



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Wheaton Woods Elementary School
Date of Test Report	1/12/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	61
# Rooms \geq 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.7 pCi/L

Project Status:

1. 5-Year retesting completed.



January 12, 2023

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

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

Location: Wheaton Woods Elementary School
4510 Faroe Place
Rockville, MD 20853

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the Wheaton Woods Elementary School, located at 4510 Faroe Place Rockville, MD 20853 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Proficiency Program (NRPP) Radon Measurement Specialist (certification #111004 RT) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from <https://www.montgomeryschoolsmd.org> or www.epa.gov/radon.

KCI visited the site on December 12, 2022 and deployed seventy (70) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on December 15, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc.

is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Follow up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate temperatures were between 22°F and 53°F. Maximum sustained winds ranged from 0-20 miles per hour. Average humidity was around 70% with 1.98 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table 1- Radon Testing Results		
Wheaton Woods ES		
Test Period: 12/12/2022 - 12/15/2022		
Kit Number	Room / Area	Result
11285257	101	< 0.3
11285616	110	0.6
11285623	111	0.7
11285614	112	1.1
11285617	113	0.8
11285251	117	< 0.3
11285241	121	< 0.3
11285245	121	< 0.3
11285246	121	0.5
11285252	123	0.5
11285240	127	0.6
11285284	137	< 0.3
11285285	139	< 0.3
11285287	139	0.7
11285289	139	< 0.3
11285280	143	< 0.3
11285281	151	2.0
11285278	155	1.4
11285282	157	1.7
11285283	159	1.0
11285270	167	0.8
11285275	171	0.9
11285276	171	0.7
11285271	172	1.1
11285277	173	0.9
11285274	174	0.8
11285267	177	0.5
11285266	178	< 0.3
11285269	186	0.6
11285264	188	< 0.3
11285262	190	< 0.3
11285263	190	< 0.3
11285265	190	0.6
11285256	192	0.8
11285255	194	0.7
11285261	196	< 0.3
11285272	200	0.5
11285291	220	0.6
11285288	251	0.7
11285292	276	0.8
11285290	288	< 0.3
11285259	100A	0.7

Table 1- Radon Testing Results		
Wheaton Woods ES		
Test Period: 12/12/2022 - 12/15/2022		
Kit Number	Room / Area	Result
11285260	100B	0.9
11285601	100C	< 0.3
11285611	100J	< 0.3
11285254	105B	< 0.3
11285603	106A	0.9
11285250	109A	0.5
11285249	109B	0.8
11285248	109C	< 0.3
11285253	109D	0.6
11285258	109D	0.6
11285247	109E	0.5
11285606	110A	0.6
11285607	110B	< 0.3
11285613	110C	< 0.3
11285615	110C	0.6
11285605	110D	0.6
11285610	124A	0.7
11285286	135A	0.6
11285279	135B	< 0.3
11285604	GYM 106	0.5
11285608	GYM 106	0.9
11285612	HEALTH ROOM 102	0.7
11285618	HEALTH ROOM OFFICE 102C	0.9
11285624	MAIN OFFICE	0.8
11285268	MEDIA CENTER 182	0.8
11285273	MEDIA CENTER 182	1.1
11285602	MULTI PURPOSE ROOM 122	< 0.3
11285609	MULTI PURPOSE ROOM 122	0.6

