



**MCPS RADON TESTING - EXECUTIVE SUMMARY**

Site Name	Cabin John Middle 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	94
# 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: Cabin John Middle School**

10701 Gainsborough 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 Cabin John Middle School, located at 10701 Gainsborough 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 12/17/2019 and deployed one-hundred fourteen (114) 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 12/20/2019 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		
Cabin John Middle School		
Test Period: 12/17/2019-12/20/2019		
Kit Number	Room / Area	Result
9334491	1221	0.9
9334495	1227	1.1
9334496	1215	1.6
9334497	1219	0.9
9334498	1141	< 0.3
9334499	1213	< 0.3
9334500	1207	< 0.3
9340663	1237	0.7
9340664	1237	< 0.3
9340681	1000J	1.3
9340682	1109	< 0.3
9340687	1006	0.5
9340688	1409	< 0.3
9340689	1409	< 0.3
9340690	1415	0.7
9340694	1415	< 0.3
9341001	1323A	0.7
9341002	1104	0.8
9341003	1204	< 0.3
9341004	1126	< 0.3
9341005	1210	< 0.3
9341006	2107	< 0.3
9341007	1213	0.6
9341008	1231	1.5
9341009	1102	0.6
9341010	1109	0.7
9341011	2201	< 0.3
9341012	2115	0.5
9341013	1231	1.7
9341014	1233	< 0.3
9341015	1207	0.6
9341016	1216	< 0.3
9341017	1232	0.9
9341018	1234	0.6
9341019	1109	1.2
9341020	1127	< 0.3
9341021	2127	0.7
9341022	1225	2
9341023	1131	0.5
9341024	1320	0.9
9341025	1110	0.9
9341026	1237	0.8
9341027	1411A	0.6
9341028	1305B	< 0.3
9341029	1305	< 0.3
9341030	1301	< 0.3
9341031	1331	< 0.3
9341032	1331	< 0.3
9341033	1204A	< 0.3
9341034	1201A	1.6



9341035	1313	< 0.3
9341036	1304	< 0.3
9341037	1319	0.7
9341038	1313A	< 0.3
9341039	1000C	< 0.3
9341041	1103	0.9
9341042	1201	< 0.3
9341043	1310	0.6
9341044	1331	< 0.3
9341045	1315	< 0.3
9341046	1104A	< 0.3
9341047	1208	0.8
9341048	1320	< 0.3
9341049	1107	0.8
9341050	1327	< 0.3
9341051	1415	0.7
9341052	1416A	0.6
9341053	1000W	0.6
9341054	1141	0.7
9341055	1127A	0.7
9341056	1113	0.6
9341057	1411	< 0.3
9341058	1108	< 0.3
9341059	1320B	< 0.3
9341060	1320A	< 0.3
9341061	1400A	< 0.3
9341062	1402B	1.1
9341063	1402C	< 0.3
9341065	1115	0.8
9341066	1119	< 0.3
9341067	1121	0.9
9341068	1125	0.9
9341069	1416	0.7
9341070	1400	< 0.3
9341071	1300	0.6
9341072	1415A	0.7
9341073	1127	< 0.3
9341074	1006E	0.6
9341075	1000Q	0.6
9341076	1006D	0.7
9341077	1006	< 0.3
9341078	1000V	0.9
9341079	1000T	0.7
9341080	1300	0.5
9341081	1307	0.8
9341082	1323	0.6
9341083	1000R	1
9341084	1000S	1.3
9341085	1414	< 0.3
9341086	1401	0.6
9341087	1409	< 0.3
9341088	1411B	< 0.3
9341089	1000O	0.8
9341090	1000N	< 0.3
9341091	1000J	1.2

9341092	1000G	1.2
9341093	1000D	1.4
9341094	1000C	< 0.3
9341095	1000B	0.9
9341096	1000A	0.7
9341097	1000H	1.4
9341098	MAIN OFFICE	0.8
9341099	1000K	0.7
9341100	1000F	0.8
9341040	DUPLICATE	< 0.3
9341371	OFFICE BLANK	< 0.3

