



MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	Roberto Clemente Middle School
Date of Test Report	1/12/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	96
# Rooms ≥ 4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	2.2 pCi/L

Project Status:

1. 5-Year retesting completed.



January 12, 2023

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

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

Location: Roberto Clemente Middle School
18808 Waring Station Road
Germantown, MD 20874

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 Roberto Clemente Middle School, located at 18808 Waring Station Rd. Germantown, MD 20874 (subject site).

Scope of Services:

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

KCI visited the site on December 13, 2022 and deployed one hundred eight (108) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

KCI returned to the site on December 16, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc.

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

Evaluation of Testing Conditions:

These tests represent:

- Follow up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels at the facility.

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

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

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

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

Results:

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

The results of the radon test analysis indicated the following:

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

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

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

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table 1- Radon Testing Results		
Roberto Clemente MS		
Test Period: 12/13/2022 - 12/16/2022		
Kit Number	Room / Area	Result
11286954	108	0.9
11286995	108	< 0.3
11286917	111	0.9
11286952	112	1.0
11286943	113	1.0
11286915	114	0.7
11286916	115	0.7
11286907	116	1.5
11286908	117	0.6
11286868	118	< 0.3
11286909	118	0.9
11286938	118	1.1
11286856	119	< 0.3
11286902	120	2.2
11286901	121	1.5
11286937	122	0.8
11286936	123	1.1
11286910	124	0.8
11286944	125	< 0.3
11286926	126	1.0
11286869	128	0.8
11286935	128	0.8
11286867	129	1.0
11286922	130	1.7
11286921	131	2.1
11286930	132	1.4
11286968	133	0.7
11286903	134	0.7
11286914	134	< 0.3
11286920	134	1.0
11286848	135	0.6
11286860	136	1.2
11286863	137	0.8
11286929	139	0.7
11286912	140	0.9
11286928	141	0.9
11286927	142	0.7
11286913	143	0.9
11286906	144	0.9
11286855	145	0.8
11286905	146	1.2
11286842	147	0.7

Table 1- Radon Testing Results		
Roberto Clemente MS		
Test Period: 12/13/2022 - 12/16/2022		
Kit Number	Room / Area	Result
11286862	147	0.7
11286803	148	0.9
11286802	149	1.5
11286857	150	0.6
11286911	151	0.9
11286864	152	0.9
11286849	153	0.6
11286904	154	0.9
11286817	155	< 0.3
11286801	156	0.9
11286983	201	< 0.3
11286974	203	< 0.3
11286980	204	< 0.3
11286918	205	< 0.3
11286984	205	< 0.3
11286963	206	< 0.3
11286971	206	< 0.3
11286965	207	< 0.3
11286957	208	< 0.3
11286966	210	< 0.3
11286975	210	< 0.3
11286978	210	< 0.3
11286950	224	< 0.3
11286977	231	0.5
11286962	232	0.6
11286970	235	0.7
11286940	239	< 0.3
11286865	242	0.9
11286949	244	< 0.3
11286976	245	< 0.3
11286955	246	0.9
11286858	249	< 0.3
11286932	250	0.7
11286969	250	0.5
11286994	201C	< 0.3
11286973	201A	< 0.3
11286972	201C	< 0.3
11286993	201C	0.7
11286987	203 OFFICE	< 0.3
11286964	207A	< 0.3
11286923	207B	< 0.3
11286924	207C	< 0.3

Table 1- Radon Testing Results		
Roberto Clemente MS		
Test Period: 12/13/2022 - 12/16/2022		
Kit Number	Room / Area	Result
11286931	207D	< 0.3
11286947	207E	< 0.3
11286939	235A	1.1
11286948	246A	0.8
11286967	250 OFFICE	0.8
11286956	APR	0.6
11286985	APR	1.0
11286866	AUX GYM	0.6
11286925	AUX GYM	2.2
11286961	BOYS LOCKER ROOM	0.9
11286959	BOYS PE OFFICE	1.0
11286960	GIRLS LOCKER ROOM	1.0
11286945	GYM SIDE 1	< 0.3
11286946	GYM SIDE 1	< 0.3
11286951	GYM SIDE 1	< 0.3
11286933	GYM SIDE 2	< 0.3
11286934	GYM SIDE 2	0.5
11286941	GYM SIDE 2	0.6
11286942	GYM SIDE 2	0.6
11286986	KITCHEN OFFICE	1.1
11286979	PRINCIPAL	< 0.3
11287000	SMALL CONFERENCE ROOM	< 0.3
11286958	STAGE	0.5
11286953	WEIGHT ROOM	1.3

Table 2- Radon Testing Results			
Roberto Clemente MS			
Test Period: 12/13/22 - 12/16/22			
Kit Number	QC Type	Room / Area	Result
11286903	D	134	0.7
11286914	FB	134	< 0.3
11286842	D	147	0.7
11286971	D	206	< 0.3
11286978	D	210	< 0.3
11286975	D	210	< 0.3
11286969	D	250	0.5
11286993	D	201c	0.7
11286994	FB	201c	< 0.3
11286951	D	Gym side 1	< 0.3
11286934	D	Gym side 2	0.5
11286933	FB	Gym side 2	< 0.3
11286988	OB	OFFICE BLANK	< 0.3
11286990	TB	TRAVEL BLANK	< 0.3

