KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Goshen Elementary School
Date of Test Report	3/2/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	48
# Rooms Re-tested	2
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	1.6 pCi/L

Project Status:

1. Initial testing completed;
2. Missing or compromised samples need re-test.
3. Re-testing Completed 2/14/23 – 2/17/23.
4. 5-Year Testing Completed.

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March 3, 2023

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

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

Location: Goshen Elementary School
8701 Warfield Road
Gaithersburg, MD 20882

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 Goshen Elementary School, located at 8701 Warfield Road, Gaithersburg, MD 20882 (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 initially on January 23, 2023 and deployed fifty-five (55) 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.

KCI returned to the site on January 26, 2023 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs - MA. for analysis by gamma-ray spectroscopy. Accustar Labs - MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

KCI re-visited the site on February 14, 2023 to deploy five (5) activated charcoal (AC) radon test kits for testing of missed rooms or compromised test kits during initial testing.

KCI returned to the site on February 17, 2023 to retrieve the radon re-sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs – MA for analysis by gamma-ray spectroscopy. Accustar Labs – MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

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.

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 ranged from the 31°F to 52°F. Maximum sustained winds ranged from 5-25 miles per hour. Average humidity was around 60% with .32 inches of precipitation (rain) was recorded during testing period.

During the re-testing period, weather records indicate low temperatures were in the mid-20s°F and high temperatures ranged to the 70s°F. Maximum sustained winds ranged from 0-33 miles per hour. Average humidity was around 62% with 1.01 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 piC/L	None	N/A
<4.0 piC/L	See Attachment B	

The results of the radon re-testing analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	None	N/A
<4.0 piC/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 McCleaf

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 Notes:

AC- Activated Charcoal
ACI- Air Check, Inc.
D- Duplicate
FB- Field Blank
KCI- KCI Technologies, Inc.
OB- Office Blank
PM- Project Manager
QC- Quality Control

Table 1- Radon Testing Results		
Goshen ES		
Test Period: 01/09/2023 - 01/12/2023		
Kit Number	Room / Area	Result
11285512	1	< 0.3
11285511	2	< 0.3
11285505	3	0.5
11285506	4	0.9
11285517	5	< 0.3
11285518	5	< 0.3
11285508	6	0.7
11287068	7	0.8
11287087	8	0.9
11287088	9	0.8
11287093	10	< 0.3
11287076	16	0.8
11287085	1B	1.1
11287009	A	0.8
11285510	ART	< 0.3
11285536	ASSISTANT PRINCIPAL	1.2
11287094	BAR T	1.0
11287089	BUILDING SERVICE MGR	0.9
11285996	COMP	1.2
11285526	CONFERENCE	0.9
11285542	CONFERENCE	0.8
11285535	CONFERENCE ROOM	1.6
11285502	DUAL PURPOSE	< 0.3
11287100	ESOL	0.7
11285988	GYM	0.8
11287002	GYM	N/A
11285995	GYM OFFICE	0.7
11285539	HEALTH	0.5
11285513	IMC	0.7
11285514	IMC	1.2
11285516	K1	< 0.3
11287084	K2	0.6
11285979	K3	0.8
11287092	K4	1.0
11287098	KITCHEN OFFICE	0.8
11285541	MAIN OFFICE	0.9
11285509	MATERIAL PREP	1.2
11285503	MEDIA CTR STORAGE	1.0
11287095	MULTIPURPOSE	1.0
11287096	MULTIPURPOSE	1.0
11287097	MULTIPURPOSE ROOM	0.8
11285504	MUSIC	0.6

Table 1- Radon Testing Results		
Goshen ES		
Test Period: 01/09/2023 - 01/12/2023		
Kit Number	Room / Area	Result
11285525	PRINCIPAL	0.7
11285540	PRINCIPAL	0.9
11287091	R	1.1
11285515	SEIU ROOM	1.3
11287075	SP	N/A
11287059	SPE	0.7
11287083	SPE	< 0.3
11287099	SPE	1.1
11285507	STAFF LOUNGE	< 0.3
11287060	STAFF LOUNGE	0.6
11287067	STAFF LOUNGE	0.8
11287001	STAFF WORK ROOM	0.9
11287090	STAGE	< 0.3