Table 2- Radon Testing Results			
Cabin John Middle School			
Test Period: 12/16/2019-12/19/2019			
Kit Number	QC Type	Room / Area	Result
9341040	D	2201	<0.3
9341039	D	1000C	<0.3
9341032	D	1331	<0.3
9341031	FB	1331	<0.3
9334498	D	1141	<0.3
9334500	D	1207	<0.3
9340663	D	1237	0.7
9340664	FB	1237	<0.3
9341008	D	1231	1.5
9341007	D	1213	0.6
9341020	D	1127	<0.3
9341019	D	1109	1.2
9340682	FB	1109	<0.3
9340681	D	1000J	1.3
9340687	D	1006	0.5
9340690	FB	1415	0.7
9340694	FB	1415	<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

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341096	1000A	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.7 ± 0.3	2019-12-24
9341095	1000B	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.9 ± 0.4	2019-12-24
9341039	1000C	2019-12-17 @ 3:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9341094	1000C	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9341093	1000D	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	1.4 ± 0.4	2019-12-24
9341100	1000F	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.8 ± 0.4	2019-12-24
9341092	1000G	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	1.2 ± 0.4	2019-12-24
9341097	1000H	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	1.4 ± 0.4	2019-12-24
9341091	1000J	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	1.2 ± 0.4	2019-12-24
9340681	1000J	2019-12-17 @ 3:00 pm	2019-12-20 @ 9:00 am	1.3 ± 0.4	2019-12-24
9341099	1000K	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.7 ± 0.3	2019-12-24
9341090	1000N	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9341089	1000O	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.8 ± 0.3	2019-12-24
9341075	1000Q	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9341083	1000R	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	1.0 ± 0.4	2019-12-24
9341084	1000S	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	1.3 ± 0.4	2019-12-24
9341079	1000T	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.7 ± 0.3	2019-12-24
9341078	1000V	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.9 ± 0.4	2019-12-24
9341053	1000W	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9340687	1006	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	0.5 ± 0.4	2019-12-24
9341077	1006	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341076	1006D	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.7 ± 0.4	2019-12-24
9341074	1006E	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.3	2019-12-24
9341009	1102	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	0.6 ± 0.4	2019-12-24
9341041	1103	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	0.9 ± 0.4	2019-12-24
9341002	1104	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	0.8 ± 0.4	2019-12-24
9341046	1104A	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341049	1107	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	0.8 ± 0.4	2019-12-24
9341058	1108	2019-12-17 @ 1:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9340682	1109	2019-12-17 @ 3:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341010	1109	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	0.7 ± 0.4	2019-12-24
9341019	1109	2019-12-17 @ 3:00 pm	2019-12-20 @ 11:00 am	1.2 ± 0.4	2019-12-24
9341025	1110	2019-12-17 @ 1:00 pm	2019-12-20 @ 11:00 am	0.9 ± 0.4	2019-12-24
9341056	1113	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	0.6 ± 0.3	2019-12-24
9341065	1115	2019-12-17 @ 1:00 pm	2019-12-20 @ 11:00 am	0.8 ± 0.3	2019-12-24
9341066	1119	2019-12-17 @ 1:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341067	1121	2019-12-17 @ 1:00 pm	2019-12-20 @ 11:00 am	0.9 ± 0.4	2019-12-24