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

ROBERTO CLEMENTE MS**1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11286994	102C	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286995	108	2022-12-13 @ 2:00 pm	2022-12-16 @ 9:00 am	< 0.3	2022-12-19
11286954	108	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286917	111	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286952	112	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.0 ± 0.3	2022-12-19
11286943	113	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.0 ± 0.3	2022-12-19
11286915	114	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.7 ± 0.3	2022-12-19
11286916	115	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.7 ± 0.3	2022-12-19
11286907	116	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.5 ± 0.3	2022-12-19
11286908	117	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.6 ± 0.3	2022-12-19
11286938	118	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.1 ± 0.3	2022-12-19
11286909	118	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286868	118	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286856	119	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286902	120	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	2.2 ± 0.3	2022-12-19
11286901	121	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.5 ± 0.3	2022-12-19
11286937	122	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.8 ± 0.3	2022-12-19
11286936	123	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.1 ± 0.3	2022-12-19
11286910	124	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.8 ± 0.3	2022-12-19
11286944	125	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286926	126	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	1.0 ± 0.3	2022-12-19
11286869	128	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.8 ± 0.3	2022-12-19
11286935	128	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.8 ± 0.3	2022-12-19
11286867	129	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	1.0 ± 0.3	2022-12-19
11286922	130	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	1.7 ± 0.3	2022-12-19
11286921	131	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	2.1 ± 0.3	2022-12-19
11286930	132	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	1.4 ± 0.3	2022-12-19
11286968	133	2022-12-13 @ 12:00 pm	2022-12-16 @ 9:00 am	0.7 ± 0.3	2022-12-19
11286914	134	2022-12-13 @ 11:00 am	2022-12-16 @ 9:00 am	< 0.3	2022-12-19
11286920	134	2022-12-13 @ 11:00 am	2022-12-16 @ 9:00 am	1.0 ± 0.3	2022-12-19
11286903	134	2022-12-13 @ 11:00 am	2022-12-16 @ 9:00 am	0.7 ± 0.3	2022-12-19
11286848	135	2022-12-13 @ 11:00 am	2022-12-16 @ 9:00 am	0.6 ± 0.3	2022-12-19
11286860	136	2022-12-13 @ 11:00 am	2022-12-16 @ 9:00 am	1.2 ± 0.3	2022-12-19
11286863	137	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.8 ± 0.3	2022-12-19
11286929	139	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.7 ± 0.3	2022-12-19
11286912	140	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286928	141	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19

Radon test result report for:

ROBERTO CLEMENTE MS**1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11286927	142	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.7 ± 0.3	2022-12-19
11286913	143	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286906	144	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286855	145	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.8 ± 0.3	2022-12-19
11286905	146	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	1.2 ± 0.3	2022-12-19
11286862	147	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.7 ± 0.3	2022-12-19
11286842	147	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.7 ± 0.3	2022-12-19
11286803	148	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286802	149	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	1.5 ± 0.3	2022-12-19
11286857	150	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.6 ± 0.3	2022-12-19
11286911	151	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286864	152	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286849	153	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.6 ± 0.3	2022-12-19
11286904	154	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286817	155	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286801	156	2022-12-13 @ 11:00 am	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286983	201	2022-12-13 @ 2:00 pm	2022-12-16 @ 9:00 am	< 0.3	2022-12-19
11286973	201A	2022-12-13 @ 2:00 pm	2022-12-16 @ 9:00 am	< 0.3	2022-12-19
11286993	201C	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	0.7 ± 0.3	2022-12-19
11286972	201C	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286974	203	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286987	203 OFFICE	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286980	204	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286984	205	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286918	205	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286971	206	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286963	206	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286965	207	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286964	207A	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286923	207B	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286924	207C	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286931	207D	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286947	207E	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286957	208	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286966	210	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286975	210	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286978	210	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19

Radon test result report for:

ROBERTO CLEMENTE MS**1**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11286950	224	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286977	231	2022-12-13 @ 1:00 pm	2022-12-16 @ 10:00 am	0.5 ± 0.3	2022-12-19
11286962	232	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.6 ± 0.3	2022-12-19
11286970	235	2022-12-13 @ 1:00 pm	2022-12-16 @ 10:00 am	0.7 ± 0.3	2022-12-19
11286939	235A	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	1.1 ± 0.3	2022-12-19
11286940	239	2022-12-13 @ 1:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286865	242	2022-12-13 @ 1:00 pm	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286949	244	2022-12-13 @ 1:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286976	245	2022-12-13 @ 1:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286955	246	2022-12-13 @ 1:00 pm	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286948	246A	2022-12-13 @ 1:00 pm	2022-12-16 @ 10:00 am	0.8 ± 0.3	2022-12-19
11286858	249	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286969	250	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	0.5 ± 0.3	2022-12-19
11286932	250	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	0.7 ± 0.3	2022-12-19
11286967	250 OFFICE	2022-12-13 @ 1:00 pm	2022-12-16 @ 11:00 am	0.8 ± 0.3	2022-12-19
11286956	APR	2022-12-13 @ 1:00 pm	2022-12-16 @ 9:00 am	0.6 ± 0.3	2022-12-19
11286985	APR	2022-12-13 @ 1:00 pm	2022-12-16 @ 9:00 am	1.0 ± 0.3	2022-12-19
11286866	AUX GYM	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.6 ± 0.3	2022-12-19
11286925	AUX GYM	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	2.2 ± 0.3	2022-12-19
11286961	BOYS LOCKER ROOM	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.9 ± 0.3	2022-12-19
11286959	BOYS PE OFFICE	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.0 ± 0.3	2022-12-19
11286960	GIRLS LOCKER ROOM	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.0 ± 0.3	2022-12-19
11286951	GYM SIDE 1	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286946	GYM SIDE 1	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286945	GYM SIDE 1	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286933	GYM SIDE 2	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	< 0.3	2022-12-19
11286942	GYM SIDE 2	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.6 ± 0.3	2022-12-19
11286941	GYM SIDE 2	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.6 ± 0.3	2022-12-19
11286934	GYM SIDE 2	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	0.5 ± 0.3	2022-12-19
11286986	KITCHEN OFFICE	2022-12-13 @ 1:00 pm	2022-12-16 @ 9:00 am	1.1 ± 0.3	2022-12-19
11286979	PRINCIPAL	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11287000	SMALL CONFERENCE ROOM	2022-12-13 @ 2:00 pm	2022-12-16 @ 11:00 am	< 0.3	2022-12-19
11286958	STAGE	2022-12-13 @ 1:00 pm	2022-12-16 @ 9:00 am	0.5 ± 0.3	2022-12-19
11286953	WEIGHT ROOM	2022-12-13 @ 12:00 pm	2022-12-16 @ 10:00 am	1.3 ± 0.3	2022-12-19



Radon Test Kit Chain of Custody

Project Name: MCPS Radon – April 2022 Schools – Retesting

Name of Schools:

1. Mill Creek Towne ES
2. Clarksburg ES
3. Little Bennett ES
4. Lois P. Rockwell ES
5. Roberto Clemente MS

	Date	Initials
Radon Test Kits Deployed	12/13/2022	BULLY
Radon Test Kits Collected	12/16/2022	BULLY
Radon Test Kits Shipped to Lab*	12/16/2022	BULLY
Radon Test Kits Received by Lab*	12/19/2022	BULLY

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



MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary: Roberto Clemente Middle School

18808 Waring Station Road
Germantown, MD 20874

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:	7
# of Rooms \geq 4.0 pCi/L:	0
Low Value:	<0.4
High Value:	0.8