Table 2- Radon Testing Results			
Goshen ES			
Test Period: 01/09/23 - 01/12/23			
Kit Number	QC Type	Room / Area	Result
11285518	D	5	< 0.3
11287096	D	Multipurpose	1.0
11285525	D	Principal	0.7
11287059	D	SPE	0.7
11287083	FB	SPE	< 0.3
11287060	D	Staff lounge	0.6
11285507	FB	Staff lounge	< 0.3
11285160	OB	OFFICE BLANK	< 0.3
11285167	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
Goshen ES		
Test Period: 01/09/23 - 01/12/23		
Kit Number	Room/Area	Result
	N/A	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Goshen ES		
Test Period: 01/09/23 - 01/12/23		
Kit Number	Room/Area	Result
11287002	Gym	Missing
11287075	Speech	Missing

Table Note:
* Missing or Compromised Sample

Table 1- Radon Testing Results		
Goshen ES RT		
Test Period: 02/14/2023 - 02/17/2023		
Kit Number	Room / Area	Result
11288294	GYM	0.5
11288295	GYM	< 0.3
11288289	SPEECH	< 0.3
11288298	SPEECH	< 0.3
11288300	SPEECH	< 0.3

Table 2- Radon Testing Results			
Goshen ES RT			
Test Period: 02/14/23 - 02/17/23			
Kit Number	QC Type	Room / Area	Result
11288300	D	Speech	< 0.3
11288298	FB	Speech	< 0.3
11634060	OB	OFFICE BLANK	< 0.3
11634067	TB	TRAVEL BALNK	< 0.3

Summary of Missed Locations		
Goshen ES RT		
Test Period: 02/14/23 - 02/17/23		
Kit Number	Room/Area	Result
	N/A	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Goshen ES RT		
Test Period: 02/14/23 - 02/17/23		
Kit Number	Room/Area	Result
	N/A	

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 16, 2023

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285512	1	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11287093	10	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11287076	16	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	0.8 ± 0.4	2023-01-16
11287085	1B	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	1.1 ± 0.4	2023-01-16
11285511	2	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11285505	3	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	0.5 ± 0.4	2023-01-16
11285506	4	2023-01-09 @ 1:00 pm	2023-01-12 @ 1:00 pm	0.9 ± 0.4	2023-01-16
11285518	5	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11285517	5	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11285508	6	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.7 ± 0.4	2023-01-16
11287068	7	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.8 ± 0.4	2023-01-16
11287087	8	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.9 ± 0.4	2023-01-16
11287088	9	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.8 ± 0.3	2023-01-16
11287009	A	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.8 ± 0.4	2023-01-16
11285510	ART	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11285536	ASSISTANT PRINCIPAL	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	1.2 ± 0.4	2023-01-16
11287094	BAR T	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	1.0 ± 0.4	2023-01-16
11287089	BUILDING SERVICE MGR	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	0.9 ± 0.3	2023-01-16
11285996	COMP	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	1.2 ± 0.4	2023-01-16
11285542	CONFERENCE	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	0.8 ± 0.4	2023-01-16
11285526	CONFERENCE	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	0.9 ± 0.4	2023-01-16
11285535	CONFERENCE ROOM	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	1.6 ± 0.4	2023-01-16
11285502	DUAL PURPOSE	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11287100	ESOL	2023-01-09 @ 3:00 pm	2023-01-12 @ 1:00 pm	0.7 ± 0.4	2023-01-16
11285988	GYM	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.8 ± 0.3	2023-01-16
11285995	GYM OFFICE	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.7 ± 0.4	2023-01-16
11285539	HEALTH	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	0.5 ± 0.4	2023-01-16
11285514	IMC	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	1.2 ± 0.4	2023-01-16
11285513	IMC	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	0.7 ± 0.4	2023-01-16
11285516	K1	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11287084	K2	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.6 ± 0.4	2023-01-16
11285979	K3	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.8 ± 0.4	2023-01-16
11287092	K4	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	1.0 ± 0.4	2023-01-16
11287098	KITCHEN OFFICE	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	0.8 ± 0.4	2023-01-16
11285541	MAIN OFFICE	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	0.9 ± 0.4	2023-01-16
11285509	MATERIAL PREP	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	1.2 ± 0.4	2023-01-16
11285503	MEDIA CTR STORAGE	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	1.0 ± 0.4	2023-01-16

