MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

School Year: **24-25**

Facility:	Candlewood Elementary School
Address:	7210 Osprey Dr.
	Rockville, MD 20855
Reason for Testing:	Scheduled Re-Testing - ☐ 2-year or ☒ 5-year schedule ☐ Clearance Testing (Post-Mitigation) ☒ Building Envelope or HVAC Upgrades ☐ New Construction – Addition or Facility
Current Radon Status:	☐ Active Mitigation (2-year regular schedule) ☒ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested (New Facility)
Round of Testing:	☒ Initial Testing **-or-** ☐ Follow-up Testing
Testing Status:	☒ No Further Testing Needed **-or-** ☐ Follow-Up Testing Required

Conclusion (When Testing Status is - No Further Testing Needed)

Mitigation -	**Facility Radon Status:**		
☒ Not Required ☐ Required (≥4.0-pCi/L) Rooms:	☒ No Change in Status ☐ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)		
Number of Rooms Tested	45	Lowest Value (pCi/L)	<0.3
Number of Rooms (≥4.0-pCi/L)	0	Highest Value (pCi/L)	<0.3

Instructions: Submit one testing report form per-facility. Include the following as attachments:

Attachment 1- Summary Data Tables – containing the following: (see attached samples tables)

- Testing Results – lab/detector Identification, by room number/name (alpha-numeric order) as depicted on facility map/floor plan provided by the facility/school at the time of test device deployment;
- Summary Results – list of rooms by test result ≥2.0-pCi/L; ≥2.7-pCi/L; ≥4.0-pCi/L; and ≥8.0-pCi/L;
- QA/QC Results - (field blanks and duplicates) indicating location collected; trip and office blanks; and spike sample results;
- Invalid Measurement Locations – missed locations, missing and or damaged/compromised testing devices.

Attachment 2 – Laboratory Report(s)

Attachment 3 – Sampling Location Map(s) – indicating approximate location of samples, duplicates and blanks.

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Detector and Deployment

Detector/Device Type:	☒ Passive ☐ Continuous	☒ Charcoal Absorption (CAD) ☐ Alpha Track (ATD) ☐ Other ☐ Electret ion Chamber (EIC) ☐ Electronic Integration (EID)
	Other–Specify here:	
Detector/Device Name:	Air Chek – Radon Test Kits	
Manufacturer:	Radon Labs	

Person(s) Deploying or Retrieving Test Devices and certification number	Organization/Company
Brittany Maas	KCI Technologies, Inc.
If noncertified individuals, the qualified measurement professional providing oversight -	
Tyler McCleaf, CSP Cert. # 111004-RMP	KCI Technologies, Inc.

Testing

☒ Short-Term ☐ Long-Term	Length of Test (days):	3	Date of Deployment and Retrieval (mm/dd/yy):	2/4/2025 2/7/2025
Does the test period include weekends, school breaks or holidays?				☐ Yes ☒ No
*If "**Yes**" please explain/detail in the space below:*				
Was HVAC operating under occupied conditions?				☒ Yes ☐ No
*If "**No**" please explain/detail in the space below:*				

Testing (continued)

	Detectors Deployed				
	Ground-Contact		Upper-Level(s)		Total
Round of Testing	Initial	Follow-Up	Initial	Follow-Up	
Test Locations[1]	43	0	2	0	45
Duplicates[2]	3	0	1	0	4
Field Blanks[3]	2	0	0	0	2
				Grand Total	51

1 – include all detectors deployed (duplicates, field blanks); 1 detector per occupied (or intended to be occupied) ground-contact space ≤ 2,000-square feet; large spaces ≥ 2,000-square feet - 1 detector per 2,000-square feet or part thereof); and upper floors - 10% of all occupied or intended to be occupied rooms per floor (these are in addition to ground contact locations)
2 - 10% of all locations tested, per floor
3 – 5% of all locations tested, per floor

Quality Assurance / Quality Control (QA/QC)

A Quality Assurance plan that is consistent with ANSI/AARST MS-QA (Radon Measurement Systems Quality Assurance) was submitted under separate cover, and is available to review at the MCPS Radon Testing and Mitigation Program website. The following number of QA/QC samples are associated this facility.

	QA/QC Samples		Total
Round of Testing	Initial	Follow-Up	
Spikes[1]	Not applicable		10
Trip Blanks[2]	1	0	1
Office Blanks[3, 4]	1	0	1
			12

1 - 3% of EIC detectors; and 3% from each LOT of CAD and ATD detectors; a maximum of 6-spiked measurements per month for both EIC detectors and each LOT of CAD and ATD detectors.
2 – One per shipping container from start of detector deployment
3 – One per facility tested as devices are removed/allocated from the storage location for deployment;
4 - One additional blank, analyzed prior to deployment, for storage locations that have not been evaluated or monitored, for detectors that have been stored for more than 30-day durations.

Quality Assurance / Quality Control (continued)

Spike Sample Lab Results. Measured values are satisfactory, i.e., within ± 25% of the chamber's reference value?	☒ Yes ☐ No	
Quality Control measurements comply with QA/QC requirements in the submitted testing organization's/company's QA plan?	☒ Yes ☐ No	
Round of Testing	**Initial**	**Follow-Up**
All Field, Trip and Office Blanks are **≤** (less than or equal to) to the Method Detection Limit?	☒ Yes ☐ No	☐ Yes ☒ No
For all Duplicate Samples[1], the higher value is **≤ 2x** the lower value?	☒ Yes ☐ No	☐ Yes ☒ No
For all Duplicate Samples[1], Relative Percent Difference(s) (RPD)[2] are less than the Warning Level[3]?	☒ Yes ☐ No	☐ Yes ☒ No
For all Duplicate Samples[1], Relative Percent Difference(s) (RPD)[2] are less than the Control Level[3]?	☒ Yes ☐ No	☐ Yes ☒ No

1 – Duplicate Control – a "NO" response constitute a control failure and the space/location represented by the duplicate sample becomes an invalid measurement location and should be listed in the "Invalid Measurement Locations" Table attached to this report.

2 - The objective of duplicate tests is to assess the precision error of the measurement method or, how well two side-by-side measurements agree or disagree. Precision involving duplicates is calculated by using Relative Percent Difference (RPD). RPD is equal to the difference between the higher test result minus the lower value test result divided by the average of the two duplicate test results, multiplied by 100. The RPD result is then compared to the warning and control limits.

3 - The Warning Level is set at the deviation from ideal performance that would be expected to occur by chance only 5% of the time, and Control Limits are set at that deviation from ideal performance that would be expected to occur by chance only 1% of the time. The Warning Level indicates a potential problem, which should be investigated. The Control Level indicates that the measurement system should be subject to corrective action.

The control and warning levels for duplicates, based on the averaged duplicate test result, are -

Average concentration of the two duplicate test results	Warning Level	Control Level
< 2.0-pCi/L	1-pCi/L	Not applicable
Between 2.0 and 3.9-pCi/L	50% RPD	67% RPD
≥ 4.0-pCi/L	28% RPD	36% RPD

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

Summary of Test Results[1] and Determination of Valid Measurements[2]

	Ground-Contact		Upper-Level(s)		Total
Round of Testing	**Initial**	**Follow-Up**	**Initial**	**Follow-Up**	
Number of test locations:	43	0	2	0	45
Number of locations ≥8.0-pCi/L:	0	0	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0	0	0
Number of locations ≥2.7 and <4-pCi/L:	0	0	0	0	0
Number of locations ≥2.0 and <2.7-pCi/L:	0	0	0	0	0
Number of missing required test locations[3]:	0	0	0	0	0
Number of failed duplicate control locations:	0	0	0	0	0
Percentage of missing test locations for the facility[4,5]:	0	0	0	0	0

1 – for locations with multiple test results, report consistent with Section 7.2(When Two Test Results Disagree) and 8.1.2 (Averaging) of ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings;

2 - the allowance is to be calculated individually for Ground-Contact and Upper-Level(s) Test Locations;

3 – includes missed or inaccessible locations upon deployment or retrieval, damaged (not able to analyze) and missing detectors upon retrieval;

4 – if all valid measurements are <4.0-pCi/L and the total number of test locations are ≥18, there is an allowance of ≤33%. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023;

5 – if any valid measurements are ≥4.0-pCi/L and the total number of test locations are ≥20, there is an allowance of ≤25% of the total locations tested. If less than 20 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023.

Summary of Test Results[1] and Determination of Valid Measurements[2] (continued)

Round of Testing	Initial	Follow-Up
Were test devices deployed in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms?	☒ Yes ☐ No	☐ Yes ☒ No
Were valid measurements obtained in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms?	☒ Yes ☐ No	☐ Yes ☒ No
If Yes to both above *– then Testing Status –* ***'No Further Testing Needed'*** *mark 'NA' below and complete Conclusions section*		
If No to either above, were all results obtained under 4.0-pCi/L **and** were sufficient valid measurements obtained?[1,2] ***If Yes,*** *then -* ***'No Further Testing Needed'*** *complete Conclusion section on first page.* ***If No****, then -* ***'Follow-up Testing Required'*** *continue below.*	☐ Yes ☐ No ☒ NA	☐ Yes ☐ No ☒ NA

1 – if all valid measurements are <4.0-pCi/L and the total number of test locations are ≥18, there is an allowance of ≤33%. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings to determine the allowance;
2 – if any valid measurements are ≥4.0-pCi/L and the total number of test locations are ≥20, there is an allowance of ≤25% of the total locations tested. If less than 20 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings to determine the number the allowance.

Follow-Up Testing

Required –

- If an insufficient number (greater than the allowance provided above) of valid measurements were obtained during the initial round of testing (the "missing required test locations" in the table above);
- Any location test results ≥ 4.0-pCi/L;
- Any location where duplicates fail QC checks; and or
- At the discretion of MCPS IAQ Staff

Reason for Follow-Up Testing	Testing Procedure	Follow-up Result	Conclusion
Insufficient Number of Measurements	Follow same procedures as Initial Testing	Not Applicable	Follow Initial Testing procedures
Results ≥ 4.0-pCi/L	Deploy two Short-term follow-up tests and required blanks and duplicates; Average the results of the two tests	≥4.0	Mitigation Required
Failed QC checks		≥2.0 and <4.0	Consider Mitigation
		<2.0	Mitigation Not Required

- ***If follow-up testing identifies additional spaces requiring additional testing it will be performed as part of the ongoing follow-testing round.***

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
Candlewood Elementary School		
Test Period: 2/4/2025 - 2/7/2025		
Kit Number	Room / Area	Result
11930895	104	< 0.3
11930894	114	< 0.3
11930869	114	< 0.3
11930893	115	< 0.3
11930892	118	< 0.3
11930876	121	< 0.3
11930870	122	< 0.3
11930885	124	< 0.3
11930886	125	< 0.3
11930872	128	< 0.3
11930871	130	< 0.3
11930864	130	< 0.3
11930858	132	< 0.3
11930863	132	< 0.3
11930887	133	< 0.3
11930880	136	< 0.3
11930879	137	< 0.3
11930896	138	< 0.3
11930898	139	< 0.3
11930900	142	< 0.3
11930865	145	< 0.3
11919798	146	< 0.3
11930866	149	< 0.3
11930861	150	< 0.3
11919797	150	< 0.3
11919793	152	< 0.3
11919794	154	< 0.3
11930877	157	< 0.3
11930803	158	< 0.3
11930878	161	< 0.3
11919795	165	< 0.3
11930840	165	< 0.3
11930847	169	< 0.3
11930855	219	< 0.3
11930848	245	< 0.3
11930850	245	< 0.3
11930889	100A	< 0.3