Table 2- Radon Testing Results			
Wheaton Woods ES			
Test Period: 12/12/22 - 12/15/22			
Kit Number	QC Type	Room / Area	Result
11285245	D	121	< 0.3
11285241	FB	121	< 0.3
11285287	D	139	0.7
11285285	FB	139	< 0.3
11285276	D	171	0.7
11285265	D	190	0.6
11285263	FB	190	< 0.3
11285258	D	109D	0.6
11285613	D	110C	< 0.3
11286981	OB	OFFICE BLANK	< 0.3
11286982	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285259	100A	2022-12-12 @ 1:00 pm	2022-12-15 @ 12:00 pm	0.7 ± 0.4	2022-12-19
11285260	100B	2022-12-12 @ 1:00 pm	2022-12-15 @ 12:00 pm	0.9 ± 0.4	2022-12-19
11285601	100C	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	< 0.3	2022-12-19
11285611	100J	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	< 0.3	2022-12-19
11285257	101	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285254	105B	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285603	106A	2022-12-12 @ 1:00 pm	2022-12-15 @ 12:00 pm	0.9 ± 0.4	2022-12-19
11285250	109A	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.5 ± 0.3	2022-12-19
11285249	109B	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.8 ± 0.4	2022-12-19
11285248	109C	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285258	109D	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.6 ± 0.3	2022-12-19
11285253	109D	2022-12-12 @ 1:00 pm	2022-12-15 @ 2:00 pm	0.6 ± 0.3	2022-12-19
11285247	109E	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.5 ± 0.3	2022-12-19
11285616	110	2022-12-12 @ 12:00 pm	2022-12-15 @ 1:00 pm	0.6 ± 0.4	2022-12-19
11285606	110A	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.6 ± 0.4	2022-12-19
11285607	110B	2022-12-12 @ 12:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285613	110C	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	< 0.3	2022-12-19
11285615	110C	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.6 ± 0.4	2022-12-19
11285605	110D	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.6 ± 0.4	2022-12-19
11285623	111	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.7 ± 0.3	2022-12-19
11285614	112	2022-12-12 @ 12:00 pm	2022-12-15 @ 1:00 pm	1.1 ± 0.4	2022-12-19
11285617	113	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.8 ± 0.3	2022-12-19
11285251	117	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285245	121	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285246	121	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.5 ± 0.4	2022-12-19
11285241	121	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285252	123	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.5 ± 0.3	2022-12-19
11285610	124A	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.7 ± 0.3	2022-12-19
11285240	127	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.6 ± 0.3	2022-12-19
11285286	135A	2022-12-12 @ 3:00 pm	2022-12-15 @ 1:00 pm	0.6 ± 0.4	2022-12-19
11285279	135B	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285284	137	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285289	139	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285285	139	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285287	139	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.7 ± 0.3	2022-12-19
11285280	143	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285281	151	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	2.0 ± 0.4	2022-12-19

Radon test result report for:**MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285278	155	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	1.4 ± 0.4	2022-12-19
11285282	157	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	1.7 ± 0.4	2022-12-19
11285283	159	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	1.0 ± 0.4	2022-12-19
11285270	167	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.8 ± 0.3	2022-12-19
11285276	171	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.7 ± 0.3	2022-12-19
11285275	171	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.9 ± 0.3	2022-12-19
11285271	172	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	1.1 ± 0.4	2022-12-19
11285277	173	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.9 ± 0.3	2022-12-19
11285274	174	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.8 ± 0.3	2022-12-19
11285267	177	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.5 ± 0.3	2022-12-19
11285266	178	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285269	186	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.6 ± 0.3	2022-12-19
11285264	188	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285265	190	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.6 ± 0.4	2022-12-19
11285263	190	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285262	190	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285256	192	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.8 ± 0.4	2022-12-19
11285255	194	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.7 ± 0.3	2022-12-19
11285261	196	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285272	200	2022-12-12 @ 3:00 pm	2022-12-15 @ 2:00 pm	0.5 ± 0.3	2022-12-19
11285291	220	2022-12-12 @ 3:00 pm	2022-12-15 @ 2:00 pm	0.6 ± 0.3	2022-12-19
11285288	251	2022-12-12 @ 3:00 pm	2022-12-15 @ 2:00 pm	0.7 ± 0.3	2022-12-19
11285292	276	2022-12-12 @ 3:00 pm	2022-12-15 @ 2:00 pm	0.8 ± 0.3	2022-12-19
11285290	288	2022-12-12 @ 3:00 pm	2022-12-15 @ 2:00 pm	< 0.3	2022-12-19
11285604	GYM 106	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.5 ± 0.3	2022-12-19
11285608	GYM 106	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.9 ± 0.4	2022-12-19
11285612	HEALTH ROOM 102	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.7 ± 0.3	2022-12-19
11285618	HEALTH ROOM OFFICE 102C	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.9 ± 0.4	2022-12-19
11285624	MAIN OFFICE	2022-12-12 @ 12:00 pm	2022-12-15 @ 12:00 pm	0.8 ± 0.4	2022-12-19
11285273	MEDIA CENTER 182	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	1.1 ± 0.3	2022-12-19
11285268	MEDIA CENTER 182	2022-12-12 @ 2:00 pm	2022-12-15 @ 1:00 pm	0.8 ± 0.3	2022-12-19
11285602	MULTI PURPOSE ROOM 122	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	< 0.3	2022-12-19
11285609	MULTI PURPOSE ROOM 122	2022-12-12 @ 1:00 pm	2022-12-15 @ 1:00 pm	0.6 ± 0.3	2022-12-19