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

January 16, 2023

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287096	MULTIPURPOSE	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	1.0 ± 0.4	2023-01-16
11287095	MULTIPURPOSE	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	1.0 ± 0.4	2023-01-16
11287097	MULTIPURPOSE ROOM	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	0.8 ± 0.4	2023-01-16
11285504	MUSIC	2023-01-09 @ 1:00 pm	2023-01-12 @ 12:00 pm	0.6 ± 0.4	2023-01-16
11285525	PRINCIPAL	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	0.7 ± 0.4	2023-01-16
11285540	PRINCIPAL	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	0.9 ± 0.4	2023-01-16
11287091	R	2023-01-09 @ 3:00 pm	2023-01-12 @ 1:00 pm	1.1 ± 0.4	2023-01-16
11285515	SEIU ROOM	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	1.3 ± 0.4	2023-01-16
11287099	SPE	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	1.1 ± 0.4	2023-01-16
11287083	SPE	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	< 0.3	2023-01-16
11287059	SPE	2023-01-09 @ 2:00 pm	2023-01-12 @ 1:00 pm	0.7 ± 0.4	2023-01-16
11287067	STAFF LOUNGE	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.8 ± 0.4	2023-01-16
11285507	STAFF LOUNGE	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16
11287060	STAFF LOUNGE	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	0.6 ± 0.3	2023-01-16
11287001	STAFF WORK ROOM	2023-01-09 @ 3:00 pm	2023-01-12 @ 12:00 pm	0.9 ± 0.4	2023-01-16
11287090	STAGE	2023-01-09 @ 2:00 pm	2023-01-12 @ 12:00 pm	< 0.3	2023-01-16

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February 20, 2023

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11288294	GYM	2023-02-14 @ 10:00 am	2023-02-17 @ 10:00 am	0.5 ± 0.3	2023-02-20
11288295	GYM	2023-02-14 @ 10:00 am	2023-02-17 @ 10:00 am	< 0.3	2023-02-20
11288289	SPEECH	2023-02-14 @ 10:00 am	2023-02-17 @ 10:00 am	< 0.3	2023-02-20
11288298	SPEECH	2023-02-14 @ 10:00 am	2023-02-17 @ 10:00 am	< 0.3	2023-02-20
11288300	SPEECH	2023-02-14 @ 10:00 am	2023-02-17 @ 10:00 am	< 0.3	2023-02-20

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 208802

NOMINAL Conditions: Radon Conc 24.4 pCi/L Rel. Hum 48.6 % Temp. 79.3 F

Date Start: 1/27/23 Date Stop: 1/30/23	Date Start: _____ Date Stop: _____
Time Start: 0816 Time Stop: 0816	Time Start: _____ Time Stop: _____
Device No.'s: (5) CHAR BAGS -	Device No.'s: _____
11633682, 11633687, 11633688	_____
11633695, 11633696	_____
F3 Cell	
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

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

February 3, 2023 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11633696	SK10	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	24.2 ± 1.9	2023-02-03
11633682	SK6	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	26.9 ± 2.1	2023-02-03
11633687	SK7	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	23.8 ± 1.9	2023-02-03
11633688	SK8	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	25.9 ± 2.1	2023-02-03
11633695	SK9	2023-01-27 @ 8:00 am	2023-01-30 @ 8:00 am	27.0 ± 2.2	2023-02-03

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KCI TECHNOLOGIES

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Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Week 2 Retesting January Schools

Name of Schools:

1. A. Mario Loiederman MS
2. Cannon Road ES
3. Forest Knolls ES
4. Glen Haven ES
5. Goshen ES
6. Highland View ES
7. John F. Kennedy HS
8. Lakelands Park MS
9. Montgomery Village MS
10. Poolesville HS
11. Springbrook HS