Table 1- Radon Testing Results		
Candlewood Elementary School		
Test Period: 2/4/2025 - 2/7/2025		
Kit Number	Room / Area	Result
11930881	100C	< 0.3
11930888	100D	< 0.3
11930875	GYM	< 0.3
11930874	GYM	< 0.3
11930882	GYM OFFICE	< 0.3
11930802	KITCHEN OFFICE	< 0.3
11930897	MAIN OFFICE	< 0.3
11930867	MEDIA	< 0.3
11930856	MEDIA	< 0.3
11930891	MEDIA OFFICE	< 0.3
11930839	MPR	< 0.3
11930816	MPR	< 0.3
11930857	NURSE	< 0.3
11930890	NURSE OFFICE	< 0.3

Table 2 - Summary Testing Results ≥2.0 pCi/L							
Candlewood Elementary School							
Test Period: 2/4/2025 - 2/7/2025							
≥2.0 and <2.7 pCi/L		≥2.7 and <4.0 pCi/L		≥4.0 and <8.0 pCi/l		≥8.0 pCi/L	
Room / Area	Result	Room / Area	Result	Room / Area	Result	Room / Area	Result
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
Candlewood Elementary School			
Test Period: 2/4/2025 - 2/7/2025			
Kit Number	**QC Type**	**Room / Area**	**Result**
11930869	D	114	< 0.3
11930864	FB	130	< 0.3
11930863	D	132	< 0.3
11919797	D	150	< 0.3
11919795	FB	165	< 0.3
11930850	D	245	< 0.3
11931544	OB	OFFICE BLANK	< 0.3
11931543	TB	TRAVEL BLANK	< 0.3

Table 3a - Duplicate Worksheet / Data Validation										
Candlewood Elementary School										
Test Period: 2/4/2025 - 2/7/2025										
Sample ID			Duplicate Concentrations (pCi/L) and QC Checks							
Kit Numbers		Room / Area	Higher	Lower	Check #1 (Pass/Fail)	2x the Lower	Check #2 (Pass/Fail)	Average	Relative Percent Difference (RPD)	Check #3
11930894	11930869	114	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11930858	11930863	132	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11930861	11919797	150	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓
11930848	11930850	245	0.3	0.3	✓	0.6	PASS	0.3	<1-pCi/L	✓

NOTES:

QC Check #1 - Data Entry

QC Check #2 - Higher duplicate concentration is < or = to 2x the Lower

QC Check #3 - Meets RPD Limits, by average duplicate concentration

- enter 2 if RPD is BELOW warning and control levels, AND passes QC Check 1 and 2
- enter 1 if RPD is ABOVE warning and BELOW control levels, AND passes QC Check 1 and 2
- enter 0 if RPD is ABOVE control level, or 'FAILS' QC Check 1 or 2

Average (pCi/L)	Warning Level	Control Level
< 2.0	1-pCi/L	NA
Between 2.0 and 3.9	50% RPD	67% RPD
≥ 4.0	28% RPD	36% RPD

Table 4 - Summary of Invalid Measurement Locations		
Candlewood Elementary School		
Test Period: 2/4/25 - 2/7/25		
Kit Number	**Room/Area**	**Reason**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
CANDLEWOOD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11930889	100A	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930881	100C	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930888	100D	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930895	104	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930869	114	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930894	114	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930893	115	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930892	118	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930876	121	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930870	122	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930885	124	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930886	125	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930872	128	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930871	130	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930864	130	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930858	132	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930863	132	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930887	133	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930880	136	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930879	137	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930896	138	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930898	139	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930900	142	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930865	145	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11919798	146	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930866	149	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11919797	150	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930861	150	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11919793	152	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11919794	154	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930877	157	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930803	158	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930878	161	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930840	165	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11919795	165	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930847	169	2025-02-04 @ 1:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930855	219	2025-02-04 @ 1:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11

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

February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
CANDLEWOOD ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11930848	245	2025-02-04 @ 1:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930850	245	2025-02-04 @ 1:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930875	GYM	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930874	GYM	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930882	GYM OFFICE	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930802	KITCHEN OFFICE	2025-02-04 @ 1:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930897	MAIN OFFICE	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930867	MEDIA	2025-02-04 @ 1:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930856	MEDIA	2025-02-04 @ 1:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930891	MEDIA OFFICE	2025-02-04 @ 1:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930839	MPR	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930816	MPR	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930857	NURSE	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11
11930890	NURSE OFFICE	2025-02-04 @ 12:00 pm	2025-02-07 @ 12:00 pm	< 0.3	2025-02-11

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

February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931544	O	2025-02-04 @ 11:00 am	2025-02-07 @ 11:00 am	< 0.3	2025-02-11

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

February 11, 2025 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRAVEL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11931543	T	2025-02-04 @ 11:00 am	2025-02-07 @ 11:00 am	< 0.3	2025-02-11

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 20001560

NOMINAL Conditions: Radon Conc 50.6 pCi/L Rel. Hum 50.6 % Temp. 70.8 F

Date Start: 12/14/24 Date Stop: 12/17/24	Date Start: _____ Date Stop: _____
Time Start: 0815 Time Stop: 0815	Time Start: _____ Time Stop: _____
Device No.'s: (3) CHAR BAGS	Device No.'s: _____
11477880, 11477883, 11477896	_____
_____	_____
B4 Right	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

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

December 23, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
SK
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11477880	SK1	2024-12-14 @ 8:00 am	2024-12-17 @ 8:00 am	52.0 ± 4.2	2024-12-23
11477883	SK2	2024-12-14 @ 8:00 am	2024-12-17 @ 8:00 am	54.6 ± 4.4	2024-12-23
11477896	SK3	2024-12-14 @ 8:00 am	2024-12-17 @ 8:00 am	45.5 ± 3.6	2024-12-23

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 20002919

NOMINAL Conditions: Radon Conc 7.0 pCi/L Rel. Hum 51.4 % Temp. 70.7 F

Date Start: 3/7/25 Date Stop: 3/10/25	Date Start: _____ Date Stop: _____
Time Start: 0832 Time Stop: 0832	Time Start: _____ Time Stop: _____
Device No.'s: (7) CHAR BAGS	Device No.'s: _____
11886401 thru 11886406,	
11886410	
G3 Right	
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____

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

March 19, 2025

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
QC
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11886401	SK1	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.8 ± 1.1	2025-03-19
11886405	SK2	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.1 ± 1.1	2025-03-19
11886406	SK3	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.7 ± 1.1	2025-03-19
11886403	SK4	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.9 ± 1.2	2025-03-19
11886404	SK5	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.6 ± 1.2	2025-03-19
11886410	SK6	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	7.0 ± 1.1	2025-03-19
11886402	SK7	2025-03-07 @ 9:00 am	2025-03-10 @ 9:00 am	8.6 ± 1.2	2025-03-19

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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 – Testing February 4th – February 7th, 2025

Name of Schools:

1. Candlewood ES
2. Viers Mill ES
3. Wayside ES
4. Julius West MS
5. Westland MS

	Date	Initials
Radon Test Kits Deployed	2/4/2025	
Radon Test Kits Collected	2/7/2025	
Radon Test Kits Shipped to Lab*	2/7/2025	
Radon Test Kits Received by Lab*	2/10/2025	

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

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

MCPS RADON TESTING - EXECUTIVE SUMMARY

Site Name	Candlewood Elementary School
Date of Report	2/3/2020
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	44
# Rooms ≥4.0 pCi/L	0
Lowest Value	<0.3 pCi/L
Highest Value	0.9 pCi/L

Project Status

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

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2/3/2020

Mr. Richard Cox, MS
Environmental Team Leader
Montgomery County Public Schools
Division of Maintenance
Gaithersburg, Maryland 20879

Re: Radon Testing Services

KCI Job #12146341126

Location: Candlewood Elementary School
7201 Osprey Drive
Rockville, Maryland 20855

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a "short-term" 3-day radon test for the Candlewood Elementary School, located at 7201 Osprey Drive in Rockville, Maryland 20855 (subject site).

SCOPE OF SERVICES

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Proficiency Program (NRPP) Radon Measurement Provider (certification #111004 RT) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from https://www.montgomeryschoolsmd.org/departments/facilities/maintenance/default.aspx?id=458858 or www.epa.gov/radon.

KCI visited the site on 12/17/2019 and deployed fifty-three (53) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted sixty (60) test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on 12/20/2019 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a National Radon Safety Board (NRSB) radon measurement provider and is a certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentrations at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the lower-20s and high temperatures were in the lower-40s. Maximum sustained winds ranged from 12-26 miles per hour. Average humidity was around 67%. 0.54 inches of precipitation (rain and snow) was recorded during the testing period.

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	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 410-316-7800.

Sincerely,

Mr. Tyler P. McCleaf
Radon Measurement Provider
111004 RT

KCI Technologies, Inc.

Attachments:

A- Floor Plan with Test Locations

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Table 1- Radon Testing Results		
Candlewood Elementary School		
Test Period: 12/17/2019-12/20/2019		
Kit Number	Room / Area	Result
9340228	100C	0.9
9340229	100A	0.7
9340230	102A	< 0.3
9340231	102	0.6
9340232	100D	0.5
9340233	115	< 0.3
9340234	114	< 0.3
9340235	100	< 0.3
9340236	111	< 0.3
9340237	115	< 0.3
9340238	115	< 0.3
9340239	122	0.5
9340240	101	< 0.3
9340241	101A	< 0.3
9340242	104	< 0.3
9340243	128	< 0.3
9340244	125	0.8
9340245	118	< 0.3
9340246	121	0.5
9340247	128	< 0.3
9340248	124	< 0.3
9340249	132	0.7
9340250	136	< 0.3
9340251	138	< 0.3
9340252	142	< 0.3
9340253	139	< 0.3
9340254	139	< 0.3
9340255	133	0.8
9340256	137	< 0.3
9340257	146	0.8
9340258	145	0.6
9340259	150	< 0.3
9340260	149	< 0.3
9340261	154	< 0.3
9340262	152	< 0.3
9340263	157	0.5
9340264	165	< 0.3
9340265	168	0.7
9340266	161	< 0.3
9340267	168L	0.8
9340268	158	< 0.3
9340269	112	0.7
9340270	168	< 0.3
9340271	169	< 0.3
9340272	112	0.9
9340273	165	0.6
9340274	165	< 0.3
9340275	110	0.7
9340276	200	< 0.3
9340277	200	< 0.3

9340278	245	< 0.3
9340279	221	< 0.3
9340281	216	< 0.3
9341390	OFFICE BLANK	< 0.3

Table 2- Radon Testing Results			
Candlewood Elementary School			
Test Period: 12/16/2019-12/19/2019			
Kit Number	QC Type	Room / Area	Result
9340238	D	115	<0.3
9340237	FB	115	<0.3
9340247	D	128	<0.3
9340253	D	139	<0.3
9340273	D	165	0.6
9340274	FB	165	<0.3
9340277	D	200	<0.3
9341377	TRANSIT BLANK	NA	0.5
9341379	TRANSIT BLANK	NA	< 0.3
9341380	TRANSIT BLANK	NA	< 0.3
9341398	TRANSIT BLANK	NA	< 0.3