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: Roberto Clemente Middle School
18808 Waring Station Road
Germantown, MD 20874

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 Roberto Clemente Middle School, located at 18808 Waring Station Road, Germantown, MD 20874 (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 seven (7) 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		
Roberto Clemente Middle School		
Testing period: 2/25/19 - 2/28/19		
Kit Number	Room / Area	Result (pCi/L)
3923424	112	0.7
3923423	120	0.8
3923425	126	<0.4
3923426	145	<0.4
3923380	209	<0.4
3923421	241	<0.4
3923422	247	<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 Roberto Clemente MS
18808 Waring Station Road
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3220707	3923380	02/25/2019 9:20 am	02/28/2019 9:20 am	Floor Lower Level Room 209	< 0.4
3220708	3923421	02/25/2019 9:24 am	02/28/2019 9:24 am	Floor Lower Level Room 241	< 0.4
3220709	3923422	02/25/2019 9:27 am	02/28/2019 9:27 am	Floor Lower Level Room 247	< 0.4
3220710	3923423	02/25/2019 9:30 am	02/28/2019 9:30 am	Floor Lower Level Room 120	0.8
3220711	3923424	02/25/2019 9:33 am	02/28/2019 9:33 am	Floor Lower Level Room 112	0.7
3220712	3923425	02/25/2019 9:35 am	02/28/2019 9:35 am	Floor Lower Level Room 126	< 0.4
3220713	3923426	02/25/2019 9:40 am	02/28/2019 9:40 am	Floor Lower Level Room 145	< 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: 

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: Roberto Clemente Middle School

18808 Waring Station Road
Germantown, MD 20874

Date of Test Report:	1/15/2019
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:	90
# of Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	2.4

Project Status

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



January 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: Roberto Clemente Middle School
18808 Waring Station Road
Germantown, MD 20874

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 Roberto Clemente Middle School, located at 18808 Waring Station Road, Germantown, MD 20874 (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 27, 2018 and deployed one hundred-five (105) 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 30, 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	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		
Roberto Clemente Middle School		
Testing period: 11/27/18 - 11/30/18		
Kit Number	Room / Area	Result (pCi/L)
3888419	104	<0.4
3888399	105	<0.4
3888349	106	<0.4
3916342	108B	0.6
3916341	108G	0.4
3916328	111	0.5
3916329	112 (MISSING)	--
3916330	113	0.8
3916361	114	0.6
3916301	115	0.7
3916303	116	0.9
3916307	117	0.5
3916309	118	0.9
3916310	119	<0.4
3916363	120 (TAMPERED)	1.7
3916365	121	1.0
3916366	122	0.9
3916367	123	0.8
3916369	124	0.9
3916370	124A	0.6
3916326	125	< 0.4
3916481	126 (MISSING)	--
3916587	128	0.6
3916588	129	1.1
3916589	130	0.8
3916364	131	0.7
3916327	132	0.5
3916345	133	0.8
3916346	134	1.0
3916347	135	0.9
3916348	136	0.6
3916350	137	0.5
3916353	139	0.6
3916355	140	0.8
3916354	140A	1.4
3916356	141	1.5
3916324	142	0.9
3916351	143	0.9
3916302	144	0.6
3916362	145 (TAMPERED)	0.6
3916306	146	1.1
3916325	147	1.0
3916357	148	1.5

Radon Testing Results		
Roberto Clemente Middle School		
Testing period: 11/27/18 - 11/30/18		
Kit Number	Room / Area	Result (pCi/L)
3916358	149	2.2
3916359	150	1.2
3916581	151	0.9
3916582	152	0.8
3916583	153	0.9
3916584	154	1.0
3916585	155	0.7
3916586	156	1.1
3716487	201	0.4
3716486	201A	0.7
3716488	201B	<0.4
3716489	201C	0.5
3916333	203A	0.4
3716484	204	<0.4
3916473	205	< 0.4
3916483	207	< 0.4
3916475	207A	< 0.4
3916476	207B	< 0.4
3916477	207C	< 0.4
3916478	207D	0.5
3916479	207E	0.4
--	209 (INACCESSIBLE)	--
3916316	211	0.5
3916315	216	< 0.4
3916317	218	< 0.4
3916474	220	< 0.4
3916411	222	0.5
3916412	225	< 0.4
3916318	228	0.7
3916414	235	0.4
3916413	236	0.4
3916319	237B	0.5
3916320	238	0.5
--	241 (INACCESSIBLE)	--
3916472	242	0.5
3916416	246	0.8
3916471	246A	0.6
--	248 (INACCESSIBLE)	--
3916417	249	2.4
3916418	251	0.8
3916420	253	<0.4

Radon Testing Results		
Roberto Clemente Middle School		
Testing period: 11/27/18 - 11/30/18		
Kit Number	QC Type	Result (pCi/L)
3916308	117 (D)	0.8
3916368	123 (D)	0.9
3916590	130 (D)	0.7
3916349	136 (D)	0.9
3916352	143 (D)	0.9
3916360	150 (D)	1.1
3916334	203A (D)	<0.4
3716485	204 (D)	<0.4
3916482	207 (D)	< 0.4
3916415	235 (D)	0.4
3916519	Field Blank	< 0.4
3916512	Field Blank	< 0.4
3918354	Office Blank	< 0.4
3916500	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

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

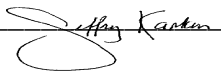
Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3199489	3916341	11/27/2018 6:48 am	11/30/2018 6:44 am	Floor Lower Level Room 108G	0.4
3199490	3916484	11/27/2018 10:00 am	11/30/2018 9:02 am	Floor Upper Level Room 204	< 0.4
3199491	3916487	11/27/2018 10:04 am	11/30/2018 9:05 am	Floor Upper Level Room 201	0.4
3199492	3916342	11/27/2018 6:51 am	11/30/2018 6:45 am	Floor Lower Level Room 108B	0.6
3199493	3916344	11/27/2018 6:59 am	11/30/2018 6:47 am	Floor Lower Level Room GYM	1.0
3199494	3916489	11/27/2018 10:06 am	11/30/2018 9:07 am	Floor Upper Level Room 201C	0.5
3199495	3916486	11/27/2018 10:03 am	11/30/2018 9:03 am	Floor Upper Level Room 201A	0.7
3199496	3916345	11/27/2018 7:14 am	11/30/2018 6:52 am	Floor Lower Level Room 133	0.8
3199497	3916488	11/27/2018 10:05 am	11/30/2018 9:06 am	Floor Upper Level Room 201B	< 0.4
3199498	3916346	11/27/2018 7:16 am	11/30/2018 6:54 am	Floor Lower Level Room 134	1.0
3199499	3916347	11/27/2018 7:17 am	11/30/2018 6:56 am	Floor Lower Level Room 135	0.9

Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

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.