	Date	Initials
Radon Test Kits Deployed	02/14/2023	BMM
Radon Test Kits Collected	02/17/2023	BMM
Radon Test Kits Shipped to Lab*	02/17/2023	BMM
Radon Test Kits Received by Lab*	02/20/2023	BMM

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

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
Goshen Elementary School

8701 Warfield Road
Gaithersburg, MD 20882

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:	1
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	<0.4
High Value:	<0.4

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: Goshen Elementary School
8701 Warfield Road
Gaithersburg, MD 20882

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 Goshen Elementary School, located at 8701 Warfield Road, Gaithersburg, MD 20882 (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 one (1) 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 # ARL0007).

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 ≤ 65°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

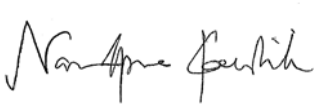
The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within 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.

Respectfully Submitted,

INTERTEK - PSI



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		
Goshen Elementary School		
Testing period: 2/25/19 - 2/28/19		
Kit Number	**Room / Area**	**Result (pCi/L)**
3923446	Health Room	<0.4

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Goshen ES
8701 Warfield Road
Gaithersburg MD 20882

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3220715	3923446	02/25/2019 10:05 am	02/28/2019 9:35 am	Floor Main Room Health	< 0.4

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: 03/05/2019 Date Reported: 03/05/2019

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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MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
Goshen Elementary School

8701 Warfield Road
Gaithersburg, MD 20882

Date of Test Report:	12/28/2018
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:	43
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	1.0

Project Status

Initial testing complete: Missing or compromised samples need re-test.

December 28, 2018

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

Re: Radon Testing Services

Location: Goshen Elementary School
8701 Warfield Road
Gaithersburg, MD 20882

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 Goshen Elementary School, located at 8701 Warfield Road, Gaithersburg, MD 20882 (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 December 3, 2018 and deployed fifty-seven (57) 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 December 6, 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 ≤ 65°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.

Respectfully Submitted,

INTERTEK-PSI

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		
Goshen Elementary School		
Testing period: 12/03/18 - 12/06/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3926940	APR	0.5
3927002	APR	0.4
3926921	APR Stage	0.4
3927001	APR Storage	< 0.4
3926981	Art	< 0.4
3927032	Assistant Principal	0.4
3926938	Building Service	< 0.4
3926936	Communication Center	0.7
3927010	Conference	0.6
3927033	Conference	0.6
3926937	Control Room	0.7
3926982	CR1	< 0.4
3926933	CR10	< 0.4
3927003	CR13	0.4
3926983	CR2	0.5
3926992	CR22	0.5
3926994	CR25	< 0.4
3926984	CR3	0.4
3926985	CR4	< 0.4
3926986	CR5	0.4
3926847	CR6	< 0.4
3926849	CR7	0.4
3926850	CR8	0.5
3926931	CR9	< 0.4
3927036	DPR	< 0.4
3926989	ESOL	0.8
3926987	Gym	0.7
3926988	Gym	0.5
3927004	Gym Office	0.6
3927008	Health (MISSING)	--
3927009	Health Office	0.6
3927039	IMC	0.9
3927040	IMC	0.7
3926856	K1	< 0.4
3926854	K2	< 0.4
3926853	K3	0.6
3926851	K4	0.6
3926939	Kitchen	0.4
3927034	Mail	0.7
3927006	Main Office	0.7
3927037	Material Prep	0.7
3927035	Music	< 0.4
3927031	Principal	< 0.4

Radon Testing Results		
Goshen Elementary School		
Testing period: 12/03/18 - 12/06/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3926935	Reading Room 1A	1.0
3926934	Reading Room 1B	0.9
3926990	Staff Lounge	< 0.4
3927007	Workroom	0.7