Summary of Missed Locations		
Candlewood Elementary School		
Test Period: 12/17/2019 - 12/20/2019		
Kit Number	Room/Area	Result
	NA	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
Candlewood Elementary School		
Test Period: 12/17/2019-12/20/2019		
Kit Number	Room/Area	Result
	NA	

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 24, 2019 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

CANDLEWOOD ELEMENTARY SCHOOL
508

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340235	100	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340229	100A	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.7 ± 0.4	2019-12-24
9340228	100C	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.9 ± 0.4	2019-12-24
9340232	100D	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.5 ± 0.4	2019-12-24
9340240	101	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340241	101A	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340231	102	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.6 ± 0.3	2019-12-24
9340230	102A	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340242	104	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340275	110	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	0.7 ± 0.4	2019-12-24
9340236	111	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340269	112	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	0.7 ± 0.4	2019-12-24
9340272	112	2019-12-17 @ 10:00 am	2019-12-20 @ 8:00 am	0.9 ± 0.4	2019-12-24
9340234	114	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340237	115	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340233	115	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340238	115	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340245	118	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340246	121	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.5 ± 0.4	2019-12-24
9340239	122	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.5 ± 0.4	2019-12-24
9340248	124	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340244	125	2019-12-17 @ 8:00 am	2019-12-20 @ 8:00 am	0.8 ± 0.4	2019-12-24
9340247	128	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340243	128	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340249	132	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	0.7 ± 0.4	2019-12-24
9340255	133	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	0.8 ± 0.4	2019-12-24
9340250	136	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340256	137	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340251	138	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340254	139	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340253	139	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340252	142	2019-12-17 @ 9:00 am	2019-12-20 @ 8:00 am	< 0.3	2019-12-24
9340258	145	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9340257	146	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.8 ± 0.4	2019-12-24
9340260	149	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340259	150	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340262	152	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24

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

December 24, 2019 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

CANDLEWOOD ELEMENTARY SCHOOL
508

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340261	154	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340263	157	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.5 ± 0.4	2019-12-24
9340268	158	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340266	161	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340264	165	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340274	165	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340273	165	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.6 ± 0.4	2019-12-24
9340265	168	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.7 ± 0.3	2019-12-24
9340270	168	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340267	168L	2019-12-17 @ 9:00 am	2019-12-20 @ 9:00 am	0.8 ± 0.4	2019-12-24
9340271	169	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340276	200	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340277	200	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340281	216	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340279	221	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24
9340278	245	2019-12-17 @ 10:00 am	2019-12-20 @ 9:00 am	< 0.3	2019-12-24

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc Job Number 193598

NOMINAL Conditions: Radon Conc _____ pCi/L Rel. Hum _____ % Temp. _____ F

Temp °F 70.1 RH % 50.1 Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0815 Time Stop: 0815

(Group 1)

Device No.'s: (20) Char. Bags -

9340001 thru 9340020

55

Temp °F 70.1 RH % 50.1 Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0829 Time Stop: 0820

(Group 2)

Device No.'s: (20) Char. Bags -

9340021 thru 9340040

54

Temp °F 70.1 RH % 50.1 Avg pCi/L 25.4

Date Start: 12/21/19 Date Stop: 12/23/19

Time Start: 0825 Time Stop: 0823

(Group 3)

Device No.'s: (20) Char. Bags -

9340041 thru 9340060

53

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

January 3, 2020

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within ± 25% of the chamber's reference value (25.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340067	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340035	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	22.5 ± 2.3 D	2020-01-03
9340003	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 ± 2.4 D	2020-01-03
9340089	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	23.3 ± 2.3 D	2020-01-03
9340072	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	18.3 ± 2.0 D	2020-01-03
9340040	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 ± 2.6 D	2020-01-03
9340008	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.8 ± 2.5 D	2020-01-03
9340094	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.7 ± 2.5 D	2020-01-03
9340099	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.5 ± 2.6 D	2020-01-03
9340077	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.2 ± 2.5 D	2020-01-03
9340045	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.7 ± 2.4 D	2020-01-03
9340013	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.9 ± 2.6 D	2020-01-03
9340018	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	29.1 ± 2.8 D	2020-01-03
9341704	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340050	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.2 ± 2.6 D	2020-01-03
9340023	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.2 ± 2.7 D	2020-01-03
9341709	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.5 ± 2.4 D	2020-01-03
9340055	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.8 ± 2.6 D	2020-01-03
9340060	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 ± 2.5 D	2020-01-03
9340028	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.9 ± 2.3 D	2020-01-03
9341714	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.3 ± 2.7 D	2020-01-03
9340082	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.4 ± 2.6 D	2020-01-03
9340065	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.2 ± 2.4 D	2020-01-03
9340033	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.2 ± 2.5 D	2020-01-03
9341719	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.7 ± 2.5 D	2020-01-03
9340001	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.3 ± 2.5 D	2020-01-03
9340087	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.8 ± 2.4 D	2020-01-03
9340070	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	19.5 ± 2.4 D	2020-01-03
9340038	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.7 ± 2.3 D	2020-01-03
9340006	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 ± 2.4 D	2020-01-03
9340092	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	31.4 ± 2.8 D	2020-01-03
9340097	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.7 ± 2.5 D	2020-01-03
9340075	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	29.6 ± 2.6 D	2020-01-03
9340043	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.1 ± 2.6 D	2020-01-03
9340011	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.8 ± 2.5 D	2020-01-03
9340016	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.2 ± 2.4 D	2020-01-03
9341702	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 ± 2.5 D	2020-01-03

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

January 3, 2020

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
S
N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340048	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.5 ± 2.4 D	2020-01-03
9340021	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.7 ± 2.6 D	2020-01-03
9341707	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.8 ± 2.4 D	2020-01-03
9340053	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.8 ± 2.5 D	2020-01-03
9340058	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.5 ± 2.7 D	2020-01-03
9340026	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.9 ± 2.4 D	2020-01-03
9341712	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.3 ± 2.4 D	2020-01-03
9340080	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340063	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.8 ± 2.5 D	2020-01-03
9340031	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.9 ± 2.4 D	2020-01-03
9341717	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.7 ± 2.4 D	2020-01-03
9340085	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.5 D	2020-01-03
9340068	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.2 ± 2.5 D	2020-01-03
9340036	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.6 ± 2.3 D	2020-01-03
9340004	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.6 D	2020-01-03
9340090	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.3 ± 2.5 D	2020-01-03
9340073	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 ± 2.5 D	2020-01-03
9340041	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.6 ± 2.4 D	2020-01-03
9340009	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.1 ± 2.4 D	2020-01-03
9340095	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.2 ± 2.5 D	2020-01-03
9340100	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.5 ± 2.4 D	2020-01-03
9340078	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.0 ± 2.4 D	2020-01-03
9340046	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.0 ± 2.6 D	2020-01-03
9340014	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	21.8 ± 2.8 D	2020-01-03
9340019	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.0 ± 2.5 D	2020-01-03
9341705	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.8 ± 2.6 D	2020-01-03
9340051	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.5 ± 2.4 D	2020-01-03
9340056	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.7 ± 2.6 D	2020-01-03
9340024	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.3 ± 2.5 D	2020-01-03
9341710	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.2 ± 2.3 D	2020-01-03
9340061	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.9 ± 2.6 D	2020-01-03
9340029	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	23.0 ± 2.3 D	2020-01-03
9341715	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.0 ± 2.5 D	2020-01-03
9340083	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.9 ± 2.4 D	2020-01-03
9340066	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340034	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.4 ± 2.5 D	2020-01-03
9341720	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.3 ± 2.5 D	2020-01-03

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

January 3, 2020

** LABORATORY ANALYSIS REPORT **

Radon test result report for:
S
N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340002	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.7 ± 2.5 D	2020-01-03
9340088	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.4 ± 2.5 D	2020-01-03
9340071	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.9 ± 2.4 D	2020-01-03
9340039	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.5 D	2020-01-03
9340007	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.9 ± 2.4 D	2020-01-03
9340093	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.5 D	2020-01-03
9340098	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.8 ± 2.5 D	2020-01-03
9340076	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.5 D	2020-01-03
9340044	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.2 ± 2.5 D	2020-01-03
9340012	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	22.5 ± 2.2 D	2020-01-03
9340017	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.3 ± 2.5 D	2020-01-03
9341703	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.0 ± 2.5 D	2020-01-03
9340049	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.0 ± 2.5 D	2020-01-03
9340022	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.6 ± 2.6 D	2020-01-03
9341708	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	28.8 ± 2.8 D	2020-01-03
9340054	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.8 ± 2.5 D	2020-01-03
9340059	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.5 ± 2.6 D	2020-01-03
9340027	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.6 ± 2.5 D	2020-01-03
9341713	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340081	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	18.4 ± 2.1 D	2020-01-03
9340064	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340032	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.1 ± 2.4 D	2020-01-03
9341718	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	23.7 ± 2.4 D	2020-01-03
9340086	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.6 D	2020-01-03
9340069	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.6 ± 2.5 D	2020-01-03
9340037	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	28.4 ± 2.6 D	2020-01-03
9340005	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	???? DIF1	2020-01-03
9340091	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.5 ± 2.5 D	2020-01-03
9340096	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.2 ± 2.5 D	2020-01-03
9340074	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	27.7 ± 2.5 D	2020-01-03
9340042	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.6 ± 2.5 D	2020-01-03
9340010	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.5 ± 2.5 D	2020-01-03
9341701	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	22.9 ± 2.3 D	2020-01-03
9340047	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	26.7 ± 2.5 D	2020-01-03
9340015	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.4 ± 2.5 D	2020-01-03
9340020	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	24.1 ± 2.4 D	2020-01-03
9341706	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	31.0 ± 2.7 D	2020-01-03

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

January 3, 2020 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
S
N/A

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9340052	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.4 ± 2.6 D	2020-01-03
9340057	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	27.3 ± 2.5 D	2020-01-03
9340025	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.1 ± 2.4 D	2020-01-03
9341711	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	22.5 ± 2.2 D	2020-01-03
9340079	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	26.9 ± 2.5 D	2020-01-03
9340062	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.6 ± 2.5 D	2020-01-03
9340030	N/A	2019-12-21 @ 8:00 am	2019-12-23 @ 8:00 am	25.0 ± 2.4 D	2020-01-03
9341716	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	25.1 ± 2.4 D	2020-01-03
9340084	N/A	2019-12-21 @ 9:00 am	2019-12-23 @ 9:00 am	24.5 ± 2.3 D	2020-01-03

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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 2019 Week 2

Name of Schools:

1. Argyle M.S.
2. Banneker M.S.
3. Bel Pre E.S.
4. Bells Mill E.S.
5. Bethesda Maintenance Depot
6. Beverly Farms E.S.
7. Blake H.S.
8. Dufief E.S.
9. Briggs Chaney M.S.
10. Brookhaven E.S.
11. Burtonsville E.S.
12. Cabin John M.S.
13. Candelwood E.S.
14. Drew E.S.
15. Fallsmead E.S.
16. Farquhar M.S.
17. Kennedy H.S.
18. Luxmanor E.S.
19. Magruder H.S.
20. Redland M.S.
21. Shriver E.S.
22. Smith Center
23. Viers Mill E.S.
24. Wheaton H.S.

