

RADON SCREENING SURVEY – FOLLOW-UP COL. E. BROOKE LEE MIDDLE SCHOOL

11800 Monticello Avenue,

Silver Spring, Maryland 20902

EXECUTIVE SUMMARY

Date of Test Report:	3/15/19
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	2
# Rooms \geq 4.0 pCi/L:	0
Low Value:	2.0
High Value:	3.6
Confirmed Rooms \geq 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events \geq 4.0 pCi/L

Room	Result (pCi/L) 1/31/19	Result (pCi/L) 3/15/19	Average Result (pCi/L)
Boys Locker room Office	4.5	2.0	3.3
Girls Locker room Office	4.0	3.6	3.8



MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary:
Col. E. Brooke Lee Middle School
11800 Monticello Avenue,
Silver Spring, MD 20902

Date of Test Report:	3/15/2019
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:	2
# of Rooms \geq 4.0 pCi/L:	0
Low Value:	2.0
High Value:	3.6

Project Status

Retesting completed: No further action at this time.



March 15, 2019

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

Re: Radon Testing Services

Location: Col. E. Brooke Lee Middle School
11800 Monticello Avenue,
Silver Spring, MD 20902

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for Col. E. Brooke Lee Middle School, located at 11800 Monticello Avenue, Silver Spring, MD 20902 (subject site).

Scope of Services:

PSI 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. PSI 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 #14SS007) 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.

PSI visited the site on February 25, 2019 and deployed two (2) activated charcoal (AC) radon test kit. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on February 28, 2019 to retrieve the radon sampling test kit. A floor plan map of the building with the test location is included as Attachment A of this report.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARLO007).

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 $\leq 65^{\circ}\text{F}$.

PSI 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.



PSI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. PSI 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	NA
≤ 4.0 pCi/L	See Attachment B	

Notes:
D -Duplicate Sample

The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 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 (703) 698-9300.

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
E. Brooke Lee Middle School		
Testing period: 2/25/19 - 2/28/19		
Kit Number	Room / Area	Result (pCi/L)
3923449	Boys Locker room Office	2.0
3923456	Girls Locker room Office	3.6

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

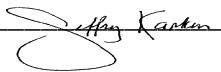
MCPS Radon Survey EB Lee MS
11800 Monticello Avenue
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
3220612	3923449	02/25/2019 12:55 pm 02/28/2019 12:50 pm	Floor Main Boys Locker Room Office	2.0
3220613	3923456	02/25/2019 1:00 pm 02/28/2019 12:51 pm	Floor Main Girls Locker Room Office	3.6

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Distributed by: Intertek-PSI (VA)

Date Received: 03/04/2019 Date Logged: 03/04/2019 Date Analyzed: 03/04/2019 Date Reported: 03/05/2019

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

Shawn Price, Director of Laboratory Operations, AccuStar Labs

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.



MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary:
Col. E. Brooke Lee Middle School
11800 Monticello Avenue,
Silver Spring, MD 20902

Date of Test Report:	2/13/2019
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:	47
# of Rooms \geq 4.0 pCi/L:	2
Low Value:	< 0.4
High Value:	4.5
Rooms with Results \geq 4.0 pCi/L:	Gym Office (Boys) Gym Office (Girls)

Project Status

Initial testing complete: Re-test needed for results \geq 4.0 pCi/L



February 13, 2019

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

Re: Radon Testing Services

Location: Col. E. Brooke Lee Middle School
11800 Monticello Avenue,
Silver Spring, MD 20902

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for Col. E. Brooke Lee Middle School, located at 11800 Monticello Avenue, Silver Spring, MD 20902 (subject site).

Scope of Services:

PSI 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. PSI 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 #14SS007) 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.

PSI visited the site on November 13, 2018 and deployed fifty-nine (59) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on November 16, 2018 to retrieve the radon sampling test kits. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, PSI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, PSI submitted ten (10) 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.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007) and 2 Saber Way, Haverhill, Massachusetts (certification # ARL0017).



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 $\leq 65^{\circ}\text{F}$.

PSI 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.

PSI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. PSI 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	Gym Office (Boys)	4.5
	Gym Office (Girls)	4.0
≤ 4.0 pCi/L	See Attachment B	

Notes:
D -Duplicate Sample

The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 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 (703) 698-9300.