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341068	1125	2019-12-17 @ 1:00 pm	2019-12-20 @ 11:00 am	0.9 ± 0.4	2019-12-24
9341004	1126	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341073	1127	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341020	1127	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341055	1127A	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341023	1131	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.5 ± 0.4	2019-12-24
9341054	1141	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9334498	1141	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341042	1201	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341034	1201A	2019-12-17 @ 2:00 pm	2019-12-20 @ 11:00 am	1.6 ± 0.4	2019-12-24
9341003	1204	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341033	1204A	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341015	1207	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9334500	1207	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341047	1208	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	0.8 ± 0.4	2019-12-24
9341005	1210	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341007	1213	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9334499	1213	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9334496	1215	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	1.6 ± 0.4	2019-12-24
9341016	1216	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9334497	1219	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	0.9 ± 0.4	2019-12-24
9334491	1221	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	0.9 ± 0.4	2019-12-24
9341022	1225	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	2.0 ± 0.4	2019-12-24
9334495	1227	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	1.1 ± 0.4	2019-12-24
9341008	1231	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	1.5 ± 0.4	2019-12-24
9341013	1231	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	1.7 ± 0.4	2019-12-24
9341017	1232	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	0.9 ± 0.3	2019-12-24
9341014	1233	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341018	1234	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9340664	1237	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341026	1237	2019-12-17 @ 2:00 pm	2019-12-20 @ 10:00 am	0.8 ± 0.4	2019-12-24
9340663	1237	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341071	1300	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9341080	1300	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.5 ± 0.4	2019-12-24
9341030	1301	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341036	1304	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341029	1305	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9341028	1305B	2019-12-17 @ 1:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341081	1307	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.8 ± 0.4	2019-12-24
9341043	1310	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.3	2019-12-24
9341035	1313	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341038	1313A	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341045	1315	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341037	1319	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341048	1320	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341024	1320	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.9 ± 0.4	2019-12-24
9341060	1320A	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341059	1320B	2019-12-17 @ 1:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341082	1323	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9341001	1323A	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341050	1327	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341032	1331	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341044	1331	2019-12-17 @ 1:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341031	1331	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341070	1400	2019-12-17 @ 12:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341061	1400A	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341086	1401	2019-12-17 @ 12:00 pm	2019-12-20 @ 11:00 am	0.6 ± 0.4	2019-12-24
9341062	1402B	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	1.1 ± 0.4	2019-12-24
9341063	1402C	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340688	1409	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340689	1409	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341087	1409	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341057	1411	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341027	1411A	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.4	2019-12-24
9341088	1411B	2019-12-17 @ 12:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341085	1414	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9340694	1415	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	< 0.3	2019-12-24
9341051	1415	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9340690	1415	2019-12-17 @ 3:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341072	1415A	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.4	2019-12-24
9341069	1416	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.7 ± 0.3	2019-12-24
9341052	1416A	2019-12-17 @ 12:00 pm	2019-12-20 @ 10:00 am	0.6 ± 0.3	2019-12-24
9341006	2107	2019-12-17 @ 3:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341012	2115	2019-12-17 @ 3:00 pm	2019-12-20 @ 11:00 am	0.5 ± 0.4	2019-12-24



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December 24, 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>
9341021	2127	2019-12-17 @ 3:00 pm	2019-12-20 @ 11:00 am	0.7 ± 0.4	2019-12-24
9341011	2201	2019-12-17 @ 3:00 pm	2019-12-20 @ 11:00 am	< 0.3	2019-12-24
9341098	MAIN OFFICE	2019-12-17 @ 12:00 pm	2019-12-20 @ 9:00 am	0.8 ± 0.4	2019-12-24

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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).

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**

<b>Kit #</b>	<b>Room Id</b>	<b>Started</b>	<b>Ended</b>	<b>pCi/L</b>	<b>Analyzed</b>
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: Cabin John Middle School

Date of Test Report:	1/27/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	81
# Rooms $\geq$ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.3

Project Status:

Initial testing completed; no further action at this time.





January 27, 2016

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

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

Location: Cabin John Middle School  
10701 Gainsborough 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 Cabin John Middle School, located at 10701 Gainsborough 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 ninety-six (96) 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