Radon Testing Results		
Goshen Elementary School		
Testing period: 12/03/18 - 12/06/18		
Kit Number	**QC Type**	**Result (pCi/L)**
3926932	APR Storage (D)	0.4
3926848	CR6 (D)	< 0.4
3926993	CR22 (D)	< 0.4
3927005	Gym Office (D)	0.6
3926855	K2 (D)	< 0.4
3926852	K4 (D)	0.5
3927038	Material Prep (D)	0.7
3926869	Field Blank	< 0.4
3926870	Field Blank	< 0.4
3926867	Office Blank	< 0.4
3926868	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

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Goshen ES
Not Indicated
Gaithersburg MD 20882

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3201828	3926851	12/03/2018	5:18 pm	12/06/2018	3:30 pm	First Floor Room K4	0.6
3201829	3926852	12/03/2018	5:18 pm	12/06/2018	3:30 pm	First Floor Room K4 Duplicate	0.5
3201830	3926853	12/03/2018	5:20 pm	12/06/2018	3:32 pm	First Floor Room K3	0.6
3201831	3926854	12/03/2018	5:22 pm	12/06/2018	3:33 pm	First Floor Room K2	< 0.4
3201832	3926855	12/03/2018	5:22 pm	12/06/2018	3:33 pm	First Floor Room K2 Duplicate	< 0.4
3201833	3926856	12/03/2018	5:26 pm	12/06/2018	3:35 pm	First Floor Room K1	< 0.4
3201834	3927004	12/03/2018	5:28 pm	12/06/2018	3:36 pm	First Floor Room Gym Office	0.6
3201835	3927005	12/03/2018	5:28 pm	12/06/2018	3:36 pm	First Floor Room Gym Office Duplicate	0.6
3201836	3927006	12/03/2018	5:32 pm	12/06/2018	3:38 pm	First Floor Room Main Office	0.7
3201837	3927007	12/03/2018	5:34 pm	12/06/2018	3:39 pm	First Floor Workroom	0.7
3201838	3927009	12/03/2018	5:38 pm	12/06/2018	3:41 pm	First Floor Room Health	0.6

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

Test Performed By: Nan Lin

Distributed by: Intertek-PSI (VA)

Date Received: 12/07/2018 Date Logged: 12/07/2018 Date Analyzed: 12/07/2018 Date Reported: 12/19/2018

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

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Goshen ES
Not Indicated
Gaithersburg MD 20882

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3201839	3927010	12/03/2018 5:40 pm	12/06/2018 3:42 pm	First Floor Room Conference	0.6
3201840	3927031	12/03/2018 5:42 pm	12/06/2018 3:43 pm	First Floor Room Principal	< 0.4
3201841	3927032	12/03/2018 5:44 pm	12/06/2018 3:44 pm	First Floor Room Assistant Principal	0.4
3201842	3927033	12/03/2018 5:46 pm	12/06/2018 3:45 pm	First Floor Room Conference	0.6
3201843	3927034	12/03/2018 5:48 pm	12/06/2018 3:46 pm	Building Mail First Floor	0.7
3201844	3927035	12/03/2018 5:50 pm	12/06/2018 3:47 pm	First Floor Room Music	< 0.4
3201845	3927036	12/03/2018 5:52 pm	12/06/2018 3:48 pm	First Floor Room DPR	< 0.4
3201846	3927037	12/03/2018 5:54 pm	12/06/2018 3:49 pm	First Floor Room Material Prep	0.7
3201847	3927038	12/03/2018 5:54 pm	12/06/2018 3:49 pm	First Floor Room Material Prep Duplicate	0.7
3201848	3927039	12/03/2018 5:58 pm	12/06/2018 3:51 pm	First Floor Room IMC	0.9
3201849	3927040	12/03/2018 6:00 pm	12/06/2018 3:52 pm	First Floor Room IMC	0.7

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

Test Performed By: Nan Lin

Distributed by: Intertek-PSI (VA)

Date Received: 12/07/2018 Date Logged: 12/07/2018 Date Analyzed: 12/07/2018 Date Reported: 12/19/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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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:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Goshen ES
Not Indicated
Gaithersburg MD 20882