	Date	Initials
Radon Test Kits Deployed	12/16/19 to 12/17/19	
Radon Test Kits Collected	12/19/19 to 12/20/19	
Radon Test Kits Shipped to Lab*	12/20/19	
Radon Test Kits Received by Lab*	12/23/19	

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

RADON SCREENING SURVEY – FOLLOW-UP - DRAFT

CANDLEWOOD ELEMENTARY SCHOOL

7210 Osprey Drive, Rockville, Maryland 20871

5 February 2016

EXECUTIVE SUMMARY

Name of Facility:	Candlewood Elementary School, Rockville, MD
Date of Test Report:	5 February 2016
Round of Testing:	Initial **Follow-up** Post Remediation
# rooms tested:	2 (Second Floor)
# rooms ≥ 4.0 pCi/L:	None
Low Value:	0.2 pCi/L
High Value:	0.4 pCi/L

At the request of Montgomery County Public Schools (MCPS), Leidos conducted a follow-up radon gas screening survey at Candlewood Elementary School (ES) for the occupied classrooms and offices on the second floor. On 28 December 2015, John Whelpley, P.E. (Leidos) installed sampling kits in ten percent of the 20 occupied classrooms and offices (i.e., two) on the second floor of Candlewood ES. The locations of these two sampling locations are shown in Figure 1.

The radon sampling survey followed the USEPA protocols including placing a dual sampling device in each room selected as a sampling location. Each device or kit contains two activated charcoal adsorption devices, set at a distance of 4 inches apart. A photograph of the radon sampling kit is shown in Figure 2. Each radon sampling kit was placed at least 20 inches above the ground surface, and was usually placed on top of a surface such as a 5-foot file cabinet or 6-foot shelf to avoid contact by students during the 3-day sampling period. The radon sampling kits were also placed away from exterior walls and windows, out of direct sunlight, and away from HVAC vents as much as possible.

The radon test kits were installed on Monday afternoon and were then picked up on early Thursday morning (i.e., approximately 69 hours later). According to the Building Services personnel, the HVAC system was functioning in the school during the testing period and no exterior windows were open during the testing period. The average outdoor temperature (46 degrees F), humidity (80%), wind (4 mph), and the total precipitation (0.63 inches) during the December 28-31 testing period were obtained from Weather Underground (www.weatherunderground.com).

In accordance with the American Association of Radon Scientist and Technologist (AARST) recommendations, ten percent of the 20 occupied classrooms and offices on the second floor were sampled. All 35 occupied classrooms and offices on the first floor had been sampled over the December 10-14 period and the maximum radon gas detection was 1.5 pCi/L.

The radon test kits were shipped to EMSL Analytical, Inc. in Cinnaminson, NJ, on 31 December 2015 for analysis by liquid scintillation counter using the USEPA testing protocols for testing Radon in Air. EMSL is accredited by the National Radon Safety Board (NRSB) under ARL6006 for radon analysis and the radon test kits are approved devices by the NRSB under #12199. A total of four paired devices were submitted for analysis, including the screening

samples for two sampling locations, one duplicate sample, and one field blank. The Chain of Custody for the shipment of the radon test kits is shown in Appendix B. The laboratory analysis results are shown in Appendix C and are summarized in the table in Appendix A.

As shown in the table in Appendix A, none of the rooms had radon results above the USEPA Action Level of 4 Picocuries per Liter (pCi/L). Classroom 239 had an average radon result of 0.3 pCi/L whereas Classroom 225 had an average radon result of 0.2 pCi/L. As a result, in accordance with the USEPA procedures, none of the second floor rooms require retesting in the short term.

As part of the USEPA Quality Assurance (QA) procedures, Leidos also collected one duplicate and one field blank. The CW 44 duplicate had an average relative percent difference (ARPD) of 14% which is within the QA limit of 25%. The CW 46 field blank of 0.1 pCi/L was less than the QA limit of 1.0 pCi/L.

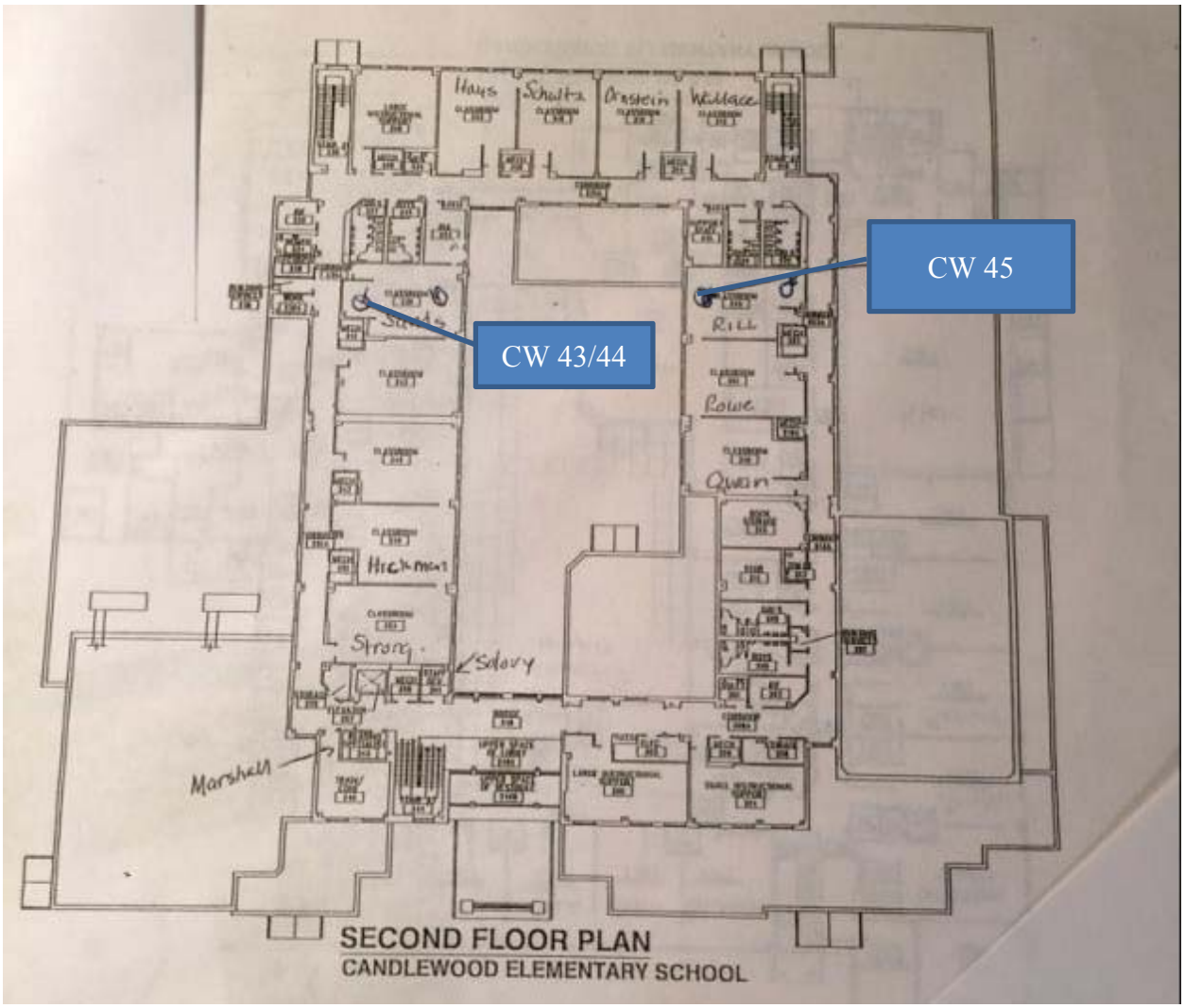

Figure 1. Locations of Follow-up Radon Samples

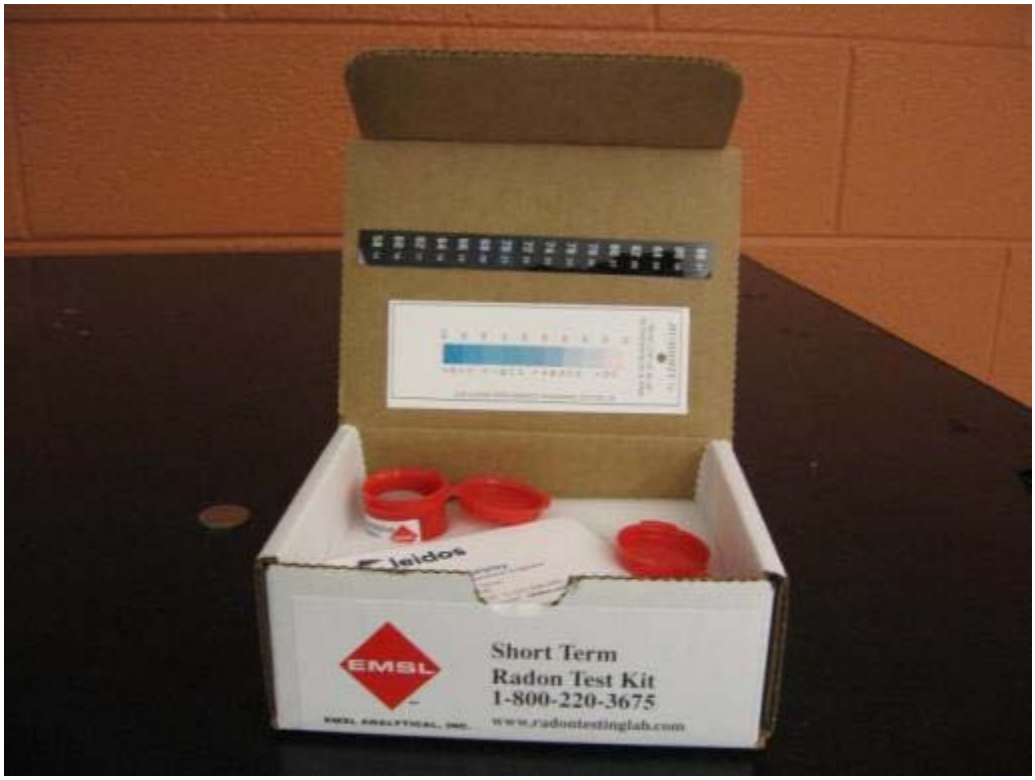

Figure 2. Photograph of Typical Radon Test Kit With Dual Devices

Appendix A. Radon Survey Results – Follow-up

Unique Sample Identifier	Sample Location Description (Room Number, Area)	Sample Result
231842	CW 43 - Classroom 239, East side, 6 ft shelf	0.2
231746	CW 43 - Classroom 239, East side, 6 ft shelf	0.4
230388	CW 44 - Classroom 239, East side, 6 ft shelf	0.4
230158	CW 44 - Classroom 239, East side, 6 ft shelf	0.3
230105	CW 45 - Classroom 225, West side, 6 ft shelf	0.2
230130	CW 45 - Classroom 225, West side, 6 ft shelf	0.2
230144	CW 46 - Field Blank	0.1
230145	CW 46 - Field Blank	0.1

Appendix B. Chain of Custody – Follow-up

OrderID: 381600108 9405 5036 9930 0449 F01 9209 9942

EMSL ANALYTICAL, INC.