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

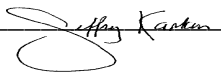
Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3199500	3916490	11/27/2018 10:08 am	11/30/2018 9:08 am	Floor Upper Level Room Principal Office	0.8
3199501	3916485	11/27/2018 10:00 am	11/30/2018 9:02 am	Floor Upper Level Room 204 Duplicate	< 0.4
3199502	3916348	11/27/2018 7:21 am	11/30/2018 6:58 am	Floor Lower Level Room 136	0.6
3199503	3916349	11/27/2018 7:21 am	11/30/2018 6:58 am	Floor Lower Level Room 136 Duplicate	0.9
3199504	3916350	11/27/2018 7:23 am	11/30/2018 7:00 am	Floor Lower Level Room 137	0.5
3199505	3916353	11/27/2018 7:24 am	11/30/2018 7:01 am	Floor Lower Level Room 139	0.6
3199506	3916354	11/27/2018 7:26 am	11/30/2018 7:02 am	Floor Lower Level Room 140	1.4
3199507	3916355	11/27/2018 7:28 am	11/30/2018 7:04 am	Floor Lower Level Room 140	0.8
3199508	3916356	11/27/2018 7:30 am	11/30/2018 7:05 am	Floor Lower Level Room 141	1.5
3199509	3916324	11/27/2018 7:33 am	11/30/2018 7:07 am	Floor Lower Level Room 142	0.9
3199510	3916351	11/27/2018 7:37 am	11/30/2018 7:09 am	Floor Lower Level Room 143	0.9


Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

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

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

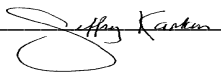
Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3199511	3916352	11/27/2018 7:37 am	11/30/2018 7:09 am	Floor Lower Level Room 143 Duplicate	0.9
3199512	3916302	11/27/2018 7:40 am	11/30/2018 7:10 am	Floor Lower Level Room 144	0.6
3199513	3916362	11/27/2018 7:41 am	11/30/2018 7:12 am	Floor Lower Level Room 145	0.6
3199514	3916306	11/27/2018 7:42 am	11/30/2018 7:14 am	Floor Lower Level Room 146	1.1
3199515	3916325	11/27/2018 7:44 am	11/30/2018 7:16 am	Floor Lower Level Room 147	1.0
3199516	3916357	11/27/2018 7:45 am	11/30/2018 7:18 am	Floor Lower Level Room 148	1.5
3199517	3916358	11/27/2018 7:46 am	11/30/2018 7:22 am	Floor Lower Level Room 149	2.2
3199518	3916359	11/27/2018 7:48 am	11/30/2018 7:24 am	Floor Lower Level Room 150	1.2
3199519	3916360	11/27/2018 7:51 am	11/30/2018 7:24 am	Floor Lower Level Room 150 Duplicate	1.1
3199520	3916581	11/27/2018 7:54 am	11/30/2018 7:26 am	Floor Lower Level Room 151	0.9
3199521	3916582	11/27/2018 7:56 am	11/30/2018 7:27 am	Floor Lower Level Room 152	0.8


Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

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

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

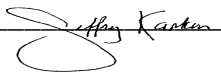
Log Number	Device Number	Test Exposure Duration:			Area Tested	Result pCi/L
3199522	3916583	11/27/2018	8:00 am	11/30/2018 7:30 am	Floor Lower Level Room 153	0.9
3199523	3916584	11/27/2018	8:02 am	11/30/2018 7:31 am	Floor Lower Level Room 154	1.0
3199524	3916585	11/27/2018	8:03 am	11/30/2018 7:32 am	Floor Lower Level Room 155	0.7
3199525	3916586	11/27/2018	8:05 am	11/30/2018 7:33 am	Floor Lower Level Room 156	1.1
3199526	3916587	11/27/2018	8:07 am	11/30/2018 7:35 am	Floor Lower Level Room 128	0.6
3199527	3916588	11/27/2018	8:09 am	11/30/2018 7:37 am	Floor Lower Level Room 129	1.1
3199528	3916589	11/27/2018	8:11 am	11/30/2018 7:40 am	Floor Lower Level Room 130	0.8
3199529	3916590	11/27/2018	8:11 am	11/30/2018 7:40 am	Floor Lower Level Room 130 Duplicate	0.7
3199530	3916364	11/27/2018	8:13 am	11/30/2018 7:41 am	Floor Lower Level Room 131	0.7
3199531	3916327	11/27/2018	8:14 am	11/30/2018 7:43 am	Floor Lower Level Room 132	0.5
3199532	3916328	11/27/2018	8:17 am	11/30/2018 7:44 am	Floor Lower Level Room 111	0.5


Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

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

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

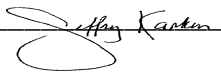
Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
3199533	3916330	11/27/2018 8:20 am 11/30/2018 7:49 am	Floor Lower Level Room 113	0.8
3199534	3916301	11/27/2018 8:23 am 11/30/2018 7:51 am	Floor Lower Level Room 115	0.7
3199535	3916307	11/27/2018 8:30 am 11/30/2018 7:58 am	Floor Lower Level Room 117	0.5
3199536	3916308	11/27/2018 8:30 am 11/30/2018 7:58 am	Floor Lower Level Room 117 Duplicate	0.8
3199537	3916309	11/27/2018 8:33 am 11/30/2018 8:00 am	Floor Lower Level Room 118	0.9
3199538	3916310	11/27/2018 8:35 am 11/30/2018 8:02 am	Floor Lower Level Room 119	< 0.4
3199539	3916363	11/27/2018 8:38 am 11/30/2018 8:03 am	Floor Lower Level Room 120	1.7
3199540	3916365	11/27/2018 8:40 am 11/30/2018 8:04 am	Floor Lower Level Room 121	1.0
3199541	3916366	11/27/2018 8:41 am 11/30/2018 8:05 am	Floor Lower Level Room 122	0.9
3199542	3916367	11/27/2018 8:42 am 11/30/2018 8:06 am	Floor Lower Level Room 123	0.8
3199543	3916368	11/27/2018 8:42 am 11/30/2018 8:06 am	Floor Lower Level Room 123 Duplicate	0.9

Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

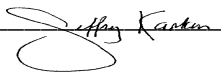
Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3199544	3916369	11/27/2018 8:45 am	11/30/2018 8:07 am	Floor Lower Level Room 124	0.9
3199545	3916370	11/27/2018 8:47 am	11/30/2018 8:08 am	Floor Lower Level Room 124	0.6
3199546	3916326	11/27/2018 8:48 am	11/30/2018 8:09 am	Floor Lower Level Room 125	< 0.4
3199547	3916361	11/27/2018 8:56 am	11/30/2018 8:15 am	Floor Lower Level Room 114	0.6
3199548	3916316	11/27/2018 9:00 am	11/30/2018 8:20 am	Floor Upper Level Room 211	0.5
3199549	3916315	11/27/2018 9:08 am	11/30/2018 8:22 am	Floor Upper Level Room 216	< 0.4
3199550	3916317	11/27/2018 9:10 am	11/30/2018 8:23 am	Floor Upper Level Room 218	< 0.4
3199551	3916411	11/27/2018 9:13 am	11/30/2018 8:24 am	Floor Upper Level Room 222	0.5
3199552	3916412	11/27/2018 9:14 am	11/30/2018 8:25 am	Floor Upper Level Room 225	< 0.4
3199553	3916314	11/27/2018 9:16 am	11/30/2018 8:30 am	Floor Upper Level Room Media Center	< 0.4
3199554	3916318	11/27/2018 9:17 am	11/30/2018 8:31 am	Floor Upper Level Room 228	0.7


Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
3199555	3916303	11/27/2018 8:26 am	11/30/2018 7:53 am	Floor Upper Level Room 116	0.9
3199556	3916319	11/27/2018 9:18 am	11/30/2018 8:32 am	Floor Upper Level Room 237B	0.5
3199557	3916320	11/27/2018 9:20 am	11/30/2018 8:34 am	Floor Upper Level Room 238	0.5
3199558	3916413	11/27/2018 9:23 am	11/30/2018 8:36 am	Floor Upper Level Room 236	0.4
3199559	3916414	11/27/2018 9:25 am	11/30/2018 8:39 am	Floor Upper Level Room 235	0.4
3199560	3916415	11/27/2018 9:25 am	11/30/2018 8:39 am	Floor Upper Level Room 235 Duplicate	0.5
3199561	3916416	11/27/2018 9:28 am	11/30/2018 8:41 am	Floor Upper Level Room 246	0.8
3199562	3916417	11/27/2018 9:30 am	11/30/2018 8:42 am	Floor Upper Level Room 249	2.4
3199563	3916418	11/27/2018 9:32 am	11/30/2018 8:43 am	Floor Upper Level Room 251	0.8
3199564	3916419	11/27/2018 9:34 am	11/30/2018 8:45 am	Floor Upper Level Room 253A	0.5
3199565	3916420	11/27/2018 9:36 am	11/30/2018 8:46 am	Floor Upper Level Room 253	< 0.4

Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

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NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

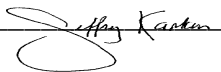
Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
3199566	3916471	11/27/2018 9:41 am 11/30/2018 8:50 am	Floor Upper Level Room 246A	0.6
3199567	3916472	11/27/2018 9:43 am 11/30/2018 8:51 am	Floor Upper Level Room 242	0.5
3199568	3916473	11/27/2018 9:45 am 11/30/2018 8:52 am	Floor Upper Level Room 205	< 0.4
3199569	3916474	11/27/2018 9:46 am 11/30/2018 8:54 am	Floor Upper Level Room 220	< 0.4
3199570	3916482	11/27/2018 9:47 am 11/30/2018 8:55 am	Floor Upper Level Room 207 Duplicate	< 0.4
3199571	3916483	11/27/2018 9:50 am 11/30/2018 8:55 am	Floor Upper Level Room 207	< 0.4
3199572	3916475	11/27/2018 9:53 am 11/30/2018 8:56 am	Floor Upper Level Room 207A	< 0.4
3199573	3916476	11/27/2018 9:55 am 11/30/2018 8:57 am	Floor Upper Level Room 207B	< 0.4
3199574	3916477	11/27/2018 9:57 am 11/30/2018 8:57 am	Floor Upper Level Room 207C	< 0.4
3199575	3916478	11/27/2018 9:58 am 11/30/2018 8:58 am	Floor Upper Level Room 207D	0.5
3199576	3916479	11/27/2018 9:58 am 11/30/2018 8:59 am	Floor Upper Level Room 207E	0.4


Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

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Shawn Price, Director of Laboratory Operations, AccuStar Labs

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NRPP 105011 AL
NRSB ARL0007

Laboratory Report for:

Property Tested: Project # 04481387-1

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

MCPS Radon Survey Roberto Clemente
18808 Waring Station Road
Germantown MD 20874

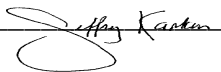
Log Number	Device Number	Test Date	Exposure Start	Exposure End	Area Tested	Result pCi/L
3199577	3916480	11/27/2018	9:59 am	11/30/2018 9:00 am	Floor Upper Level Room RTSE Office	< 0.4
3199578	3916331	11/27/2018	10:09 am	11/30/2018 9:10 am	Floor Upper Level Room Health Room	0.5
3199579	3916332	11/27/2018	10:10 am	11/30/2018 9:11 am	Floor Upper Level Room Health Room office	< 0.4
3199580	3916333	11/27/2018	10:12 am	11/30/2018 9:15 am	Floor Upper Level Room 203A	0.4
3199581	3916334	11/27/2018	10:12 am	11/30/2018 9:15 am	Floor Upper Level Room 203A Duplicate	< 0.4
3199582	3918354	11/27/2018	6:00 am	11/30/2018 3:38 pm	Blank	< 0.4
3199583	3916519	11/27/2018	6:48 am	11/30/2018 9:15 am	Blank	< 0.4
3199584	3916512	11/27/2018	6:48 am	11/30/2018 9:15 am	Blank	< 0.4
3199585	3916500	11/27/2018	6:00 am	11/30/2018 3:38 pm	Blank	< 0.4


Comment: AMENDED REPORT for 3916303 on 1-8-19 to add corrected dates and times.