All field blanks, 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 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>Cabin John MS</b>		
<b>Test Period: 01/04/16-01/07/16</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7704650	1000	0.9
7707943	1002	0.7
7707945	1004	0.6
7707938	1006	< 0.3
7707990	1102	< 0.3
7707988	1103	0.6
7707989	1104	0.6
7707987	1107	1
7707984	1109	0.6
7707991	1110	< 0.3
7707985	1113	< 0.3
7707983	1115	1
7707981	1119	< 0.3
7707982	1121	0.6
7707992	1124	< 0.3
7707980	1125	0.6
7707940	1126	< 0.3
7707979	1127	< 0.3
7707999	1131	< 0.3
7707975	1141	< 0.3
7707971	1201	< 0.3
7707947	1204	< 0.3
7707986	1207	0.5
7707948	1208	0.7
7707959	1210	< 0.3
7707968	1213	0.6
7707963	1215	< 0.3
7707964	1216	< 0.3
7707967	1219	0.7
7707998	1221	0.7
7707997	1225	1.3
7707996	1227	0.6
7707995	1231	1
7707994	1232	< 0.3
7707960	1233	< 0.3
7707993	1237	< 0.3
7707962	1300	0.7
7707965	1300	0.6
7707966	1301	< 0.3
7707956	1304	< 0.3
7707952	1305	< 0.3
7707970	1307	< 0.3
7707973	1310	0.7
7707969	1313	0.6
7707951	1315	< 0.3
7707972	1319	0.6

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>Cabin John MS</b>		
<b>Test Period: 01/04/16-01/07/16</b>		
<b>Kit Number</b>	<b>Room / Area</b>	<b>Result</b>
7707977	1320	< 0.3
7707978	1323	< 0.3
7707936	1327	< 0.3
7707944	1331	< 0.3
7707949	1400	< 0.3
7707950	1400	< 0.3
7707961	1409	< 0.3
7707958	1411	0.7
7708000	1414	0.6
7707953	1415	< 0.3
7707954	1416	< 0.3
7704647	2107	< 0.3
7707934	2127	< 0.3
7704651	2233	< 0.3
7706596	1000B	0.8
7706576	1000C	0.7
7706456	1000D	1
7706593	1000F	0.7
7706572	1000G	1.1
7706569	1000H	1.2
7706598	1000J	0.8
7707928	1000K	0.6
7707929	1000O	0.9
7707937	1000Q	0.9
7707932	1000R	0.6
7707931	1000S	0.6
7707935	1000T	0.9
7707942	1000V	< 0.3
7707941	1000W	< 0.3
7707939	1006D	0.7
7707946	1006E	< 0.3
7707955	1313A	< 0.3
7707974	1320A	< 0.3
7707976	1320B	< 0.3
7707957	1411A	0.7

Table Note:

\* Missing or Compromised Sample

<b>Radon Testing Results</b>		
<b>Cabin John MS</b>		
<b>Test Period: 01/04/16-01/07/16</b>		
<b>Kit Number</b>	<b>QC Type</b>	<b>Result</b>
7706577	D (1000)	0.9
7708640	D (1000B)	0.9
7706574	D (1000C)	0.5
7706595	D (1000F)	1
7706599	D (1000J)	1
7714316	D (1400)	< 0.3
7714323	D (1414)	< 0.3
7714322	D (1416)	< 0.3
7706580	FB (1000D)	< 0.3
7706594	FB (1000G)	< 0.3
7707927	FB (1000H)	< 0.3
7714325	FB (1320)	< 0.3
7714324	FB (1409)	< 0.3
7714320	OB (0)	< 0.3
7714319	OB (0)	< 0.3

Table Note:

\* Missing or Compromised Sample



# ATTACHMENT C

## Laboratory Analytical Results

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

Radon test result report for:  
**CABIN JOHN MS  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7714319	0	2016-01-04 @ 10:00 am	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11
7714320	0	2016-01-04 @ 10:00 am	2016-01-07 @ 1:00 pm	< 0.3	2016-01-11
7704650	1000	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	0.9 ± 0.3	2016-01-11
7706577	1000	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	0.9 ± 0.3	2016-01-11
7706596	1000B	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	0.8 ± 0.3	2016-01-11
7708640	1000B	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	0.9 ± 0.3	2016-01-11
7706574	1000C	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	0.5 ± 0.3	2016-01-11
7706576	1000C	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	0.7 ± 0.3	2016-01-12
7706456	1000D	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	1.0 ± 0.3	2016-01-11
7706580	1000D	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7706593	1000F	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	0.7 ± 0.3	2016-01-11
7706595	1000F	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	1.0 ± 0.3	2016-01-11
7706572	1000G	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	1.1 ± 0.3	2016-01-11
7706594	1000G	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7706569	1000H	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	1.2 ± 0.3	2016-01-11
7707927	1000H	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7706598	1000J	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	0.8 ± 0.3	2016-01-11
7706599	1000J	2016-01-04 @ 9:00 am	2016-01-07 @ 10:00 am	1.0 ± 0.3	2016-01-11
7707928	1000K	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.3	2016-01-11
7707929	1000O	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	0.9 ± 0.3	2016-01-11
7707937	1000Q	2016-01-04 @ 9:00 am	2016-01-07 @ 9:00 am	0.9 ± 0.3	2016-01-11
7707932	1000R	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.3	2016-01-11
7707931	1000S	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.3	2016-01-11
7707935	1000T	2016-01-04 @ 10:00 am	2016-01-07 @ 9:00 am	0.9 ± 0.3	2016-01-11
7707942	1000V	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-12
7707941	1000W	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707943	1002	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	0.7 ± 0.3	2016-01-11
7707945	1004	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	0.6 ± 0.3	2016-01-11
7707938	1006	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707939	1006D	2016-01-04 @ 10:00 am	2016-01-07 @ 10:00 am	0.7 ± 0.3	2016-01-11
7707946	1006E	2016-01-04 @ 10:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707990	1102	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707988	1103	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707989	1104	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707987	1107	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	1.0 ± 0.3	2016-01-11
7707984	1109	2016-01-04 @ 9:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707991	1110	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11

January 25, 2016  
**LABORATORY ANALYSIS REPORT**

Radon test result report for:  
**CABIN JOHN MS  
 MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7707985	1113	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707983	1115	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	1.0 ± 0.3	2016-01-11
7707981	1119	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707982	1121	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707992	1124	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707980	1125	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707940	1126	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707979	1127	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707999	1131	2016-01-04 @ 1:00 pm	2016-01-07 @ 9:00 am	< 0.3	2016-01-12
7707975	1141	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707971	1201	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707947	1204	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-12
7707986	1207	2016-01-04 @ 1:00 pm	2016-01-07 @ 9:00 am	0.5 ± 0.3	2016-01-11
7707948	1208	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.7 ± 0.3	2016-01-11
7707959	1210	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707968	1213	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707963	1215	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707964	1216	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707967	1219	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.7 ± 0.3	2016-01-11
7707998	1221	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.7 ± 0.3	2016-01-11
7707997	1225	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	1.3 ± 0.3	2016-01-11
7707996	1227	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707995	1231	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	1.0 ± 0.3	2016-01-11
7707994	1232	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707960	1233	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707993	1237	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707962	1300	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.7 ± 0.3	2016-01-11
7707965	1300	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707966	1301	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707956	1304	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707952	1305	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707970	1307	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707973	1310	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.7 ± 0.3	2016-01-11
7707969	1313	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7707955	1313A	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707951	1315	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707972	1319	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11

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

Radon test result report for:  
**CABIN JOHN MS  
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7707977	1320	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7714325	1320	2016-01-04 @ 8:00 pm	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707974	1320A	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707976	1320B	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707978	1323	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707936	1327	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707944	1331	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707949	1400	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707950	1400	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7714316	1400	2016-01-04 @ 8:00 pm	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707961	1409	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7714324	1409	2016-01-04 @ 8:00 pm	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707958	1411	2016-01-04 @ 11:00 am	2016-01-07 @ 9:00 am	0.7 ± 0.3	2016-01-11
7707957	1411A	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	0.7 ± 0.3	2016-01-12
7708000	1414	2016-01-04 @ 1:00 pm	2016-01-07 @ 9:00 am	0.6 ± 0.3	2016-01-11
7714323	1414	2016-01-04 @ 8:00 pm	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707953	1415	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7707954	1416	2016-01-04 @ 11:00 am	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7714322	1416	2016-01-04 @ 8:00 pm	2016-01-07 @ 10:00 am	< 0.3	2016-01-11
7704647	2107	2016-01-04 @ 9:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7707934	2127	2016-01-04 @ 9:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11
7704651	2233	2016-01-04 @ 9:00 am	2016-01-07 @ 9:00 am	< 0.3	2016-01-11