Respectfully Submitted,

INTERTEK-PSI

A handwritten signature in black ink that reads "Nand Kaushik". The signature is written in a cursive style.

Nand Kaushik, P.E.
Department Manager, Environmental Services
Nand.Kaushik@intertek.com

Attachments: A – Floor Plan with Test Locations
 B – Table 1 – Radon Test Summary Spreadsheet
 C – Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
E. Brooke Lee Middle School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	Room / Area	Result (pCi/L)
3915479	106	0.7
3915472	107	0.5
3915480	108	< 0.4
3915478	109	< 0.4
3915535	110	< 0.4
3915536	111	1.0
3915540	119	1.9
3915881	120	3.5
3915476	201	< 0.4
3915474	210	< 0.4
3915475	212	0.6
3915473	216	< 0.4
3915526	100	< 0.4
3915524	101	0.4
3915488	102	0.5
3915525	103	0.5
3915484	104	0.8
3915532	105	1.9
3915485	112	< 0.4
3915537	113	< 0.4
3915538	114	0.8
3915539	115	< 0.4
3915527	AV Room	0.7
3915529	Cafeteria	0.7
3915967	Cafeteria	< 0.4
3915533	Computer Lab	0.4
3915523	Conference	0.7
3915968	Counselor	0.5
3915888	Gym	2.1
3881156	Gym	2.8
3915489	Health Room	1.2
3915882	Health Room 2	1.0
3915531	IMC	0.8
3915481	IMC	0.8
3915490	IMC Office	< 0.4
3915970	Kitchen Office	0.5
3915486	Kitchen Office	1.1
3915965	Main Office	0.7
3915966	Main Office 1	0.7
3915963	Main Office 2	< 0.4
3915885	Main Office 3	< 0.4
3915964	Main Office 4	< 0.4
3915884	Main Office 5	< 0.4

Radon Testing Results		
E. Brooke Lee Middle School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	Room / Area	Result (pCi/L)
3915890	Main Office 6	0.5
3915530	Main Office 7	0.4
3915886	Main Office 8	1.3
3915969	Main Office 9	1.7
3915883	Gym Office (Boys)	4.5
3915887	Gym Office (Girls)	4.0
3915487	Psychologist Office	0.8
3915889	Stage	2.0

Radon Testing Results		
E. Brooke Lee Middle School		
Testing period: 11/13/18 - 11/16/18		
Kit Number	QC Type	Result (pCi/L)
3915534	114 (D)	0.5
3915521	Health Room (D)	0.5
3915528	Main Office (D)	0.8
3915522	Main Office 5 (D)	< 0.4
3917376	Field Blank	< 0.4
3917373	Field Blank	< 0.4
3917374	Office Blank	< 0.4
3917375	Transit Blank	< 0.4

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey Col. E. Brooke Lee Mid School
11800 Monticello Avenue
Silver Spring MD 20902

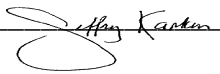
Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
3196881	3915963	11/13/2018 12:54 pm 11/16/2018 10:25 am	Col E.B. Lee Middle School Flr First Rm Main Of	< 0.4
3196882	3915885	11/13/2018 12:58 pm 11/16/2018 10:25 am	Col E.B. Lee Middle School Flr First Rm Main Of	< 0.4
3196883	3915964	11/13/2018 12:59 pm 11/16/2018 10:26 am	Col E.B. Lee Middle School Flr First Rm Main Of	< 0.4
3196884	3915884	11/13/2018 1:00 pm 11/16/2018 10:26 am	Col E.B. Lee Middle School Flr First Rm Main Of	< 0.4
3196885	3915890	11/13/2018 1:03 pm 11/16/2018 10:26 am	Col E.B. Lee Middle School Flr First Rm Main Of	0.5
3196886	3915530	11/13/2018 1:05 pm 11/16/2018 10:27 am	Col E.B. Lee Middle School Flr First Rm Main Of	0.4
3196887	3915886	11/13/2018 1:07 pm 11/16/2018 10:28 am	Col E.B. Lee Middle School Flr First Rm Main Of	1.3
3196888	3915969	11/13/2018 1:09 pm 11/16/2018 10:29 am	Col E.B. Lee Middle School Flr First Rm Main Of	1.7
3196889	3915968	11/13/2018 1:13 pm 11/16/2018 10:29 am	Col E.B. Lee Middle School Flr First Rm Counsel	0.5
3196890	3915489	11/13/2018 1:15 pm 11/16/2018 10:30 am	Col E.B. Lee Middle School Flr First Rm Health F	1.2

Comment: A copy of this report was e-mailed to PSI - VA.