Test Performed By: Lian Zadeng

Distributed by: Intertek-PSI (VA)

Date Received: 12/01/2018 Date Logged: 12/01/2018 Date Analyzed: 12/01/2018 Date Reported: 12/05/2018

Report Reviewed By: 

Report Approved By: 

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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:

Property Tested: Project # 04481387-1

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


MCPS Radon Survey
Various
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2401265	3888378	11/27/2018 2:05 pm - 11/30/2018 12:40 pm	Bldg Damascus ES Floor Main Level Room GYM	0.4
2401266	3888367	11/27/2018 2:12 am - 11/30/2018 12:41 pm	Bldg Damascus ES Floor Main Level Room GYM	0.8
2401267	3888358	11/27/2018 2:40 pm - 11/30/2018 1:05 pm	Bldg Damascus ES Floor Main Level Room APR	0.5
2401268	3888328	11/27/2018 2:41 pm - 11/30/2018 1:06 pm	Bldg Damascus ES Floor Main Level Room APR	0.5
2401269	3888349	11/27/2018 7:03 am - 11/30/2018 6:48 am	Bldg Roberto Clemente MS Flr Lower Level Rm 1	< 0.4
2401270	3888399	11/27/2018 7:06 am - 11/30/2018 6:49 am	Bldg Roberto Clemente MS Flr Lower Level Rm 1	< 0.4
2401271	3888419	11/27/2018 7:10 am - 11/30/2018 6:50 am	Bldg Roberto Clemente MS Flr Lower Level Rm 1	< 0.4
2401272	3888398	11/27/2018 9:38 am - 11/30/2018 8:47 am	Bldg Roberto Clemente MS Flr Upper Level Rm C	< 0.4
2401273	3888369	11/27/2018 9:39 am - 11/30/2018 8:48 am	Bldg Roberto Clemente MS Flr Upper Level Rm C	< 0.4
2401274	3888409	11/27/2018 11:06 am - 11/30/2018 10:35 am	Bldg Clopper Mill ES Floor Lower Level Room GY	1.0
2401275	3888389	11/27/2018 11:07 am - 11/30/2018 10:36 am	Bldg Clopper Mill ES Floor Lower Level Room GY	0.9

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/03/2018 Date Logged: 12/03/2018 Date Analyzed: 12/04/2018 Date Reported: 12/04/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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:

Property Tested: Project # 04481387-1

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


MCPS Radon Survey
Various
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2401276	3888397	11/27/2018 12:27 pm 11/30/2018 11:29 am	Bldg Clopper Mill ES Floor Lower Level Room 15	3.8
2401277	3888347	11/27/2018 5:37 pm 11/30/2018 2:52 am	Bldg J.T Baker MS Flr Lower Level Rm Cafeteria	1.0

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/03/2018 Date Logged: 12/03/2018 Date Analyzed: 12/04/2018 Date Reported: 12/04/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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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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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. Ashburton ES
2. Carderock Springs ES
3. Diamond ES
4. Fox Chapel ES
5. Baker MS
6. Damascus ES
7. Clemente MS
8. Clopper Mill ES
9. Broad Acres ES
10. Greencastle ES
11. Harmony Hills ES
12. Silver Spring International MS
13. Gaithersburg MS
14. Garrett Park ES
15. New Hampshire Estates ES
16. Georgian Forest ES

	Date	Initials
Radon Test Kits Deployed	11/27/2018	NL
Radon Test Kits Sampled	11/30/2018	NL
Radon Test Kits Shipped to Lab*	11/30/2018	NL
Radon Test Kits Received by Lab*	12/01/2018; 12/02/2018; 12/03/2018	NL

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

RADON SCREENING SURVEY – FOLLOW-UP ROBERTO CLEMENTE MIDDLE SCHOOL

18808 Waring Station Road, Germantown, Maryland 20874

EXECUTIVE SUMMARY

Date of Test Report:	4/12/16
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	1
# Rooms \geq 4.0 pCi/L:	0
Low Value:	<0.4
High Value:	<0.4
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) 2/10/16 (Rev 1 Initial)	Result (pCi/L) 4/12/16 Follow-Up	Average Result (pCi/L)
137	--- Missing	<0.4	<0.4



MCPS RADON TESTING

Executive Summary: Roberto Clemente Middle School

Date of Test Report:	4/12/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	1
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	< 0.4

Project Status:
Retesting completed; no further action at this time.



April 12, 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 # 12146341.31

Location: Roberto Clemente Middle School
18808 Waring Station Road
Germantown, MD 20874

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 Roberto Clemente Middle School, located at 18808 Waring Station Road in Germantown, Maryland 20874 (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 March 8, 2016 and deployed one (1) activated charcoal (AC) radon test kit. 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 March 11, 2016 to retrieve the radon sampling test kit. KCI 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 (certification # ARL0007) located at 929 Mount

Zion Road, Lebanon, Pennsylvania.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥ 4.0 pCi/L	none	n/a
< 4.0 pCi/L	See Attachment B	

Notes:

D- Duplicate sample

The office blanks and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

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

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

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 11 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
Roberto Clemente MS		
Test Period: 03/08/16-03/11/16		
Kit Number	Room / Area	Result
3028805	137	<0.4

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Roberto Clemente MS
18808 Waring Station Rd
Germantown MD 20874

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
3016767	3028805	03/08/2016 5:35 pm 03/11/2016 1:19 pm	Unit 137 Basement	<0.4

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/15/2016 Date Logged: 03/15/2016 Date Analyzed: 03/16/2016 Date Reported: 03/16/2016

Report Reviewed By: 

Report Approved By: 

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is $\pm 10\%$. 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.

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

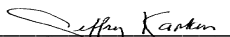
MCPS Radon Phase 11 Office Blank

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
3016739	3029191	03/08/2016 10:00 am 03/11/2016 10:00 am	Office Blank	<0.4

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/15/2016 Date Logged: 03/15/2016 Date Analyzed: 03/15/2016 Date Reported: 03/16/2016

Report Reviewed By: 

Report Approved By: 

Carolyn D. Koke, President, 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.

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS
Transit Blanks

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
3010588	3028953	01/19/2016 1:00 pm	01/22/2016 9:30 am	1	< 0.4
3010589	3028955	01/19/2016 1:00 pm	01/22/2016 9:30 am	2	< 0.4
3010590	3028954	01/19/2016 1:00 pm	01/22/2016 9:30 am	3	< 0.4
3010591	3028997	01/19/2016 1:00 pm	01/22/2016 9:30 am	4	< 0.4

Comment: AMENDED REPORT for 3028953-8955, 3028997 on 2/22/16 to add all missing information from the blank datasheet. A copy of this report was emailed to james.mouldsdale@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 01/27/2016 Date Logged: 01/27/2016 Date Analyzed: 01/28/2016 Date Reported: 01/28/2016

Report Reviewed By: Christie Bates

Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, 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.