CHAIN OF CUSTODY
RADON LABORATORY SERVICES
(COMMERCIAL USE)

RECEIVED EMSL CINNAMINSON, N.J. 2016 JAN -5 P 4:29

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: 800-220-3675
FAX: 856-786-0327

EMSL Job #: 381600108

Company Information

Company Name: Leidos
EMSL Account #: LEID42 3 day
Contact: John Whelply
Address: 11951 Freedom Dr
City: Reston
State: VA Zip Code: 20190
Phone: 571-268-0697
Fax: -
Email: whelplyj@leidos.com

Project / Property Information:

Name: CANDLEWOOD ES
Address: 7210 Osprey Drive
City: Rockville
Municipality: - County: Montgomery
State: MD Zip Code: 20871
PO#/Project#: 316041.00.00.001
☐ Please check box if this is a Post Mitigation Test
Technician Name: John Whelply
Technician Certification #: -
Technician Signature:

Disclaimer

In no event shall EMSL be liable for indirect, special, consequential, or incidental damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages arising out of or in connection with EMSL's services there under or the delivery, use, reliance upon or interpretation of test results by client or third party. We accept no legal responsibility for the purposes for which the client uses the test results. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereafter.

Box Number	Device Number	Location	Exposure Period Beginning Date and Time	Exposure Period Ending Date and Time	Temperature, °F	Humidity, %
CW43 136292	231842	Classroom 239 E side, 6' shelf	12/28/15 1304	12/31/15 0924	70°	40%
	231746	" "	" "	" "	"	"
CW44 136281	230388	D	12/28/15 1305	12/31/15 0925	70°	40%
	236158	D	" "	" "	"	"
CW45 136283	230105	Classroom 225 W side, 6' shelf	12/28/15 1309	12/31/15 0929	68°	50%
	230130	" "	" "	" "	"	"
CW46 136282	230144	B	12/28/15 1311	12/31/15 0935	72°	60%
	230145	B	" "	" "	"	"

Relinquished By: 1400 to UPS
Received By:

Appendix C. Laboratory Results – Follow-up

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-0327
http://www.EMSL.com cinnaminsonradonlab@emsl.com

EMSL Order:	381600108
CustomerID:	LEID42
CustomerPO:	
ProjectID:	

Attn: **John Whelpley**
Leidos Engineering, LLC
11951 Freedom Dr.
Reston, VA 20190

Phone: (571) 268-0697
Fax:
Received: 01/05/16 4:29 PM
Analysis Date: 1/6/2016
Collected: 12/28/2015

Project: **7210 Osprey Drive**

Test Site: **Candlewood ES**
7210 Osprey Drive
Hyattstown, MD 20871

Test Report: Radon in Air Test Results

Samples for EMSL Kit 136292

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
231842	Classroom 239 E side, 6' shelf	0.2	12/28/2015 1:04:00 PM	12/31/2015 9:24:00 AM	70	40	Customer
381600108-0001							
Sample Notes:							
231746	Classroom 239 E side, 6' shelf	0.4	12/28/2015 1:04:00 PM	12/31/2015 9:24:00 AM	70	40	Customer
381600108-0002							
Sample Notes:							
Summary for EMSL Kit 136292		**Average Radon Result:**	**0.3 pCi/L**				

Samples for EMSL Kit 136281

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
230388	D	0.4	12/28/2015 1:05:00 PM	12/31/2015 9:25:00 AM	70	40	Customer
381600108-0003							
Sample Notes:							
230158	D	0.3	12/28/2015 1:05:00 PM	12/31/2015 9:25:00 AM	70	40	Customer
381600108-0004							
Sample Notes:							
Summary for EMSL Kit 136281		**Average Radon Result:**	**0.4 pCi/L**				

Samples for EMSL Kit 136283

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
230105	Classroom 225 W side, 6' shelf	0.2	12/28/2015 1:09:00 PM	12/31/2015 9:29:00 AM	68	50	Customer
381600108-0005							
Sample Notes:							
230130	Classroom 225 W side, 6' shelf	0.2	12/28/2015 1:09:00 PM	12/31/2015 9:29:00 AM	68	50	Customer
381600108-0006							
Sample Notes:							
Summary for EMSL Kit 136283		**Average Radon Result:**	**0.2 pCi/L**				

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-0327
http://www.EMSL.com cinnaminsonradonlab@emsl.com

EMSL Order:	381600108
CustomerID:	LEID42
CustomerPO:	
ProjectID:	

Attn: **John Whelpley**
Leidos Engineering, LLC
11951 Freedom Dr.
Reston, VA 20190

Phone:	(571) 268-0697
Fax:	
Received:	01/05/16 4:29 PM
Analysis Date:	1/6/2016
Collected:	12/28/2015

Project: **7210 Osprey Drive**

Test Site: **Candlewood ES**
7210 Osprey Drive
Hyattstown, MD 20871

Test Report: Radon in Air Test Results

Samples for EMSL Kit 136282

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
230144	B	0.1	12/28/2015	12/31/2015	72	60	Customer
381600108-0007			1:11:00 PM	9:35:00 AM			
Sample Notes:							
230145	B	0.1	12/28/2015	12/31/2015	72	60	Customer
381600108-0008			1:11:00 PM	9:35:00 AM			
Sample Notes:							
Summary for EMSL Kit 136282		**Average Radon Result:**	**0.1 pCi/L**				

The radon test was performed using a liquid scintillation radon detector/s and counted on a liquid scintillation counter using approved EPA testing protocols for Radon in Air testing. The EPA recommends fixing your home if the average of two short-term tests taken in the lowest lived-in level of the home show radon levels that are equal to or greater than 4.0pCi/L.
The EPA recommends retesting your home every two years.

Please contact EMSL Analytical, Inc. or your State Health Department for further information.
All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of Radon in Air.

Report Note

Analyst(s)

Kathryn Lickfield (8)

Laura Freeman, Interim Laboratory Manager &
Subash Rashat, New Jersey Radiation Specialist NJ MES 10152
or other approved signatory

Initial report from 01/08/2016 09:06:57

Please visit www.radontestinglab.com

RADON SURVEY SCREENING REPORT – DRAFT

CANDLEWOOD ELEMENTARY SCHOOL

7210 Osprey Drive, Rockville, Maryland 20871

7 January 2016

EXECUTIVE SUMMARY

Name of Facility:	Candlewood Elementary School, Rockville, MD
Date of Test Report:	7 January 2016
Round of Testing:	**Initial** Follow-up Post Remediation
# rooms tested:	35
# rooms ≥ 4.0 pCi/L:	None
Low Value:	0.2 pCi/L
High Value:	1.6 pCi/L

At the request of Montgomery County Public Schools (MCPS), Leidos conducted a radon gas screening survey at Candlewood Elementary School (ES) in accordance with the protocols in the United States Environmental Protection Agency (USEPA) *Radon Measurement in Schools* (July 1993). On 10 December 2015, John Whelpley, P.E. (Leidos) installed sampling kits in 35 occupied classrooms and offices on the first floor of Candlewood ES. The locations of the 35 occupied classrooms and offices are shown in Figure 1. The elementary school was constructed in 2014.

The radon sampling survey followed the USEPA protocols including placing a sampling device in each room selected as a sampling location. Each device or kit contains two activated charcoal adsorption devices, set at a distance of 4 inches apart. A photograph of the radon sampling kit is shown in Figure 2. Each radon sampling kit was placed at least 20 inches above the ground surface, and was usually placed on top of a surface such as a 5-foot file cabinet or 6-foot shelf to avoid contact by students during the 4-day sampling period. The radon sampling kits were also placed away from exterior walls and windows, out of direct sunlight, and away from HVAC vents as much as possible. A photograph of the radon sampling kit on a 6-foot cabinet is shown in Figure 3.

The radon test kits were installed on late Thursday morning and were then picked up on early Monday morning (i.e., approximately 94 hours later). According to the Building Services personnel, the HVAC system was functioning in the school prior to the testing period but was mostly off over the weekend and no exterior windows were open during the testing period. The average outdoor temperature (55 degrees F), humidity (78%), wind (3 mph) and the total precipitation (0.06 inches) during the December 10-14 testing period were obtained from Weather Underground (www.weatherunderground.com).

In accordance with the USEPA protocols, all First Floor occupied classrooms and offices in contact with the ground were sampled. These included 35 rooms on the First Floor. In addition, because the Gym (112) and Library (101) were over 2,000 square feet, a second set of samples were collected within these rooms in accordance with the USEPA protocols.

The radon test kits were shipped to EMSL Analytical, Inc. in Cinnaminson, NJ, on 14 December 2015 for analysis by liquid scintillation counter using the USEPA testing protocols for testing Radon in Air. EMSL is accredited by the National Radon Safety Board (NRBP) under

ARL6006 for radon analysis and the radon test kits are approved devices by the NRCW under #12199. A total of 42 paired devices were submitted for analysis, including the screening samples for 37 sampling locations (i.e., the 35 rooms included extra samples in the Gym and Library), three duplicate samples, and two field blanks. The Chain of Custody for the shipment of the radon test kits is shown in Appendix B. The laboratory analysis results are shown in Appendix C and are summarized in the table in Appendix A.

As shown in the table in Appendix A, none of the rooms had radon results above the USEPA Action Level of 4 Picocuries per Liter (pCi/L). The highest detected radon concentrations were in the Gym (112) which had an average radon result of 1.5 pCi/L. As a result, in accordance with the USEPA procedures, none of the first floor rooms require retesting in the short term.

As part of the USEPA Quality Assurance (QA) procedures, Leidos collected three duplicates (covering 8% of rooms) and two field blanks (representing 5% of the rooms). The three duplicates all had average relative percent differences (ARPDs) within the QA limit of 25% including: CW 4 (0%), CW 13 (0%), and CW 25 (22%). The field blanks were less than the QA limit of 1.0 pCi/L with 0.1 pCi/L detected at CW 18 and CW 42.