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3201850	3926981	12/03/2018	5:02 pm	12/06/2018	3:53 pm	First Floor Room Art	< 0.4
3201851	3926982	12/03/2018	6:04 pm	12/06/2018	3:54 pm	First Floor Room CR1	< 0.4
3201852	3926983	12/03/2018	5:06 pm	12/06/2018	3:55 pm	First Floor Room CR2	0.5
3201853	3926984	12/03/2018	5:08 pm	12/06/2018	3:56 pm	First Floor Room CR3	0.4
3201854	3926985	12/03/2018	6:10 pm	12/06/2018	3:57 pm	First Floor Room CR4	< 0.4
3201855	3926986	12/03/2018	6:12 pm	12/06/2018	3:58 pm	First Floor Room CR5	0.4
3201856	3926987	12/03/2018	6:14 pm	12/06/2018	3:59 pm	First Floor Room Gym	0.7
3201857	3926988	12/03/2018	6:16 pm	12/06/2018	4:00 pm	First Floor Room Gym	0.5
3201858	3926989	12/03/2018	6:18 pm	12/06/2018	4:01 pm	First Floor Room ESOL	0.8
3201859	3926990	12/03/2018	6:20 pm	12/06/2018	4:02 pm	First Floor Room Staff Lounge	< 0.4
3201860	3926847	12/03/2018	6:22 pm	12/06/2018	4:03 pm	First Floor Room CR6	< 0.4

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

Test Performed By: Nan Lin

Distributed by: Intertek-PSI (VA)

Date Received: 12/07/2018 Date Logged: 12/07/2018 Date Analyzed: 12/07/2018 Date Reported: 12/19/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NRSB ARL0007

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Goshen ES
Not Indicated
Gaithersburg MD 20882

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3201861	3926848	12/03/2018 6:22 pm	12/06/2018 4:03 pm	First Floor Room CR6 Duplicate	< 0.4
3201862	3926849	12/03/2018 6:26 pm	12/06/2018 4:05 pm	First Floor Room CR7	0.4
3201863	3926850	12/03/2018 6:28 pm	12/06/2018 4:06 pm	First Floor Room CR8	0.5
3201864	3926931	12/03/2018 6:30 pm	12/06/2018 4:07 pm	First Floor Room CR9	< 0.4
3201865	3926933	12/03/2018 6:32 pm	12/06/2018 4:08 pm	First Floor Room CR10	< 0.4
3201866	3926934	12/03/2018 6:34 pm	12/06/2018 4:09 pm	Floor r Room Reading 1B	0.9
3201867	3926935	12/03/2018 6:36 pm	12/06/2018 4:10 pm	First Floor Room Reading 1A	1.0
3201868	3926936	12/03/2018 6:38 pm	12/06/2018 4:11 pm	First Floor Room Communication Center	0.7
3201869	3926937	12/03/2018 6:40 pm	12/06/2018 4:12 pm	First Floor Room Control	0.7
3201870	3926938	12/03/2018 6:42 pm	12/06/2018 4:13 pm	First Floor Room Building Service	< 0.4
3201871	3926939	12/03/2018 6:44 pm	12/06/2018 4:14 pm	First Floor Room Kitchen	0.4

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

Test Performed By: Nan Lin

Distributed by: Intertek-PSI (VA)

Date Received: 12/07/2018 Date Logged: 12/07/2018 Date Analyzed: 12/07/2018 Date Reported: 12/19/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Goshen ES
Not Indicated
Gaithersburg MD 20882

