elementary School
15516 Old Columbia Pike
Burtonsville, MD 20866

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 Burtonsville Elementary School, located at 15516 Old Columbia Pike in Burtonsville, Maryland 20866 (subject site).

Scope of Services:

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

KCI visited the site on December 28, 2015 and deployed seventy-four (74) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on December 31, 2015 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 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

Radon Testing Results		
Burtonsville ES		
Test Period: 12/28/15-12/31/15		
Kit Number	Room / Area	Result
7707463	33	< 0.3
7707519	50A	1.4
7707496	ART 30	0.7
7707526	ASSIST PRINCIPAL	1.2
7707484	BLDG SVC MANAGER	0.6
7707521	COM 50A	1.3
7707529	CONFERENCE RM	1.3
7707461	CR1	< 0.3
7707489	CR10	0.6
7707498	CR11	< 0.3
7707495	CR12	< 0.3
7707500	CR13	< 0.3
7707487	CR14	< 0.3
7707491	CR15	1.7
7707493	CR17	< 0.3
7707471	CR18	0.6
7707472	CR19	1.0
7707404	CR2	< 0.3
7707485	CR20	1.6
7707477	CR21	0.6
7707465	CR22	< 0.3
7707479	CR23	< 0.3
7707473	CR23 OFFICE	< 0.3
7707480	CR24	< 0.3
7707474	CR25	0.7
7707478	CR26	0.8
7707475	CR27	< 0.3
7707467	CR3	< 0.3
7707409	CR4	0.8
7707469	CR5 COMP LAB	1.1
7707518	CR55	< 0.3
7707515	CR56	0.7
7707524	CR58	< 0.3
7707458	CR6	< 0.3
7707468	CR8	< 0.3
7707483	CR9	< 0.3
7707488	GYM	< 0.3
7707492	GYM	< 0.3
7707482	GYM OFFICE	< 0.3
7707405	HEALTH SUITE	1.5
7707510	IDA 53	1.2
7707523	IMC	0.8
7707516	IMC	0.7
7707486	INST 37	0.7
7707481	K28	1.0
7707460	MAIN OFFICE	1.4

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Burtonsville ES		
Test Period: 12/28/15-12/31/15		
Kit Number	Room / Area	Result
7707513	ML1023	< 0.3
7707525	ML1039	< 0.3
7707501	ML851	< 0.3
7707507	ML898	< 0.3
7707504	ML923	< 0.3
7707502	ML955	< 0.3
7707527	MO	1.5
7707528	MP	1.0
7707514	MPR	1.3
7707520	* MPR (missing)	0.0
7707476	MUSIC 34	< 0.3
7707494	PRINCIPAL OFFICE	1.1
7707517	RSC 57	< 0.3
7707522	SDT 52	< 0.3
7707464	STAFF LOUNGE	0.7
7707401	WR	1.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Burtonsville ES		
Test Period: 12/28/15-12/31/15		
Kit Number	QC Type	Result
7707499	D (ART 30)	0.6
7707459	D (CR1)	< 0.3
7707466	D (CR10)	0.7
7707462	D (CR14)	0.5
7707470	D (CR22)	< 0.3
7707511	D (CR55)	< 0.3
7707512	D (ML1023)	< 0.3
7707509	D (ML923)	< 0.3
7707497	FB (ART 30)	< 0.3
7707490	FB (CR17)	< 0.3
7707508	FB (ML1023)	< 0.3
7707503	OB (0)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January
16,
2016

**LABORATORY ANALYSIS
REPORT ****

Radon test result report for:
**BURTONSVILLE ES
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7707503	0	2015-12-28 @ 5:00 pm	2015-12-31 @ 1:00 pm	< 0.3	2016-01-05
7707463	33	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707519	50A	2015-12-28 @ 3:00 pm	2015-12-31 @ 12:00 pm	1.4 ± 0.4	2016-01-05
7707496	ART 30	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	0.7 ± 0.3	2016-01-05
7707497	ART 30	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707499	ART 30	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	0.6 ± 0.3	2016-01-05
7707526	ASSIS PRINCIPAL	2015-12-28 @ 3:00 pm	2015-12-31 @ 10:00 am	1.2 ± 0.4	2016-01-05
7707484	BLDG SVC MANAGER	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	0.6 ± 0.3	2016-01-04
7707521	COM 50A	2015-12-28 @ 3:00 pm	2015-12-31 @ 12:00 pm	1.3 ± 0.4	2016-01-05
7707529	CONFERENCE RM	2015-12-28 @ 3:00 pm	2015-12-31 @ 10:00 am	1.3 ± 0.4	2016-01-05
7707459	CR1	2015-12-28 @ 3:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707461	CR1	2015-12-28 @ 3:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707466	CR10	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	0.7 ± 0.3	2016-01-05
7707489	CR10	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	0.6 ± 0.3	2016-01-05
7707498	CR11	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707495	CR12	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707500	CR13	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707462	CR14	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	0.5 ± 0.3	2016-01-05
7707487	CR14	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707491	CR15	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	1.7 ± 0.4	2016-01-05
7707490	CR17	2015-12-28 @ 2:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-05
7707493	CR17	2015-12-28 @ 2:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-05
7707471	CR18	2015-12-28 @ 2:00 pm	2015-12-31 @ 12:00 pm	0.6 ± 0.3	2016-01-05
7707472	CR19	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	1.0 ± 0.3	2016-01-05
7707404	CR2	2015-12-28 @ 3:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707485	CR20	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	1.6 ± 0.4	2016-01-05
7707477	CR21	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	0.6 ± 0.3	2016-01-05
7707470	CR22	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-04
7707465	CR22	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7707479	CR23	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7707473	CR23 OFFICE	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7707480	CR24	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7707474	CR25	2015-12-28 @ 2:00 pm	2015-12-31 @ 10:00 am	0.7 ± 0.3	2016-01-05
7707478	CR26	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	0.8 ± 0.3	2016-01-05
7707475	CR27	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707467	CR3	2015-12-28 @ 3:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707409	CR4	2015-12-28 @ 3:00 pm	2015-12-31 @ 11:00 am	0.8 ± 0.4	2016-01-05