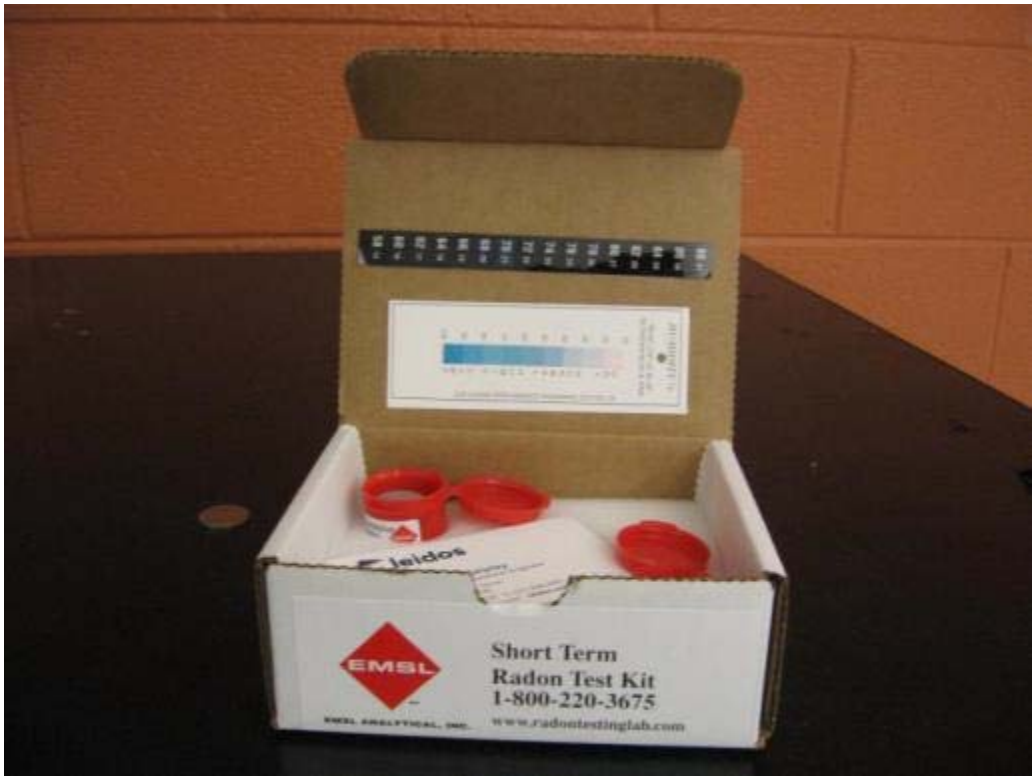

Figure 2. Photograph of Typical Radon Test Kit With Dual Devices

Figure 3. Typical Placement of Radon Test Kit

Appendix A. Radon Survey Results

Unique Sample Identifier	Sample Location Description (Room Number, Area)	Sample Result
225141	CW 1 - Classroom 133, South side, 6 ft Shelf	0.6
225173	CW 1 - Classroom 133, South side, 6 ft Shelf	0.7
225090	CW 2 - Classroom 136, North side, 6 ft Shelf	0.4
225176	CW 2 - Classroom 136, North side, 6 ft Shelf	0.4
225626	CW 3 - Classroom 137, South side, 6 ft Shelf	0.6
225263	CW 3 - Classroom 137, South side, 6 ft Shelf	0.8
225113	CW 4 - Classroom 137, South Side, 6 ft Shelf	0.8
225079	CW 4 - Classroom 137, South Side, 6 ft Shelf	0.6
225165	CW 5 - Office 100, West side, 5 ft Shelf	0.6
225145	CW 5 - Office 100, West side, 5 ft Shelf	0.8
225178	CW 6 - Office 102, South side, 5 ft Shelf	0.9
225066	CW 6 - Office 102, South side, 5 ft Shelf	0.8
225061	CW 7 - Office 100C, West Side, 5 ft Shelf	1.2
225216	CW 7 - Office 100C, West Side, 5 ft Shelf	0.8
225121	CW 8 - Office 100D, East Side, 5 ft Shelf	0.8
225076	CW 8 - Office 100D, East Side, 5 ft Shelf	0.9
225083	CW 9 - Office 169, East Side, 6 ft Shelf	0.5
225174	CW 9 - Office 169, East Side, 6 ft Shelf	0.6
225082	CW 10 - Multipurpose Room 168, NW Side, 5 ft Electrical Panel	0.8
225129	CW 10 - Multipurpose Room 168, NW Side, 5 ft Electrical Panel	0.9
225156	CW 11 - Kitchen Office 168H, East Side, 4 ft File Cabinet	0.7
225170	CW 11 - Kitchen Office 168H, East Side, 4 ft File Cabinet	0.7
225548	CW 12 - Classroom 157, East Side, 6 ft Shelf	0.9
225564	CW 12 - Classroom 157, East Side, 6 ft Shelf	0.8
225594	CW 13 - Classroom 157, East Side, 6 ft Shelf	0.8
225752	CW 13 - Classroom 157, East Side, 6 ft Shelf	0.9
225171	CW 14 - Classroom 121, 6 ft Shelf	0.6
225190	CW 14 - Classroom 121, 6 ft Shelf	0.7

Unique Sample Identifier	Sample Location Description (Room Number, Area)	Sample Result
225740	CW 15 - Classroom 115, 6 ft Shelf	0.6
225546	CW 15 - Classroom 115, 6 ft Shelf	0.7
225235	CW 16 - Gymnasium 112, SE Side, 5 ft Fire Detector	1.1
225142	CW 16 - Gymnasium 112, SE Side, 5 ft Fire Detector	1.3
225186	CW 17 - Gymnasium 112, SW Side, 5 ft Fire Detector	1.6
225151	CW 17 - Gymnasium 112, SW Side, 5 ft Fire Detector	1.5
225074	CW 18 - Field Blank	0.1
225181	CW 18 - Field Blank	0.1
225139	CW 19 - Music Room 165, East Side, 6 ft Shelf	0.4
225077	CW 19 - Music Room 165, East Side, 6 ft Shelf	0.6
225162	CW 20 - Office 158, 5 ft Fridge	0.5
225071	CW 20 - Office 158, 5 ft Fridge	0.4
225091	CW 21 - Music Room 161, 6 ft Shelf	0.4
225087	CW 21 - Music Room 161, 6 ft Shelf	0.3
225780	CW 22 - Classroom 149, East Side, 6 ft Shelf	0.6
225765	CW 22 - Classroom 149, East Side, 6 ft Shelf	0.7
225899	CW 23 - Therapy Room 152, 6 ft Shelf	0.9
225778	CW 23 - Therapy Room 152, 6 ft Shelf	0.7
225827	CW 24 - Classroom 150, South Side, 6 ft Bookshelf	0.8
225588	CW 24 - Classroom 150, South Side, 6 ft Bookshelf	0.6
225907	CW 25 - Classroom 150, South Side, 6 ft Bookshelf	0.7
225900	CW 25 - Classroom 150, South Side, 6 ft Bookshelf	0.4
225227	CW 26 - Classroom 145, East Side, 6 ft Shelf	0.7
225189	CW 26 - Classroom 145, East Side, 6 ft Shelf	0.9
225169	CW 27 - Classroom 146, North Side, 6 ft Shelf	0.3
225271	CW 27 - Classroom 146, North Side, 6 ft Shelf	0.6
225756	CW 28 - Classroom 142, North Side, 6 ft Shelf	0.5
225862	CW 28 - Classroom 142, North Side, 6 ft Shelf	0.6
225835	CW 29 - Classroom 138, North Side, 6 ft Shelf	0.5

Unique Sample Identifier	Sample Location Description (Room Number, Area)	Sample Result
225585	CW 29 - Classroom 138, North Side, 6 ft Shelf	0.4
225561	CW 30 - Classroom 132, North Side, 6 ft Shelf	0.3
225526	CW 30 - Classroom 132, North Side, 6 ft Shelf	0.4
225723	CW 31 - Classroom 130, South Side, 6 ft Shelf	0.4
225871	CW 31 - Classroom 130, South Side, 6 ft Shelf	0.3
225775	CW 32 - Classroom 128, South Side, 6 ft Shelf	0.3
225554	CW 32 - Classroom 128, South Side, 6 ft Shelf	0.4
225782	CW 33 - Classroom 124, South Side, 6 ft Shelf	0.4
225582	CW 33 - Classroom 124, South Side, 6 ft Shelf	0.6
225808	CW 34 - Classroom 122, South Side, 6 ft Shelf	0.1
225919	CW 34 - Classroom 122, South Side, 6 ft Shelf	0.3
225570	CW 35 - Classroom 118, 6 ft Shelf	0.5
225732	CW 35 - Classroom 118, 6 ft Shelf	0.4
225551	CW 36 - Classroom 114, East Side, 6 ft Shelf	0.3
225744	CW 36 - Classroom 114, East Side, 6 ft Shelf	0.4
225709	CW 37 - Office 111, 6 ft Shelf	0.7
225706	CW 37 - Office 111, 6 ft Shelf	0.7
225702	CW 38 - Gym Office 110, North Side, 6 ft Shelf	0.4
225581	CW 38 - Gym Office 110, North Side, 6 ft Shelf	0.6
225739	CW 39 - Classroom 125, North Side, 6 ft Shelf	0.3
225598	CW 39 - Classroom 125, North Side, 6 ft Shelf	0.3
225762	CW 40 - Library 101, West Side, 6 ft Bookshelf	0.9
225785	CW 40 - Library 101, West Side, 6 ft Bookshelf	0.9
225691	CW 41 - Library 101, North Side, 6 ft Bookshelf	0.7
225781	CW 41 - Library 101, North Side, 6 ft Bookshelf	0.9
225148	CW 42 - Field Blank	0.0
225155	CW 42 - Field Blank	0.1

Appendix B. Chain of Custody

OrderID: 381509982 UPS

12 764 49F 01 9458 9436

M#4 1/5

EMSL ANALYTICAL, INC.

CHAIN OF CUSTODY
RADON LABORATORY SERVICES
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EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: 800-220-3675
FAX: 856-786-0327

EMSL Job #: 381509982

Company Information

Company Name: LEIDOS
EMSL Account #: ~~86184868~~ LEID42
Contact: John Whelpley 3day
Address: 11951 Freedom Dr
City: Reston
State: VA Zip Code: 20190
Phone: 571-268-0697
Fax: NA
Email: whelpleyj@leidos.com

Project / Property Information:

Name: Candlewood ES
Address: 7210 Osprey Drive
City: Rockville
Municipality: – County: Montgomery
State: MD Zip Code: 20871
PO#/Project#: 86184864
☐ Please check box if this is a Post Mitigation Test
Technician Name: John Whelpley, P.E.
Technician Certification #: NA
Technician Signature: [signature]

Disclaimer

In no event shall EMSL be liable for indirect, special, consequential, or incidental damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages arising out of or in connection with EMSL's services there under or the delivery, use, reliance upon or interpretation of test results by client or third party. We accept no legal responsibility for the purposes for which the client uses the test results. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereafter.

	Box Number	Device Number	Location	Exposure Period Beginning Date and Time	Exposure Period Ending Date and Time	Temperature, °F	Humidity, %
CW1	133497	225141	Classroom 133 S Side, Shelf 6'	12/10/15 0844	12/14/15 0658	74°	60%
		225173	" "	" "	" "	"	"
CW2	133494	225090	Class 130 N Side, Shelf 6'	12/10/15 0847	12/14/15 0657	72°	40%
		225176	"	" "	" "	"	"
CW3	133481	225626	Classroom 137 S Side, Shelf 6'	12/10/15 0850	12/14/15 0734	72°	60%
		225263	" "	" "	" "	"	"
CW4	133492	225113	D	12/10/15 0852	12/14/15 0735	72°	60%
		225079	D	" "	" "	"	"
CW5	133498	225165	Office 100 W Side, Shelf 5'	12/10/15 0858	12/14/15 0632	70°	60%
		225145	" "	" "	" "	"	"
CW6	133493	225178	Office 102 S Side, Shelf 5'	12/10/15 0903	12/14/15 0635	70°	60%
		225066	" "	" "	" "	--	--

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EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: 800-220-3675
FAX: 856-786-0327

EMSL Job #: 381509982

	Box Number	Device Number	Location	Exposure Period Beginning Date and Time	Exposure Period Ending Date and Time	Temperature, °F	Humidity, %
CW7	133519	225061	Office 100C NW Side, Shelf 5'	12/10/15 0905	12/14/15 0633	68°	60%
	"	225216	" "	" "	" "	"	"
CW8	133517	225121	Office 100D ES Side, Shelf 5'	12/10/15 0908	12/14/15 0634	68°	50%
	"	225076	" "	" "	" "	"	"
CW9	133491	225083	Office 169 ES Side, Shelf 6'	12/10/15 0913	12/14/15 0719	72°	60%
	"	225174	" "	" "	" "	"	"
CW10	133518	225082	Multi-Purpose Rm 168 NW Side, Electrical Panel 5'	12/10/15 0918	12/14/15 0717	68°	60%
	"	225129	" "	" "	" "	"	"
CW11	133500	225156	Front Office 168 ES Side, File Cabinet 4'	12/10/15 0924	12/14/15 0718	70°	60%
	"	225170	" "	" "	" "	"	"
CW12	133217	225548	Close 157 ES Side, Shelf 6'	12/10/15 0928	12/14/15 0710	78°	30%
		225564	" "	" "	" "	"	"
CW13	133220	225594	D	12/10/15 0930	12/14/15 0711	78°	30%
		225757	D	" "	" "	"	"
CW14	133495	225171	Large 121 Shelf 6'	12/10/15 0933	12/14/15 0645	72°	60%
		225190	" "	" "	" "	"	"
CW15	133200	225740	Close 115 Shelf 6'	12/10/15 0935	12/14/15 0644	70°	60%
		225546	" "	" "	" "	"	"
CW16	133515	225235	Gym SE Side Fire Door 5'	12/10/15 0938	12/14/15 0641	68°	60%
		225142	" "	" "	" "	"	"
CW17	133516	225186	Gym SW Side Fire Door 5'	12/10/15 0941	12/14/15 0639	68°	40%
		225151	" "	" "	" "	"	"
CW18	133512	225074	B	12/10/15 0945	12/14/15 0642	72°	60%
	(133513)	225181	B	" "	" "	"	"
CW19	133499	225139	Muscle 165 ES Side, Shelf 6'	12/10/15 0952	12/14/15 0715	72°	60%
	"	225077	" "	" "	" "	"	"
CW20	133513	225162	Office 158 Approved Fridge 5'	12/10/15 0955	12/14/15 0714	74°	60%

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Received By: YCH

133513 225071

#3/5 m#4

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EMSL ANALYTICAL, INC.