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/20/2018 Date Logged: 11/20/2018 Date Analyzed: 11/20/2018 Date Reported: 11/29/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

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NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey Col. E. Brooke Lee Mid School
11800 Monticello Avenue
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3196891	3915882	11/13/2018 1:18 pm	11/16/2018 10:31 am	Col E.B. Lee Middle School Flr First Rm Health 2	1.0
3196892	3915528	11/13/2018 7:55 am	11/16/2018 10:23 am	Col E.B. Lee Middle School Flr First Rm Main off	0.8
3196893	3915521	11/13/2018 7:56 am	11/16/2018 10:30 am	Col E.B. Lee Middle School Flr First Rm Health F	0.5
3196894	3915522	11/13/2018 7:57 am	11/16/2018 10:31 am	Col E.B. Lee Middle School Flr First Rm Main 5	< 0.4
3196895	3915967	11/13/2018 7:59 am	11/16/2018 10:35 am	Col E.B. Lee Middle School Flr First Rm Café	< 0.4
3196896	3915529	11/13/2018 8:00 am	11/16/2018 10:35 am	Col E.B. Lee Middle School Flr First Rm Café	0.7
3196897	3915523	11/13/2018 8:03 am	11/16/2018 10:36 am	Col E.B. Lee Middle School Flr First Rm Conf Rn	0.7
3196898	3915887	11/13/2018 8:04 am	11/16/2018 10:37 am	Col E.B. Lee Middle School Flr First Rm PE Off (4.0
3196899	3915888	11/13/2018 8:04 am	11/16/2018 10:38 am	Col E.B. Lee Middle School Flr First Rm Gym	2.1
3196900	3915889	11/13/2018 8:07 am	11/16/2018 10:39 am	Col E.B. Lee Middle School Flr First Rm stage	2.0

Comment: A copy of this report was e-mailed to PSI - VA.

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/20/2018 Date Logged: 11/20/2018 Date Analyzed: 11/20/2018 Date Reported: 11/29/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

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NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey Col. E. Brooke Lee Mid School
11800 Monticello Avenue
Silver Spring MD 20902

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3196901	3915883	11/13/2018 8:10 am	11/16/2018 10:39 am	Col E.B. Lee Middle School Flr First Rm PR off (l	4.5
3196902	3915970	11/13/2018 8:11 am	11/16/2018 10:40 am	Col E.B. Lee Middle School Flr First Rm Kitchen	0.5
3196903	3915486	11/13/2018 8:12 am	11/16/2018 10:41 am	Col E.B. Lee Middle School Flr First Rm Kitchen	1.1
3196904	3915540	11/13/2018 8:12 am	11/16/2018 10:42 am	Col E.B. Lee Middle School Flr First Rm 119	1.9
3196905	3915881	11/13/2018 8:15 am	11/16/2018 10:42 am	Col E.B. Lee Middle School Flr First Rm 120	3.5
3196906	3915480	11/13/2018 8:16 am	11/16/2018 10:43 am	Col E.B. Lee Middle School Flr First Rm 108	< 0.4
3196907	3915478	11/13/2018 8:18 am	11/16/2018 10:43 am	Col E.B. Lee Middle School Flr First Rm 109	< 0.4
3196908	3915472	11/13/2018 8:21 am	11/16/2018 10:44 am	Col E.B. Lee Middle School Flr First Rm 107	0.5
3196909	3915479	11/13/2018 8:21 am	11/16/2018 10:44 am	Col E.B. Lee Middle School Flr First Rm 106	0.7
3196910	3915535	11/13/2018 8:22 am	11/16/2018 10:45 am	Col E.B. Lee Middle School Flr First Rm 110	< 0.4

Comment: A copy of this report was e-mailed to PSI - VA.