TCS INDUSTRIES, INC.

(717) 657-7032

RADON GAS DETECTION

www.radondetek.com

4326 Crestview Road, Harrisburg, PA 17112

James Mouldale
KCI
936 Ridgebrook Rd.
Sparks, MD 21152

April 04, 2016

Dear Mr. Mouldale:

The spike exposure data were:

Start 04/04/16 @ 1110 hrs EDT
End 04/06/16 @ 1113 hrs EDT

AC 3029218, 3029219, 3029220, 3029217, 3029214, 3029217, and 3029166

Average radon concentration was 10.6 pCi/L +/- 5%

Avg. Temp. was 71F
Avg. RH was 51%
Elevation was 490 feet above sea level

Sincerely,



Carl H. Distenfeld, CHP

TCS Radon Chamber NRSB CHM 0002

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS
Radon Spike Sample Laboratory Results


Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
3020102	3029166	04/04/2016 11:10 am 04/06/2016 11:13 am	Not Indicated	11.9
3020103	3029214	04/04/2016 11:10 am 04/06/2016 11:13 am	Not Indicated	11.5
3020104	3029217	04/04/2016 11:10 am 04/06/2016 11:13 am	Not Indicated	10.7
3020105	3029218	04/04/2016 11:10 am 04/06/2016 11:13 am	Not Indicated	11.3
3020106	3029219	04/04/2016 11:10 am 04/06/2016 11:13 am	Not Indicated	11.0
3020107	3029220	04/04/2016 11:10 am 04/06/2016 11:13 am	Not Indicated	10.5

Comment: A copy of this report was emailed to james.mouldsdale@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 04/07/2016 Date Logged: 04/07/2016 Date Analyzed: 04/07/2016 Date Reported: 04/08/2016

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.

Report Reviewed By: 

Report Approved By: 
Carolyn D. Koke, President, 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.


Send Written Report To:

Name: KCI Technologies, Inc
 Address: 936 Ridgebrook Road
 Address:
 City / Town: Sparks
 State/Province Postal Code: MD 21152
 Report Country: Baltimore County
 Email Address: tehsin@kci.com

Site Tested:

Site Name: MCRS
 Address: 850 Hagerford Dr
 Address:
 City / Town: Rockville
 State/Province Postal Code: MD 20850
 Test Country: Montgomery County
 Project Number: 12146341

Contact Information:

Contact: Tehsin Aurangabadwala
 Telephone: 410-891-1726
 Technician:
 Cert. Number:
 Signature: 

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room	Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	3029166	1		1	1		4/4/16	11:10am	4/6/16	11:15am	
	3029214	1		1	2						
	3029217	1		1	3						
	3029218	1		1	4						
	3029219	1		1	5						
	3029220	1		1	6						



MCPS RADON TESTING

Executive Summary: Roberto Clemente Middle School

Date of Test Report:	2/10/2016(Rev1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	55
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	2.4

Project Status:

Initial testing completed; missing samples need re-test.



February 10, 2016 (Rev 1)

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

Re: **Radon Testing Services**
KCI Job # 12146341.24

Location: Roberto Clemente Middle School
18808 Waring Station Road
Germantown, MD 20874

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 Roberto Clemente Middle School, located at 18808 Waring Station Road in Germantown, Maryland 20874 (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 January 11, 2016 and deployed sixty-nine (69) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on January 14, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

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,



H. Allen Bennett
Certified Industrial Hygienist
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		
Roberto Clemente Middle School		
Test Period: 01/11/16-01/14/16		
Kit Number	Room / Area	Result
7714587	104	0.7
7717748	111	< 0.3
7717705	112	0.5
7717749	113	0.8
7714598	115	< 0.3
7714563	116	0.6
7717750	117	< 0.3
7717744	118	< 0.3
7717740	119	< 0.3
7717746	120	0.7
7717747	121	1.6
7717736	122	< 0.3
7717741	123	0.7
7717713	124	0.7
7717745	125	< 0.3
7717742	126	< 0.3
7717737	128	< 0.3
7717732	129	1.4
7717733	130	2
7717728	131	1
7717726	132	1.2
7717703	134	0.7
7717739	135	0.6
7717731	136	1.1
7717738	138	< 0.3
7717735	139	< 0.3
7717706	140	0.9
7717729	141	0.8
7717730	142	1.1
7717717	143	1
7717715	144	0.8
7717714	145	0.8
7717707	146	0.7
7717719	147	< 0.3
7717721	148	1
7717718	149	2.4
7717716	150	0.8
7717722	151	1.2
7717720	152	0.8
7717727	153	0.7
7717725	154	0.9
7717723	155	< 0.3
7717708	156	0.7
7714569	204	< 0.3
7714567	205	< 0.3
7714583	206	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Roberto Clemente Middle School		
Test Period: 01/11/16-01/14/16		
Kit Number	Room / Area	Result
7717702	208	< 0.3
7717734	* 137 (Missing)	0
7717711	140A	0.8
7714573	AUX GYM1	0.6
7714560	CAFE	< 0.3
7714558	CAFE	< 0.3
7714556	COUNSELORS	< 0.3
7714564	GYM	0.9
7714574	GYM	1.2
7717701	GYM	0.8
7717752	PE OFFICE	0.8
7714576	WEIGHT ROOM	< 0.3