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EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: 800-220-3675
FAX: 856-786-0327

Company Information

Company Name: LEIDOS
EMSL Account #: <SAME>
Contact: "
Address: "
City: "
State: " Zip Code: "
Phone: "
Fax: "
Email: "

Project / Property Information:

Name: CANDLEWOOD ES
Address: <SAME>
City: "
Municipality: " County: "
State: " Zip Code:
PO#/Project#: "
☐ Please check box if this is a Post Mitigation Test
Technician Name: "
Technician Certification #: "
Technician Signature: "

Disclaimer

In no event shall EMSL be liable for indirect, special, consequential, or incidental damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages arising out of or in connection with EMSL's services there under or the delivery, use, reliance upon or interpretation of test results by client or third party. We accept no legal responsibility for the purposes for which the client uses the test results. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereafter.

	Box Number	Device Number	Location	Exposure Period Beginning Date and Time	Exposure Period Ending Date and Time	Temperature, °F	Humidity, %
CW21	133480	225091	Room 161, Shelf 6'	12/10/15 0958	12/14/15 0712	72°	60%
		225087	" "	" "	" "	"	"
CW22	133215	225780	Class 149 E Side, Shelf 6'	12/10/15 1000	12/14/15 0708	76°	40%
		225765	" "	" "	" "	"	"
CW23	133218	225899	Therapy, 152 ~~Shelf on~~ Shelf 6'	12/10/15 1003	12/14/15 0709	74°	60%
		225778	"	" "	" "	"	"
CW24	133192	225827	Class 150 S Side, ~~Bookshelf~~ 6'	12/10/15 1006	12/14/15 0705	70°	60%
		225588	"	" "	" "	"	"
CW25	133203	225907	D	12/10/15 1008	12/14/15 0706	70°	60%
		225900	D	" "	" "	"	"
CW26	133514	225227	Classroom 145 E Side, Shelf 6'	12/10/15 1010	12/14/15 0707	70°	60%
		225189	"	" "	" "	"	"

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EMSL ANALYTICAL, INC.

CHAIN OF CUSTODY
RADON LABORATORY SERVICES
(COMMERCIAL USE)

EMSL Job #: 381509982

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: 800-220-3675
FAX: 856-786-0327

	Box Number	Device Number	Location	Exposure Period Beginning Date and Time	Exposure Period Ending Date and Time	Temperature, °F	Humidity, %
CW27	133479	225 169	Class 146 NSide, Shelf 6'	12/10/15 1013	12/14/15 0704	78°	60%
		225 271	" " 6'	" "	" "	"	"
CW28	133208	225 756	Class 142 NSide, Shelf 6'	12/10/15 1015	12/14/15 0703	70°	60%
		225 862	" " 6'	" "	" "	"	"
CW29	133202	225 835	CL 138 NSide Shelf 6'	12/10/15 1017	12/14/15 0702	70°	60%
		225 585	" " 6'	" "	" "	"	
CW30	133201	225 561	Class 132 NSide, Shelf 6'	12/10/15 1020	12/14/15 0655	70°	60%
		225 526	" " 6'	" "	" "	"	"
CW31	133211	225 723	Class 130 SSide Shelf 6'	12/10/15 1026	12/14/15 0653	72°	60%
		225 871	" " 6'	" "	" "	"	"
CW32	133216	225 775	Class 128 SSide, Shelf 6'	12/10/15 1028	12/14/15 0652	72°	60%
		225 554	" " 6'	" "	" "	"	"
CW33	133190	225 782	Class 124 SSide, Shelf 6'	12/10/15 1030	12/14/15 0651	70°	60%
		225 582	" " 6'	" "	" "	"	"
CW34	133212	225 808	Class 122 SSide, Shelf 6'	12/10/15 1033	12/14/15 0650	76°	40%
		225 919	" " 6'	" "	" "	"	"
CW35	133199	225 570	Class 118 NSide, Kitchen Shelf 6'	12/10/15 1036	12/14/15 0647	70°	70%
		225 732	" " 6'	" "	" "	"	"
CW36	133210	225 551	CL 114 NSide Kitchen Shelf 6'	12/10/15 1039	12/14/15 0643	70°	60%
"		225 744	" " 6'	" "	" "	"	"
CW37	133219	225 709	Stud 111 Shelf 6'	12/10/15 1043	12/14/15 0725	72°	50%
		225 706	" " 6'	" "	" "	"	"
CW38	133209	225 702	Class 110 NSide, Shelf 6'	12/10/15 1049	12/14/15 0637	70°	40%
		225 581	" " 6'	" "	" "	"	"
CW39	133195	225 739	Class 125 NSide Shelf 6'	12/10/15 1053	12/14/15 0649	70°	60%
		225 598	" " 6'	" "	" "	"	"

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CHAIN OF CUSTODY
RADON LABORATORY SERVICES
(COMMERCIAL USE)

EMSL Job #: 381509982

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: 800-220-3675
FAX: 856-786-0327

Company Information

Company Name: LEIDOS
EMSL Account #: <SAME>
Contact: "
Address: "
City: "
State: " Zip Code: "
Phone: "
Fax: "
Email: "

Project / Property Information:

Name: CANDLEWOOD ES
Address: <SAME>
City: "
Municipality: " County: "
State: " Zip Code: "
PO#/Project#: "
☐ Please check box if this is a Post Mitigation Test
Technician Name: "
Technician Certification #: "
Technician Signature: "

Disclaimer

In no event shall EMSL be liable for indirect, special, consequential, or incidental damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages arising out of or in connection with EMSL's services there under or the delivery, use, reliance upon or interpretation of test results by client or third party. We accept no legal responsibility for the purposes for which the client uses the test results. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereafter.

	Box Number	Device Number	Location	Exposure Period Beginning Date and Time	Exposure Period Ending Date and Time	Temperature, °F	Humidity, %
CW40	133144	225762	Living Room 101 Inside, Poolside 6'	12/10/15 1058	12/14/15 0722	68°	60%
		225785	" " " 6'	" "	" "	"	"
CW41	133143	225691	Living Room 101 Inside Poolside	12/10/15 1100	12/14/15 0723	68°	60%
		225781	" " " 6'	" "	" "	"	"
CW42	133501	225148	B	12/10/15 1107	12/14/15 0724	70°	40%
		225155	B	" "	" "	"	"

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Appendix C. Laboratory Results

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EMSL Order: 381509982
CustomerID: LEID42
CustomerPO:
ProjectID:

Attn: **John Whelpley**
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Phone: (571) 268-0697
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Test Report: Radon in Air Test Results

Samples for EMSL Kit 133497

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225141	Classroom 133 S side, Shelf 6'	0.6	12/10/2015 8:44:00 AM	12/14/2015 6:58:00 AM	74	60	Customer
381509982-0001							
Sample Notes:							
225173	Classroom 133 S side, Shelf 6'	0.7	12/10/2015 8:44:00 AM	12/14/2015 6:58:00 AM	74	60	Customer
381509982-0002							
Sample Notes:							
Summary for EMSL Kit 133497		**Average Radon Result:**	**0.6 pCi/L**				

Samples for EMSL Kit 133494

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225090	Class 136 N side, shelf 6'	0.4	12/10/2015 8:47:00 AM	12/14/2015 6:57:00 AM	72	40	Customer
381509982-0003							
Sample Notes:							
225176	Class 136 N side, shelf 6'	0.4	12/10/2015 8:47:00 AM	12/14/2015 6:57:00 AM	72	40	Customer
381509982-0004							
Sample Notes:							
Summary for EMSL Kit 133494		**Average Radon Result:**	**0.4 pCi/L**				

Samples for EMSL Kit 133481

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225626	Classroom 137 S side, shelf 6'	0.6	12/10/2015 8:50:00 AM	12/14/2015 7:34:00 AM	72	60	Customer
381509982-0005							
Sample Notes:							
225263	Classroom 137 S side, shelf 6'	0.8	12/10/2015 8:50:00 AM	12/14/2015 7:34:00 AM	72	60	Customer
381509982-0006							
Sample Notes:							
Summary for EMSL Kit 133481		**Average Radon Result:**	**0.7 pCi/L**				

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Test Report: Radon in Air Test Results

Samples for EMSL Kit 133492

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225113	D	0.8	12/10/2015 8:52:00 AM	12/14/2015 7:35:00 AM	72	60	Customer
381509982-0007							
Sample Notes:							
225079	D	0.6	12/10/2015 8:52:00 AM	12/14/2015 7:35:00 AM	72	60	Customer
381509982-0008							
Sample Notes:							
Summary for EMSL Kit 133492		**Average Radon Result:**	**0.7 pCi/L**				

Samples for EMSL Kit 133498

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225165	Office 100 W site, shelf 5'	0.6	12/10/2015 8:58:00 AM	12/14/2015 6:32:00 AM	70	60	Customer
381509982-0009							
Sample Notes:							
225145	Office 100 W site, shelf 5'	0.8	12/10/2015 8:58:00 AM	12/14/2015 6:32:00 AM	70	60	Customer
381509982-0010							
Sample Notes:							
Summary for EMSL Kit 133498		**Average Radon Result:**	**0.7 pCi/L**				

Samples for EMSL Kit 133493

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225178	Office 102 S side, shelf 5'	0.9	12/10/2015 9:03:00 AM	12/14/2015 6:35:00 AM	70	60	Customer
381509982-0011							
Sample Notes:							
225066	Office 102 S side, shelf 5'	0.8	12/10/2015 9:03:00 AM	12/14/2015 6:35:00 AM	70	60	Customer
381509982-0012							
Sample Notes:							
Summary for EMSL Kit 133493		**Average Radon Result:**	**0.9 pCi/L**				

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Test Report: Radon in Air Test Results