January 16, 2016
LABORATORY ANALYSIS REPORT

Radon test result report for:
BURTONSVILLE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7707469	CR5 COMP LAB	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	1.1 ± 0.4	2016-01-05
7707511	CR55	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-05
7707518	CR55	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-05
7707515	CR56	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	0.7 ± 0.3	2016-01-04
7707524	CR58	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-05
7707458	CR6	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-04
7707468	CR8	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707483	CR9	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707492	GYM	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707488	GYM	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707482	GYM OFFICE	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707405	HEALTH SUITE	2015-12-28 @ 3:00 pm	2015-12-31 @ 10:00 am	1.5 ± 0.4	2016-01-05
7707510	IDA 53	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	1.2 ± 0.4	2016-01-05
7707516	IMC	2015-12-28 @ 3:00 pm	2015-12-31 @ 12:00 pm	0.7 ± 0.3	2016-01-05
7707523	IMC	2015-12-28 @ 3:00 pm	2015-12-31 @ 12:00 pm	0.8 ± 0.4	2016-01-05
7707486	INST 37	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	0.7 ± 0.3	2016-01-05
7707481	K28	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	1.0 ± 0.3	2016-01-05
7707460	MAIN OFFICE	2015-12-28 @ 3:00 pm	2015-12-31 @ 10:00 am	1.4 ± 0.4	2016-01-05
7707527	MO	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	1.5 ± 0.4	2016-01-04
7707528	MP	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	1.0 ± 0.4	2016-01-05
7707520	MPR	@	@		
7707514	MPR	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	1.3 ± 0.4	2016-01-05
7707476	MUSIC 34	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707494	PRINCIP OFFICE	2015-12-28 @ 3:00 pm	2015-12-31 @ 10:00 am	1.1 ± 0.3	2016-01-04
7707517	RSC 57	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-05
7707522	SDT 52	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-05
7707464	STAFF LOUNGE	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	0.7 ± 0.3	2016-01-05
7707401	WR	2015-12-28 @ 3:00 pm	2015-12-31 @ 10:00 am	1.3 ± 0.4	2016-01-05

January 16, 2016
** LABORATORY ANALYSIS REPORT **

Radon test result report for:
BURTONSVILLE ES
PORTABLE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7707508	ML1023	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707512	ML1023	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707513	ML1023	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707525	ML1039	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707501	ML851	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-04
7707507	ML898	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707504	ML923	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707509	ML923	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7707502	ML955	2015-12-28 @ 4:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-04

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

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 µR/h Elevation = 820 ft**



Chain of Custody

Project Name: MCPS Radon Phase III

Name of Schools:

- | | | |
|-----------------------|-----------------------|-----------------------|
| 1. Burnt Mills ES | 13. Georgian Frost ES | 25. Northlake Center |
| 2. Burtonsville ES | 14. Germantown ES | 26. Olney ES |
| 3. Cedar Grove ES | 15. Goshen ES | 27. Rosa Parks MS |
| 4. Cloverly ES | 16. Greencastle ES | 28. Poolesville ES |
| 5. Cold Spring ES | 17. Greenwood ES | 29. Poolesville HS |
| 6. Damascus HS | 18. Lake Seneca ES | 30. Potomac ES |
| 7. Darnestown ES | 19. Laytonsville ES | 31. Rock Terrace HS |
| 8. Diamond ES | 20. Col. E. Brooke MS | 32. Rosemary Hills ES |
| 9. Charles R. Drew ES | 21. Luxmanor ES | 33. Carl Sandburg |
| 10. DuFief ES | 22. Magruder HS | 34. Sequoyah ES |
| 11. Thomas Edison HS | 23. Thur. Marshall ES | 35. Stedwick ES |
| 12. Robert Frost MS | 24. Monocacy ES | 36. Whetstone ES |

	Date	Initials
Radon Test Kits Deployed	12/28/15	JM
Radon Test Kits Sampled	12/31/15	JM
Radon Test Kits Shipped to Lab*	12/31/15	JM
Radon Test Kits Received by Lab*	1/4/16	JM

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