Radon Test Kit Chain of Custody

Project Name: MCPS Radon – April 2022 Schools – Retesting

Name of Schools:

1. Meadow Hall ES
2. Bayard Rustin ES
3. Lucy V. Barnsley ES
4. Cashell ES
5. Wheaton Woods ES
6. Winston Churchill HS

	Date	Initials
Radon Test Kits Deployed	12/12/2022	BMM
Radon Test Kits Collected	12/15/2022	BMM
Radon Test Kits Shipped to Lab*	12/15/2022	BMM
Radon Test Kits Received by Lab*	12/19/2022	BMM

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



MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Wheaton Woods Elementary School
Date of Report	January 31, 2018
Round of Testing	Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested	57
# Rooms \geq 4.0 pCi/L	0
Lowest Value	< 0.3 pCi/L
Highest Value	0.6 pCi/L

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



January 31, 2018

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

Re: Radon Testing Services

KCI Job #1214694182

Location: Wheaton Woods Elementary School

4510 Faroe Pl.
Rockville, Maryland 20853

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 Wheaton Woods Elementary School, located at 4510 Faroe Pl. in Rockville, Maryland 20853 (subject site).

SCOPE OF SERVICES

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

KCI visited the site on November 28, 2017 and deployed sixty-seven (67) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Appendix A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to

Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on December 1, 2017 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

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

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

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

RESULTS

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The quality control sample locations and analytical results are listed on Table 2 (Attachment B). Missing/compromised tests, missed rooms, and locked rooms are listed on Table 3 (Attachment B). The laboratory analytical results are included in Attachment C. Laboratory results and exposure data for the spike samples are also included in Attachment C.

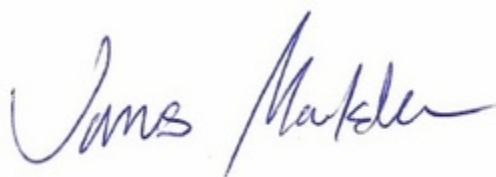
The results of the radon test analysis indicated the following:

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

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

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at 410-316-7800.

Sincerely,



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

Attachments:

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Wheaton Woods Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	Room / Area	Result
7978666	100	< 0.3
7978675	101	< 0.3
7978700	102	< 0.3
7978670	103	< 0.3
7978701	111	< 0.3
7978702	113	< 0.3
7978703	117	0.6
7978704	121	< 0.3
7978707	123	< 0.3
7978601	127	< 0.3
7978684	137	< 0.3
7978676	139	< 0.3
7978681	143	< 0.3
7978690	151	< 0.3
7978689	155	< 0.3
7978688	157	< 0.3
7978687	159	< 0.3
7978691	171	0.5
7978682	172	< 0.3
7978692	173	< 0.3
7978694	174	< 0.3
7978655	177	< 0.3
7978654	178	< 0.3
7978696	186	< 0.3
7978695	188	< 0.3
7978698	190	< 0.3
7978697	192	< 0.3
7978693	194	< 0.3
7978699	196	< 0.3
7978729	251	< 0.3
7978728	255	< 0.3
7978727	257	< 0.3
7978724	259	< 0.3
7978664	100A	< 0.3
7978663	100B	< 0.3
7978665	100C	< 0.3
7978659	102A	< 0.3
7978660	102C	< 0.3
7978673	105B	< 0.3
7978710	106A	< 0.3
7978669	109A	< 0.3
7978667	109B	< 0.3
7978672	109C	< 0.3
7978671	109D	< 0.3
7978668	109E	< 0.3
7978721	110C	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Wheaton Woods Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	Room / Area	Result
7978720	110D	< 0.3
7978709	* 112 (Missing)	-
7978686	135A	0.5
7978685	135B	< 0.3
7978683	135D	< 0.3
7978736	265A	< 0.3
7978708	265B	< 0.3
7978711	CAFE	< 0.3
7978722	CAFE	< 0.3
7978705	GYM	< 0.3
7978706	GYM	< 0.3
7978661	MAIN OFFICE	< 0.3
7978658	MEDIA ROOM	< 0.3
7978678	MEDIA ROOM	0.6