January 15, 2016  
\*\* LABORATORY ANALYSIS REPORT \*\*

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

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

December  
23,  
2015

**LABORATORY ANALYSIS  
REPORT \*\***

Spike Sample Laboratory Results

Radon test result report for:

**MCPS**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7706380	101	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	25.2	2015-12-23
7706381	102	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.5	2015-12-23
7706208	103	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	27.7	2015-12-23
7705132	104	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	28.6	2015-12-23
7706366	105	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.5	2015-12-23
7706211	106	2015-12-18 @ 9:00 am	2015-12-21 @ 9:00 am	26.1	2015-12-23

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

**Note: Spike samples are test canisters that are deliberately exposed to a controlled high level of radon in a laboratory. They provide a quality control measure in the testing process and do NOT reflect radon levels in the building being tested.**

**EXPOSURE IN BOWSER-MORNER RADON CHAMBER**

CLIENT KCI Technologies Inc. Job Number 173224

NOMINAL Conditions: Radon Conc 26.9 pCi/L Rel. Hum 49.6 % Temp. 69.9 F

Date Start: 12/18/15 Date Stop: 12/21/15 Date Start: \_\_\_\_\_ Date Stop: \_\_\_\_\_

Time Start: 0929 Time Stop: 0929 Time Start: \_\_\_\_\_ Time Stop: \_\_\_\_\_

Device No.'s: 7705132, 7706208, Device No.'s: \_\_\_\_\_

7706211, 7706366, \_\_\_\_\_

7706380, 7706381 \_\_\_\_\_

F3 Left

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

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

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

\_\_\_\_\_

\_\_\_\_\_

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

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

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

\_\_\_\_\_

\_\_\_\_\_

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



**M. A. CECIL & ASSOCIATES, INC.**  
4475 Shannon Way, Port Republic, Maryland 20676 (301) 855-7710  
INDUSTRIAL HYGIENE AND ENVIRONMENTAL HEALTH

July 29, 2010

Mr. Sean Yarup  
Montgomery County Public Schools  
16651 Crabbs Branch Way  
Rockville, Maryland 20855

Re: Radon Evaluation- Cabin John Middle School

Dear Mr. Yarup:

Environmental radon testing was completed at Cabin John Middle School.

Charcoal canisters were placed in thirty locations on the first floor of the school. The canisters were placed on July 20, 2010 and retrieved on July 22, 2010. The results, expressed as pico Curies per liter (pCi/l) of air, and the sampling locations are summarized in the attached table.

The detected radon concentrations for all 30 sampling locations were below the EPA recommended level of 4.0 pico curries per liter of air.

Should you have any questions concerning this report please do not hesitate to contact us.

Sincerely,

Kim Fowler  
Industrial Hygienist

Michael A. Cecil, CIH

**Environmental Radon Testing Results  
Cabin John Middle  
July 20, 2010**

Location	Detected Radon Concentration (pCi/l)
Room C104	<0.5
Room C106 A	<0.5
Room C106	<0.5
Room C107	<0.5
Room C108	0.5
Room C109	<0.5
Room C110	<0.5
Room C111	<0.5
Room A108	<0.5
Gym	<0.5
Gym Stage	<0.5
Aux Gym	0.6
Room A101	<0.5
Room B104	0.7
Room B101	0.7
Room C116	<0.5
Room C117	1.0
Room C120	<0.5
Room C121	<0.5
Room C122	<0.5
Room C123	<0.5
Room C103	<0.5
Room C133	<0.5
Room C134 B	<0.5
Principals Office	<0.5
Room C 134 C	0.8
Room C126 A	<0.5
Room C126 D	<0.5
Main Office Right	<0.5
Main Office Left	1.0