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3201872	3926940	12/03/2018	6:46 pm	12/06/2018	4:15 pm	First Floor Room APR	0.5
3201873	3927002	12/03/2018	6:48 pm	12/06/2018	4:16 pm	First Floor Room APR	0.4
3201874	3926921	12/03/2018	6:50 pm	12/06/2018	4:17 pm	First Floor Room APR Stage	0.4
3201875	3927001	12/03/2018	6:52 pm	12/06/2018	4:18 pm	First Floor Room APR Storage	< 0.4
3201876	3926932	12/03/2018	6:52 pm	12/06/2018	4:18 pm	First Floor Room APR Storage Duplicate	0.4
3201877	3927003	12/03/2018	6:56 pm	12/06/2018	4:20 pm	Floor Second Room CR13	0.4
3201878	3926992	12/03/2018	7:00 pm	12/06/2018	4:21 pm	Floor Second Room CR22	0.5
3201879	3926993	12/03/2018	7:00 pm	12/06/2018	4:21 pm	Floor Second Room CR22 Duplicate	< 0.4
3201880	3926994	12/03/2018	7:02 pm	12/06/2018	4:23 pm	Floor Second Room CR25	< 0.4
3201881	3926867	12/03/2018	6:00 am	12/06/2018	6:00 pm	Office Blank	< 0.4
3201882	3926868	12/03/2018	6:00 am	12/06/2018	6:00 pm	Transit Blank	< 0.4

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

Test Performed By: Nan Lin

Distributed by: Intertek-PSI (VA)

Date Received: 12/07/2018 Date Logged: 12/07/2018 Date Analyzed: 12/07/2018 Date Reported: 12/19/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey Goshen ES
Not Indicated
Gaithersburg MD 20882

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
3201883	3926869	12/03/2018	7:00 am	12/06/2018	4:23 pm	Field Blank	< 0.4
3201884	3926870	12/03/2018	7:00 am	12/06/2018	4:23 pm	Field Blank	< 0.4

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

Test Performed By: Nan Lin

Distributed by: Intertek-PSI (VA)

Date Received: 12/07/2018 Date Logged: 12/07/2018 Date Analyzed: 12/07/2018 Date Reported: 12/19/2018

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.

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.

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

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:

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

Property Tested:

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: _____

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.

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.

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	_____
_____	_____
Gx Left	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

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

intertek psi

Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

1. Ewing Center
2. Department of Food & Nutrition Services
3. Damascus HS
4. Edison HS
5. Emory Grove Center
6. John Poole MS
7. Lakelands Park MS
8. Laytonsville ES
9. Gaithersburg HS
10. Neelsville MS
11. Sequoyah ES
12. Clarksburg ES Annex
13. Garrett Park ES Annex
14. Goshen ES
15. Kingsley Wilderness Center
16. Kensington Parkwood ES
17. Monocacy ES
18. Lakewood ES
19. Little Bennett ES
20. Lois P. Rockwell ES
21. Olney ES
22. North Chevy Chase ES
23. Woodfield ES
24. Wootton HS

	Date	Initials
Radon Test Kits Deployed	12/03/2018	NL
Radon Test Kits Sampled	12/06/2018	NL
Radon Test Kits Shipped to Lab*	12/06/2018	NL
Radon Test Kits Received by Lab*	12/07/2018; 12/08/2018	NL

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

MCPS RADON TESTING

Executive Summary: Goshen Elementary School

Date of Test Report:	3/11/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	49
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.0

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

March 11, 2016 (Rev 1)