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Wheaton Woods Elementary School		
Test Period: 11/28/17-12/01/17		
Kit Number	QC Type	Result
7978674	D (105B)	< 0.3
7978730	D (259)	< 0.3
7978662	D (MAIN OFFICE)	< 0.3
7978680	D (MEDIA ROOM)	< 0.3
7978735	FB (265B)	< 0.3
7978679	FB (MEDIA ROOM)	< 0.3
7978576	OB (OB)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:
WHEATON WOODS ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978666	100	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7978664	100A	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-05
7978663	100B	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7978665	100C	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978675	101	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978700	102	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-05
7978659	102A	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7978660	102C	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-05
7978670	103	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978673	105B	2017-11-28 @ 2:00 pm	2017-12-01 @ 1:00 pm	< 0.3	2017-12-04
7978674	105B	2017-11-28 @ 2:00 pm	2017-12-01 @ 1:00 pm	< 0.3	2017-12-04
7978710	106A	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978669	109A	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978667	109B	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978672	109C	2017-11-28 @ 2:00 pm	2017-12-01 @ 1:00 pm	< 0.3	2017-12-05
7978671	109D	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978668	109E	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978721	110C	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978720	110D	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978701	111	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978702	113	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978703	117	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	0.6 ± 0.3	2017-12-05
7978704	121	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978707	123	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978601	127	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978686	135A	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	0.5 ± 0.3	2017-12-05
7978685	135B	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978683	135D	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978684	137	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978676	139	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978681	143	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978690	151	2017-11-28 @ 9:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978689	155	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978688	157	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978687	159	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978691	171	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	0.5 ± 0.2	2017-12-04
7978682	172	2017-11-28 @ 1:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05

Radon test result report for:
WHEATON WOODS ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978692	173	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978694	174	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978655	177	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978654	178	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978696	186	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978695	188	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978698	190	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978697	192	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978693	194	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978699	196	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978729	251	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978728	255	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978727	257	2017-11-28 @ 4:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978724	259	2017-11-28 @ 4:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978730	259	2017-11-28 @ 4:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978736	265A	2017-11-28 @ 4:00 pm	2017-12-01 @ 1:00 pm	< 0.3	2017-12-04
7978708	265B	2017-11-28 @ 4:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978735	265B	2017-11-28 @ 4:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-05
7978711	CAFE	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978722	CAFE	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978705	GYM	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978706	GYM	2017-11-28 @ 3:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978661	MAIN OFFICE	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7978662	MAIN OFFICE	2017-11-28 @ 2:00 pm	2017-12-01 @ 11:00 am	< 0.3	2017-12-04
7978678	MEDIA ROOM	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	0.6 ± 0.3	2017-12-04
7978679	MEDIA ROOM	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978680	MEDIA ROOM	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04
7978658	MEDIA ROOM	2017-11-28 @ 2:00 pm	2017-12-01 @ 12:00 pm	< 0.3	2017-12-04

December 19, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
WHEATON WOODS ES
OFFICE BLANK

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978576	OB	2017-11-28 @ 3:00 pm	2017-12-01 @ 3:00 pm	< 0.3	2017-12-05

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

December 21, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
WHEATON WOODS ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7978709	112	@	@		

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



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase

Names of Schools:

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

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

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

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

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

December 19, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

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

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

Air Chek, Inc. 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 182393

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

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

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

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

7975075, 7975064, 7975063, _____

7975065, 7975069, 7975070 _____

F4 Right

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

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

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

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

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

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

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