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/20/2018 Date Logged: 11/20/2018 Date Analyzed: 11/20/2018 Date Reported: 11/29/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey Col. E. Brooke Lee Mid School
11800 Monticello Avenue
Silver Spring MD 20902

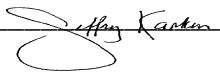
Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3196911	3915536	11/13/2018 8:24 am	11/16/2018 10:48 am	Col E.B. Lee Middle School Flr First Rm 111	1.0
3196912	3915473	11/13/2018 8:24 am	11/16/2018 10:52 am	Col E.B. Lee Middle School Flr Second Rm 216	< 0.4
3196913	3915475	11/13/2018 8:27 am	11/16/2018 10:56 am	Col E.B. Lee Middle School Flr Second Rm 212	0.6
3196914	3915474	11/13/2018 8:37 am	11/16/2018 10:58 am	Col E.B. Lee Middle School Flr Second Rm 210	< 0.4
3196915	3915476	11/13/2018 8:37 am	11/16/2018 11:02 am	Col E.B. Lee Middle School Flr Second Rm 201	< 0.4
3196916	3917376	11/13/2018 6:27 pm	11/16/2018 11:02 am	Col E.B. Lee Middle School Field Blank	< 0.4
3196917	3917373	11/13/2018 6:27 pm	11/16/2018 11:02 am	Col E.B. Lee Middle School Field Blank	< 0.4
3196918	3917375	11/13/2018 6:27 pm	11/16/2018 11:02 am	Col E.B. Lee Middle School Transit Blank	< 0.4
3196919	3917374	11/13/2018 6:00 am	11/16/2018 6:00 pm	Col E.B. Lee Middle School Office Blank	< 0.4
3196920	3915538	11/13/2018 11:55 am	11/16/2018 10:10 am	Col E.B. Lee Middle School Flr First Rm 114	0.8

Comment: A copy of this report was e-mailed to PSI - VA.

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/20/2018 Date Logged: 11/20/2018 Date Analyzed: 11/20/2018 Date Reported: 11/29/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey Col. E. Brooke Lee Mid School
11800 Monticello Avenue
Silver Spring MD 20902

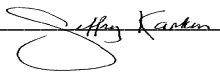
Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
3196921	3915534	11/13/2018 11:55 am 11/16/2018 10:11 am	Col E.B. Lee Middle School Flr First Rm 114 Dup	0.5
3196922	3915539	11/13/2018 12:02 pm 11/16/2018 10:12 am	Col E.B. Lee Middle School Flr First Rm 115	< 0.4
3196923	3915537	11/13/2018 12:12 pm 11/16/2018 10:13 am	Col E.B. Lee Middle School Flr First Rm 113	< 0.4
3196924	3915485	11/13/2018 12:14 pm 11/16/2018 10:14 am	Col E.B. Lee Middle School Flr First Rm 112	< 0.4
3196925	3915533	11/13/2018 12:17 pm 11/16/2018 10:15 am	Col E.B. Lee Middle School Flr First Rm Comput	0.4
3196926	3915487	11/13/2018 12:23 pm 11/16/2018 10:16 am	Col E.B. Lee Middle School Flr First Rm Psych o	0.8
3196927	3915532	11/13/2018 12:29 pm 11/16/2018 10:16 am	Col E.B. Lee Middle School Flr First Rm 105	1.9
3196928	3915484	11/13/2018 12:31 pm 11/16/2018 10:17 am	Col E.B. Lee Middle School Flr First Rm 104	0.8
3196929	3915531	11/13/2018 12:33 pm 11/16/2018 10:18 am	Col E.B. Lee Middle School Flr First Rm IMC	0.8
3196930	3915481	11/13/2018 12:34 pm 11/16/2018 10:18 am	Col E.B. Lee Middle School Flr First Rm IMC	0.8

Comment: A copy of this report was e-mailed to PSI - VA.