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

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

Location: Goshen Elementary School
8701 Warfield Road
Gaithersburg, MD 20882

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 Goshen Elementary School, located at 8701 Warfield Road in Gaithersburg, Maryland 20882 (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 sixty-three (63) 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 ≤ 65° 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 piC/L	none	n/a
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
Goshen ES		
Test Period: 12/28/15-12/31/15		
Kit Number	**Room / Area**	**Result**
7711424	1	< 0.3
7711443	2	< 0.3
7711442	3	< 0.3
7711405	4	0.6
7711403	5	< 0.3
7711407	6	< 0.3
7711416	7	< 0.3
7711413	8	< 0.3
7711412	9	< 0.3
7711421	10	< 0.3
7708125	13	< 0.3
7708129	21	< 0.3
7708126	22	< 0.3
7708101	140	< 0.3
7708106	142	< 0.3
7708131	143	< 0.3
7711434	144	< 0.3
7708105	145	< 0.3
7711420	146	< 0.3
7708107	147	< 0.3
7711426	ART	< 0.3
7708123	BLDG MANAGER	< 0.3
7711439	COMPUTER ROOM 1	1.0
7711415	COMPUTER ROOM 2	< 0.3
7711433	CTRL ROOM	< 0.3
7711417	DP	< 0.3
7711419	ESOL	< 0.3
7711408	GYM	< 0.3
7711409	GYM	< 0.3
7711411	GYM	< 0.3
7711414	* GYM (missing)	-
7711430	HEALTH	< 0.3
7711425	HEALTH A	< 0.3
7711437	IA/IB	0.6
7708108	K1	< 0.3
7711432	K2	< 0.3
7708104	K3	0.8
7708127	K4	< 0.3
7711422	LIBRARY	< 0.3
7708158	MATERIAL ROOM	< 0.3
7711429	MEDIA	0.8
7711440	ML1015	< 0.3
7711444	ML973	< 0.3
7711438	ML974	< 0.3
7711402	ML977	< 0.3
7708111	MO147	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Goshen ES		
Test Period: 12/28/15-12/31/15		
Kit Number	**Room / Area**	**Result**
7708120	MPR	< 0.3
7708124	MPR	< 0.3
7708130	MPR STORAGE	< 0.3
7711428	MUSIC	< 0.3
7711441	OFFICE 139	< 0.3
7711410	PE OFFICE	< 0.3
7711418	STAFF LOUNGE	< 0.3

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
Goshen ES		
Test Period: 12/28/15-12/31/15		
Kit Number	**QC Type**	**Result**
7708102	D (143)	< 0.3
7708121	D (21)	< 0.3
7711404	D (5)	< 0.3
7711423	D (7)	< 0.3
7711427	D (CTRL ROOM)	< 0.3
7708128	D (K4)	< 0.3
7711406	D (STAFF LOUNGE)	< 0.3
7708112	FB (22)	< 0.3
7708116	FB (MPR)	< 0.3
7712700	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:

GOSHEN ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712700	0	2015-12-28 @ 2:00 pm	2015-12-31 @ 12:00 pm	< 0.3	2016-01-05
7711424	1	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711421	10	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708125	13	2015-12-28 @ 2:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7708101	140	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708106	142	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708102	143	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708131	143	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711434	144	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708105	145	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711420	146	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708107	147	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711443	2	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708121	21	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7708129	21	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7708112	22	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7708126	22	2015-12-28 @ 1:00 pm	2015-12-31 @ 11:00 am	< 0.3	2016-01-05
7711442	3	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711405	4	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	0.6 ± 0.3	2016-01-05
7711404	5	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711403	5	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711407	6	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711416	7	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711423	7	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711413	8	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711412	9	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711426	ART	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708123	BLDG MANAGER	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711415	COMPUTER RM 2	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711439	COMPUTER RM 1	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	1.0 ± 0.4	2016-01-05
7711427	CTRL ROOM	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711433	CTRL ROOM	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711417	DP	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711419	ESOL	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711414	GYM	@	@		
7711408	GYM	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711409	GYM	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05

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

January 16, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

GOSHEN ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7711411	GYM	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711430	HEALTH	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711425	HEALTH A	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711437	IA/IB	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	0.6 ± 0.3	2016-01-05
7708108	K1	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711432	K2	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708104	K3	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	0.8 ± 0.4	2016-01-05
7708127	K4	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708128	K4	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711422	LIBRARY	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708158	MATERIAL ROOM	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711429	MEDIA	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	0.8 ± 0.3	2016-01-05
7711440	ML1015	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711444	ML973	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711438	ML974	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711402	ML977	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708111	MO147	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708116	MPR	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708120	MPR	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708124	MPR	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7708130	MPR STORAGE	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711428	MUSIC	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711441	OFFICE 139	2015-12-28 @ 1:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711410	PE OFFICE	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711406	STAFF LOUNGE	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	2016-01-05
7711418	STAFF LOUNGE	2015-12-28 @ 12:00 pm	2015-12-31 @ 10:00 am	< 0.3	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	TRAMSIT 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

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

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

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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, 7706211, 7706366, 7706380, 7706381 F3 Left	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: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Chain of Custody

Project Name: MCPS Radon Phase III

Name of Schools:

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