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Roberto Clemente Middle School		
Test Period: 01/11/16-01/14/16		
Kit Number	QC Type	Result
7717743	D (123)	< 0.3
7717712	D (129)	1.9
7717709	D (140A)	1.3
7717724	D (153)	< 0.3
7714578	D (206)	< 0.3
7714568	D (AUX GYM1)	< 0.3
7714562	D (CAFE)	< 0.3
7714572	FB (104)	< 0.3
7717710	FB (140)	< 0.3
7714561	FB (204)	< 0.3
7719365	OB (0)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:
**ROBERTO CLEMENTE MIDDLE SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7719365	0	2016-01-11 @ 4:00 pm	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7714572	104	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714587	104	2016-01-11 @ 12:00 pm	2016-01-14 @ 9:00 am	0.7 ± 0.3	2016-01-18
7717748	111	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717705	112	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.5 ± 0.3	2016-01-18
7717749	113	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.8 ± 0.3	2016-01-18
7714598	115	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7714563	116	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.6 ± 0.3	2016-01-18
7717750	117	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717744	118	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717740	119	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717746	120	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.7 ± 0.3	2016-01-18
7717747	121	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.6 ± 0.4	2016-01-18
7717736	122	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717741	123	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.7 ± 0.3	2016-01-18
7717743	123	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717713	124	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.7 ± 0.3	2016-01-18
7717745	125	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717742	126	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717737	128	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717732	129	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.4 ± 0.3	2016-01-18
7717712	129	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.9 ± 0.4	2016-01-18
7717733	130	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	2.0 ± 0.4	2016-01-18
7717728	131	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.0 ± 0.3	2016-01-18
7717726	132	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	1.2 ± 0.3	2016-01-18
7717703	134	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.7 ± 0.3	2016-01-18
7717739	135	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.6 ± 0.3	2016-01-18
7717731	136	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	1.1 ± 0.3	2016-01-18
7717734	137	@	@		
7717738	138	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717735	139	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7717706	140	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.9 ± 0.3	2016-01-18
7717710	140	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7717709	140A	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	1.3 ± 0.3	2016-01-18
7717711	140A	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.8 ± 0.3	2016-01-18
7717729	141	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.8 ± 0.3	2016-01-18
7717730	142	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	1.1 ± 0.3	2016-01-18

February 10, 2016 **LABORATORY ANALYSIS REPORT ****

Radon test result report for:
**ROBERTO CLEMENTE MIDDLE SCHOOL
 MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7717717	143	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	1.0 ± 0.3	2016-01-18
7717715	144	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.8 ± 0.3	2016-01-18
7717714	145	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.8 ± 0.3	2016-01-18
7717707	146	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.7 ± 0.3	2016-01-18
7717719	147	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7717721	148	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	1.0 ± 0.3	2016-01-18
7717718	149	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	2.4 ± 0.4	2016-01-18
7717716	150	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.8 ± 0.3	2016-01-18
7717722	151	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	1.2 ± 0.3	2016-01-18
7717720	152	2016-01-11 @ 10:00 am	2016-01-14 @ 9:00 am	0.8 ± 0.3	2016-01-18
7717724	153	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7717727	153	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.7 ± 0.3	2016-01-18
7717725	154	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.9 ± 0.3	2016-01-18
7717723	155	2016-01-11 @ 8:00 am	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7717708	156	2016-01-11 @ 10:00 am	2016-01-14 @ 8:00 am	0.7 ± 0.3	2016-01-18
7714561	204	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714569	204	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714567	205	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714578	206	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714583	206	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7717702	208	2016-01-11 @ 12:00 pm	2016-01-14 @ 9:00 am	< 0.3	2016-01-18
7714568	AUX GYM1	2016-01-11 @ 11:00 am	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714573	AUX GYM1	2016-01-11 @ 11:00 am	2016-01-14 @ 8:00 am	0.6 ± 0.3	2016-01-18
7714558	CAFE	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714560	CAFE	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714562	CAFE	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714556	COUNSELORS	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	< 0.3	2016-01-18
7714564	GYM	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	0.9 ± 0.3	2016-01-18
7714574	GYM	2016-01-11 @ 12:00 pm	2016-01-14 @ 8:00 am	1.2 ± 0.3	2016-01-18
7717701	GYM	2016-01-11 @ 12:00 pm	2016-01-14 @ 9:00 am	0.8 ± 0.3	2016-01-18
7717752	PE OFFICE	2016-01-11 @ 11:00 am	2016-01-14 @ 9:00 am	0.8 ± 0.3	2016-01-18
7714576	WEIGHT ROOM	2016-01-11 @ 11:00 am	2016-01-14 @ 8:00 am	< 0.3	2016-01-18

February 2, 2016
LABORATORY ANALYSIS REPORT

Radon test result report for:
MCPS PHASE 5 & 6 TRANSIT BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7722194	1	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718494	10	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718475	11	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718495	12	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718496	13	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718497	14	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718498	15	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718499	16	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718500	17	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718296	18	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718295	19	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722195	2	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716789	20	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716785	21	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-26
7716791	22	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716786	23	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716793	24	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718274	25	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7716792	26	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718294	27	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718293	28	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718292	29	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722197	3	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718290	30	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722198	4	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722199	5	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7722211	6	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718491	7	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27
7718476	8	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-26
7718479	9	2016-01-19 @ 12:00 pm	2016-01-22 @ 12:00 pm	< 0.3	2016-01-27

December
23,
2015

**LABORATORY ANALYSIS
REPORT ****

Spike Sample Laboratory Results

Radon test result report for:

MCPS

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173224

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

Date Start: 12/18/15 Date Stop: 12/21/15 Date Start: _____ Date Stop: _____

Time Start: 0929 Time Stop: 0929 Time Start: _____ Time Stop: _____

Device No.'s: 7705132, 7706208, Device No.'s: _____

7706211, 7706366, _____

7706380, 7706381 _____

F3 Left

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

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

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

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

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

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

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



Chain of Custody

Project Name: MCPS Radon Phase V

Name of Schools:

- | | | |
|-------------------------|---------------------------|-------------------------|
| 1. Arcola ES | 11. Clopper Mill ES | 21. Parkland Magnet MS |
| 2. Argyle ES | 12. College Gardens ES | 22. Rachel Carson ES |
| 3. Bells Mill ES | 13. Eastern MS | 23. Roberto Clemente MS |
| 4. Bethesda ES | 14. Fallsmead ES | 24. Rock Creek ES |
| 5. Brookhaven ES | 15. Fields Road ES | 25. Rockview ES |
| 6. Burning Tree ES | 16. Flower Hill ES | 26. Rockville HS |
| 7. Capt. James Daly ES | 17. Flower Valley ES | 27. Rocky Hill MS |
| 8. Carderock Springs ES | 18. Fox Chapel ES | 28. Seneca Valley HS |
| 9. Cashell ES | 19. Glen Haven ES | 29. Westover ES |
| 10. Clearspring ES | 20. James Hubert Blake HS | 30. William Farquar MS |

	Date	Initials
Radon Test Kits Deployed	1/11/16	JM
Radon Test Kits Sampled	1/14/16	JM
Radon Test Kits Shipped to Lab*	1/15/16	JM
Radon Test Kits Received by Lab*	1/18/16	JM

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