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/20/2018 Date Logged: 11/20/2018 Date Analyzed: 11/20/2018 Date Reported: 11/29/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey Col. E. Brooke Lee Mid School
11800 Monticello Avenue
Silver Spring MD 20902

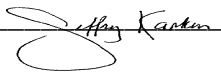
Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
3196931	3915490	11/13/2018 12:36 pm 11/16/2018 10:19 am	Col E.B. Lee Middle School Flr First Rm IMC off	< 0.4
3196932	3915527	11/13/2018 12:37 pm 11/16/2018 10:19 am	Col E.B. Lee Middle School Flr First Rm AV Rm	0.7
3196933	3915525	11/13/2018 12:41 pm 11/16/2018 10:20 am	Col E.B. Lee Middle School Flr First Rm 103	0.5
3196934	3915526	11/13/2018 12:43 pm 11/16/2018 10:21 am	Col E.B. Lee Middle School Flr First Rm 100	< 0.4
3196935	3915524	11/13/2018 12:45 pm 11/16/2018 10:22 am	Col E.B. Lee Middle School Flr First Rm 101	0.4
3196936	3915488	11/13/2018 12:48 pm 11/16/2018 10:23 am	Col E.B. Lee Middle School Flr First Rm 102	0.5
3196937	3915965	11/13/2018 12:50 pm 11/16/2018 10:24 am	Col E.B. Lee Middle School Flr First Rm Main off	0.7
3196938	3915966	11/13/2018 12:52 pm 11/16/2018 10:24 am	Col E.B. Lee Middle School Flr First Rm Main Of	0.7

Comment: A copy of this report was e-mailed to PSI - VA.

Test Performed By: Not Indicated

Distributed by: Intertek-PSI (VA)

Date Received: 11/20/2018 Date Logged: 11/20/2018 Date Analyzed: 11/20/2018 Date Reported: 11/29/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
NRSB Device Code 12193

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1


MCPS Radon Survey
Col. E. Brooke Lee Middle School
11800 Monticello Avenue
Silver Spring MD 20902


Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2393128	3881156	11/13/2018 8:05 am 11/16/2018 10:38 am	Bldg. Col E.B. Lee Middle School Flr First Rm Gym	2.8

Comment: A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 11/19/2018 Date Logged: 11/19/2018 Date Analyzed: 11/20/2018 Date Reported: 01/02/2019

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

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NRPP 105011 AL
NRSB ARL0007
Ohio RL41

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey
4514 Taylorsville Road
Dayton OH 45424

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
3204125	3926831	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	36.1
3204126	3926832	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.8
3204127	3926833	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	33.7
3204128	3926834	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	35.8
3204129	3926835	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	35.0
3204130	3926836	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.5
3204131	3926837	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.6
3204132	3926838	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.3
3204133	3926839	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	33.2
3204134	3926840	12/07/2018 9:47 am - 12/10/2018 9:47 am	Spike	34.0

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Test Performed By: Unknown

Distributed by: Intertek-PSI (VA)

Date Received: 12/12/2018 Date Logged: 12/12/2018 Date Analyzed: 12/12/2018 Date Reported: 12/13/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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Shawn Price, Director of Laboratory Operations, AccuStar Labs

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Intertek - PSI

Job Number 187732

NOMINAL Conditions: Radon Conc 32.6 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/7/18 Date Stop: 12/10/18

Date Start: _____ Date Stop: _____

Time Start: 0947 Time Stop: 0947

Time Start: _____ Time Stop: _____

Device No.'s: (10) Char. Cans-

Device No.'s: _____

3926831 thru 3926840

G2 left

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

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



Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

- | | | |
|---------------------|----------------------|--------------------|
| 1. Highland View ES | 6. EB Lee MS | 11. Cannon Rd ES |
| 2. Kemp Mill ES | 7. Forest Knolls ES | 12. Cloverly ES |
| 3. Sligo Creek ES | 8. Galway ES | 13. Springbrook HS |
| 4. Highland ES | 9. Wheaton HS | |
| 5. Kennedy HS | 10. Briggs Chaney MS | |

	Date	Initials
Radon Test Kits Deployed	11/13/2018	NL
Radon Test Kits Sampled	11/16/2018	NL
Radon Test Kits Shipped to Lab*	11/16/2018	NL
Radon Test Kits Received by Lab*	11/17/2018; 11/18/2018; 11/20/2018	NL

*All samples sent to AccuStar Laboratories, 929 Mount Zion Road, Lebanon, PA 17046 and 2 Saber Way, Haverhill, MA 01835



MCPS RADON TESTING

Executive Summary: Colonel E. Brooke Lee Middle School

Date of Test Report:	1/19/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	67
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.6

Project Status:

Initial testing completed; no further action at this time.



January 19, 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 # 12146341.21

Location: Colonel E. Brooke Lee Middle School
11800 Monticello Avenue
Silver Spring, MD 20902

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 Colonel E. Brooke Lee Middle School, located at 11800 Monticello Avenue in Silver Spring, Maryland 20902 (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-five (75) 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

All field blanks, office blank, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C). Laboratory results and exposure data for the spike samples are also included in Attachment C.

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

Sincerely,



James M. Mouldale
Radon Measurement Specialist
KCI Technologies, Inc.

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

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Lee Col. E. Brooke		
Test Period: 12/28/15-12/31/15		
Kit Number	Room / Area	Result
7712301	100	< 0.3
7712392	101	0.6
7712388	102	0.7
7712389	102	0.8
7712444	103	0.7
7712484	104	1
7712435	105	0.8
7712476	106	< 0.3
7712482	107	< 0.3
7712488	107	< 0.3
7712465	108	0.6
7712461	108	0.8
7712491	109	< 0.3
7712497	110	< 0.3
7712496	111	0.7
7712367	112	0.8
7712427	112	< 0.3
7712374	113	< 0.3
7712492	114	< 0.3
7712495	114	< 0.3
7712493	115	< 0.3
7712485	119	1.2
7712385	120	1.4
7712481	120	2.1
7712394	217	< 0.3
7712364	220	0.6
7712460	AUDIO	0.6
7712477	CAFETERIA	0.7
7712478	CAFETERIA	1.1
7712475	CAFETERIA	0.8
7712361	COMM	0.6
7712399	COMM	0.6
7712480	CONFERENCE	0.7
7712470	GUIDANCE	0.8
7712371	GYM	1.2
7712486	GYM	< 0.3
7712443	GYM	2.3
7712487	GYM	0.5
7712483	GYM	1.4
7712489	GYM	2.2
7712450	LIBRARY	1.5
7712451	LIBRARY	1.5
7712455	LIBRARY	1.2
7712471	NURSE	< 0.3
7712474	NURSE	0.8
7712472	NURSE	0.8

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Lee Col. E. Brooke		
Test Period: 12/28/15-12/31/15		
Kit Number	Room / Area	Result
7712378	OFFICE	< 0.3
7712383	OFFICE	0.7
7712393	OFFICE	1.4
7712473	OFFICE	< 0.3
7712462	OFFICE	< 0.3
7712466	OFFICE	0.9
7712469	OFFICE	< 0.3
7712490	OFFICE	1.2
7712500	OFFICE	< 0.3
7712452	OFFICE	1.2
7712397	OFFICE	< 0.3
7712457	OFFICE	0.7
7712468	OFFICE	< 0.3
7712498	OFFICE	0.9
7712499	OFFICE	< 0.3
7712400	SECURITY	< 0.3
7712384	SERCICES	< 0.3
7712365	SERVICES	< 0.3
7712396	STORE	1
7712387	WEIGHT	2.6
7712425	WEIGHT	1.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Lee Col. E. Brooke		
Test Period: 12/28/15-12/31/15		
Kit Number	QC Type	Result
7712398	D (105)	1
7712432	D (110)	< 0.3
7712479	D (CAFETERIA)	0.9
7712467	D (GYM)	< 0.3
7712375	D (OFFICE)	< 0.3
7712456	FB (104)	< 0.3
7712494	FB (WEIGHT)	< 0.3
7710663	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:
LEE COL. E. BROOKE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7710663	0	2015-12-28 @ 4:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-04
7712301	100	2015-12-28 @ 11:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7712392	101	2015-12-28 @ 11:00 am	2015-12-31 @ 8:00 am	0.6 ± 0.3	2016-01-05
7712388	102	2015-12-28 @ 11:00 am	2015-12-31 @ 8:00 am	0.7 ± 0.4	2016-01-05
7712389	102	2015-12-28 @ 11:00 am	2015-12-31 @ 8:00 am	0.8 ± 0.4	2016-01-05
7712444	103	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.7 ± 0.4	2016-01-05
7712456	104	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712484	104	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.0 ± 0.4	2016-01-05
7712435	105	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.8 ± 0.4	2016-01-05
7712398	105	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.0 ± 0.4	2016-01-05
7712476	106	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712482	107	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712488	107	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712461	108	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	0.8 ± 0.4	2016-01-05
7712465	108	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	0.6 ± 0.4	2016-01-05
7712491	109	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712432	110	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712497	110	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712496	111	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	0.7 ± 0.3	2016-01-05
7712367	112	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	0.8 ± 0.4	2016-01-05
7712427	112	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712374	113	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712495	114	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712492	114	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712493	115	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712485	119	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	1.2 ± 0.4	2016-01-05
7712385	120	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	1.4 ± 0.4	2016-01-05
7712481	120	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	2.1 ± 0.5	2016-01-05
7712394	217	2015-12-28 @ 12:00 pm	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712364	220	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.6 ± 0.4	2016-01-05
7712460	AUDIO	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.6 ± 0.4	2016-01-05
7712475	CAFETERIA	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.8 ± 0.3	2016-01-05
7712477	CAFETERIA	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.7 ± 0.3	2016-01-05
7712478	CAFETERIA	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	1.1 ± 0.4	2016-01-05
7712479	CAFETERIA	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.9 ± 0.3	2016-01-05
7712361	COMM	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.6 ± 0.4	2016-01-05
7712399	COMM	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	0.6 ± 0.3	2016-01-05

January 16, 2016
**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
LEE COL. E. BROOKE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712480	CONFERENCE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.7 ± 0.4	2016-01-05
7712470	GUIDANCE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.8 ± 0.4	2016-01-05
7712443	GYM	2015-12-28 @ 9:00 am	2015-12-31 @ 9:00 am	2.3 ± 0.4	2016-01-05
7712467	GYM	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712371	GYM	2015-12-28 @ 9:00 am	2015-12-31 @ 9:00 am	1.2 ± 0.4	2016-01-05
7712483	GYM	2015-12-28 @ 9:00 am	2015-12-31 @ 9:00 am	1.4 ± 0.4	2016-01-05
7712486	GYM	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712487	GYM	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	0.5 ± 0.4	2016-01-05
7712489	GYM	2015-12-28 @ 9:00 am	2015-12-31 @ 9:00 am	2.2 ± 0.5	2016-01-05
7712450	LIBRARY	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.5 ± 0.4	2016-01-05
7712451	LIBRARY	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.5 ± 0.4	2016-01-05
7712455	LIBRARY	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.2 ± 0.4	2016-01-05
7712471	NURSE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7712472	NURSE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.8 ± 0.4	2016-01-05
7712474	NURSE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.8 ± 0.4	2016-01-05
7712498	OFFICE	2015-12-28 @ 11:00 am	2015-12-31 @ 10:00 am	0.9 ± 0.4	2016-01-05
7712499	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7712500	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7712452	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	1.2 ± 0.4	2016-01-05
7712457	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.7 ± 0.4	2016-01-05
7712462	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7712466	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.9 ± 0.4	2016-01-05
7712468	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7712469	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7712473	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	< 0.3	2016-01-05
7712375	OFFICE	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712378	OFFICE	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712383	OFFICE	2015-12-28 @ 9:00 am	2015-12-31 @ 8:00 am	0.7 ± 0.4	2016-01-05
7712393	OFFICE	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.4 ± 0.4	2016-01-05
7712397	OFFICE	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712490	OFFICE	2015-12-28 @ 10:00 am	2015-12-31 @ 8:00 am	1.2 ± 0.4	2016-01-05
7712400	SECURITY	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712384	SERCICES	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712365	SERVICES	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712396	STORE	2015-12-28 @ 11:00 am	2015-12-31 @ 9:00 am	1.0 ± 0.4	2016-01-05
7712494	WEIGHT	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	< 0.3	2016-01-05
7712387	WEIGHT	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	2.6 ± 0.5	2016-01-05

January 16, 2016
**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**LEE COL. E. BROOKE
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712425	WEIGHT	2015-12-28 @ 10:00 am	2015-12-31 @ 9:00 am	1.3 ± 0.4	2016-01-05

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 μ R/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