Samples for EMSL Kit 133519

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225061	Office 100C W side, shelf 5'	1.2	12/10/2015 9:05:00 AM	12/14/2015 6:33:00 AM	68	60	Customer
381509982-0013							
Sample Notes:							
225216	Office 100C W side, shelf 5'	0.8	12/10/2015 9:05:00 AM	12/14/2015 6:33:00 AM	68	59	Customer
381509982-0014							
Sample Notes:							
Summary for EMSL Kit 133519		**Average Radon Result:**	**1.0 pCi/L**				

Samples for EMSL Kit 133517

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225121	Office 100D E side, shelf 5'	0.8	12/10/2015 9:08:00 AM	12/14/2015 6:34:00 AM	68	50	Customer
381509982-0015							
Sample Notes:							
225076	Office 100D E side, shelf 5'	0.9	12/10/2015 9:08:00 AM	12/14/2015 6:34:00 AM	68	50	Customer
381509982-0016							
Sample Notes:							
Summary for EMSL Kit 133517		**Average Radon Result:**	**0.9 pCi/L**				

Samples for EMSL Kit 133491

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225083	Office 169 E side, shelf 6'	0.5	12/10/2015 9:13:00 AM	12/14/2015 7:19:00 AM	72	60	Customer
381509982-0017							
Sample Notes:							
225174	Office 169 E side, shelf 6'	0.6	12/10/2015 9:13:00 AM	12/14/2015 7:19:00 AM	72	60	Customer
381509982-0018							
Sample Notes:							
Summary for EMSL Kit 133491		**Average Radon Result:**	**0.6 pCi/L**				

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Test Report: Radon in Air Test Results

Samples for EMSL Kit 133518

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225082	Multipurpose rm NW side, electrical panel 5'	0.8	12/10/2015 9:18:00 AM	12/14/2015 7:17:00 AM	68	60	Customer
381509982-0019							
Sample Notes:							
225129	Multipurpose rm NW side, electrical panel 5'	0.9	12/10/2015 9:18:00 AM	12/14/2015 7:17:00 AM	68	60	Customer
381509982-0020							
Sample Notes:							
Summary for EMSL Kit 133518		**Average Radon Result:**	**0.9 pCi/L**				

Samples for EMSL Kit 133500

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225156	Office 168 11	0.7	12/10/2015 9:24:00 AM	12/14/2015 7:18:00 AM	70	60	Customer
381509982-0021							
Sample Notes:							
225170	Office 4'	0.7	12/10/2015 9:24:00 AM	12/14/2015 7:18:00 AM	70	60	Customer
381509982-0022							
Sample Notes:							
Summary for EMSL Kit 133500		**Average Radon Result:**	**0.7 pCi/L**				

Samples for EMSL Kit 133217

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225548	Class 157 ES	0.9	12/10/2015 9:28:00 AM	12/14/2015 7:10:00 AM	78	30	Customer
381509982-0023							
Sample Notes:							
225564	Class 157 ES	0.8	12/10/2015 9:28:00 AM	12/14/2015 7:10:00 AM	78	30	Customer
381509982-0024							
Sample Notes:							
Summary for EMSL Kit 133217		**Average Radon Result:**	**0.9 pCi/L**				

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Test Report: Radon in Air Test Results

Samples for EMSL Kit 133220

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225594	D	0.8	12/10/2015	12/14/2015	78	30	Customer
381509982-0025			9:30:00 AM	7:11:00 AM			
Sample Notes:							
225752	D	0.9	12/10/2015	12/14/2015	78	30	Customer
381509982-0026			9:30:00 AM	7:11:00 AM			
Sample Notes:							
Summary for EMSL Kit 133220		**Average Radon Result:**	**0.9 pCi/L**				

Samples for EMSL Kit 133495

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225171	Class 121 shelf 6'	0.6	12/10/2015	12/14/2015	72	60	Customer
381509982-0027			9:33:00 AM	6:45:00 AM			
Sample Notes:							
225190	Class 121 shelf 6'	0.7	12/10/2015	12/14/2015	72	59	Customer
381509982-0028			9:33:00 AM	6:45:00 AM			
Sample Notes:							
Summary for EMSL Kit 133495		**Average Radon Result:**	**0.6 pCi/L**				

Samples for EMSL Kit 133200

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225740	Class 115 shelf 6'	0.6	12/10/2015	12/14/2015	70	59	Customer
381509982-0029			9:35:00 AM	6:44:00 AM			
Sample Notes:							
225546	Class 115 shelf 6'	0.7	12/10/2015	12/14/2015	70	60	Customer
381509982-0030			9:35:00 AM	6:44:00 AM			
Sample Notes:							
Summary for EMSL Kit 133200		**Average Radon Result:**	**0.6 pCi/L**				

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Hyattstown, MD 20871

Test Report: Radon in Air Test Results

Samples for EMSL Kit 133515

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225235	Gym SE, fire detector 5'	1.1	12/10/2015 9:38:00 AM	12/14/2015 6:41:00 AM	68	40	Customer
381509982-0031							
Sample Notes:							
225142	Gym SE, fire detector 5'	1.3	12/10/2015 9:38:00 AM	12/14/2015 6:41:00 AM	68	40	Customer
381509982-0032							
Sample Notes:							
Summary for EMSL Kit 133515		**Average Radon Result:**	**1.2 pCi/L**				

Samples for EMSL Kit 133516

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225186	Gym SW fire detector	1.6	12/10/2015 9:41:00 AM	12/14/2015 6:39:00 AM	68	40	Customer
381509982-0033							
Sample Notes:							
225151	Gym SW fire detector	1.5	12/10/2015 9:41:00 AM	12/14/2015 6:39:00 AM	68	40	Customer
381509982-0034							
Sample Notes:							
Summary for EMSL Kit 133516		**Average Radon Result:**	**1.5 pCi/L**				

Samples for EMSL Kit 133512

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225074	B	0.1	12/10/2015 9:45:00 AM	12/14/2015 6:42:00 AM	72	60	Customer
381509982-0035							
Sample Notes:							
225181	B	0.1	12/10/2015 9:45:00 AM	12/14/2015 6:42:00 AM	72	60	Customer
381509982-0036							
Sample Notes:							
Summary for EMSL Kit 133512		**Average Radon Result:**	**0.1 pCi/L**				

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Samples for EMSL Kit 133499

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225139	Mech rm 165, shelf 6'	0.4	12/10/2015	12/14/2015	72	60	Customer
381509982-0037			9:52:00 AM	7:15:00 AM			
Sample Notes:							
225077	Mech rm 165, shelf 6'	0.6	12/10/2015	12/14/2015	72	60	Customer
381509982-0038			9:52:00 AM	7:15:00 AM			
Sample Notes:							
Summary for EMSL Kit 133499		**Average Radon Result:**	**0.5 pCi/L**				

Samples for EMSL Kit 133513

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225162	Office 158	0.5	12/10/2015	12/14/2015	74	60	Customer
381509982-0039			9:53:00 AM	7:14:00 AM			
Sample Notes:							
225071	Office 158	0.4	12/10/2015	12/14/2015	74	60	Customer
381509982-0040			9:53:00 AM	7:14:00 AM			
Sample Notes:							
Summary for EMSL Kit 133513		**Average Radon Result:**	**0.4 pCi/L**				

Samples for EMSL Kit 133480

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225091	Room 161 shelf 6'	0.4	12/10/2015	12/14/2015	72	60	Customer
381509982-0041			9:58:00 AM	7:12:00 AM			
Sample Notes:							
225087	Room 161 shelf 6'	0.3	12/10/2015	12/14/2015	72	60	Customer
381509982-0042			9:58:00 AM	7:12:00 AM			
Sample Notes:							
Summary for EMSL Kit 133480		**Average Radon Result:**	**0.4 pCi/L**				

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Test Report: Radon in Air Test Results

Samples for EMSL Kit 133215

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225780	Class 149 E side, shelf 6'	0.6	12/10/2015 10:00:00 AM	12/14/2015 7:08:00 AM	76	40	Customer
381509982-0043							
Sample Notes:							
225765	Class 149 E side, shelf 6'	0.7	12/10/2015 10:00:00 AM	12/14/2015 7:08:00 AM	76	40	Customer
381509982-0044							
Sample Notes:							
Summary for EMSL Kit 133215		**Average Radon Result:**	**0.6 pCi/L**				

Samples for EMSL Kit 133218

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225899	Therapy, 152 shelf on 6'	0.9	12/10/2015 10:03:00 AM	12/14/2015 7:09:00 AM	74	60	Customer
381509982-0045							
Sample Notes:							
225778	Therapy, 152 shelf on 6'	0.7	12/10/2015 10:03:00 AM	12/14/2015 7:09:00 AM	74	60	Customer
381509982-0046							
Sample Notes:							
Summary for EMSL Kit 133218		**Average Radon Result:**	**0.8 pCi/L**				

Samples for EMSL Kit 133192

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225827	Class 150 S side	0.8	12/10/2015 10:06:00 AM	12/14/2015 7:05:00 AM	70	60	Customer
381509982-0047							
Sample Notes:							
225588	Class 150 S side	0.6	12/10/2015 10:06:00 AM	12/14/2015 7:05:00 AM	70	60	Customer
381509982-0048							
Sample Notes:							
Summary for EMSL Kit 133192		**Average Radon Result:**	**0.7 pCi/L**				

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Test Report: Radon in Air Test Results

Samples for EMSL Kit 133203

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225907	D	0.7	12/10/2015 10:08:00 AM	12/14/2015 7:06:00 AM	70	60	Customer
381509982-0049							
Sample Notes:							
225900	D	0.4	12/10/2015 10:08:00 AM	12/14/2015 7:06:00 AM	70	60	Customer
381509982-0050							
Sample Notes:							
Summary for EMSL Kit 133203		**Average Radon Result:**	**0.6 pCi/L**				

Samples for EMSL Kit 133514

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225227	Classroom 145 E side, shelf 6'	0.7	12/10/2015 10:10:00 AM	12/14/2015 7:07:00 AM	70	60	Customer
381509982-0051							
Sample Notes:							
225189	Classroom 145 E side, shelf 6'	0.9	12/10/2015 10:10:00 AM	12/14/2015 7:07:00 AM	70	60	Customer
381509982-0052							
Sample Notes:							
Summary for EMSL Kit 133514		**Average Radon Result:**	**0.8 pCi/L**				

Samples for EMSL Kit 133479

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225169	Classroom 146 N side, shelf 6'	0.3	12/10/2015 10:13:00 AM	12/14/2015 7:04:00 AM	78	60	Customer
381509982-0053							
Sample Notes:							
225271	Classroom 146 N side, shelf 6'	0.6	12/10/2015 10:13:00 AM	12/14/2015 7:04:00 AM	78	60	Customer
381509982-0054							
Sample Notes:							
Summary for EMSL Kit 133479		**Average Radon Result:**	**0.5 pCi/L**				

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Test Report: Radon in Air Test Results

Samples for EMSL Kit 133208

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225756	Class 142, N side, shelf 6'	0.5	12/10/2015 10:15:00 AM	12/14/2015 7:03:00 AM	70	60	Customer
381509982-0055							
Sample Notes:							
225862	Class 142, N side, shelf 6'	0.6	12/10/2015 10:15:00 AM	12/14/2015 7:03:00 AM	70	60	Customer
381509982-0056							
Sample Notes:							
Summary for EMSL Kit 133208		**Average Radon Result:**	**0.6 pCi/L**				

Samples for EMSL Kit 133202

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225835	Class 138 N side shelf 6'	0.5	12/10/2015 10:17:00 AM	12/14/2015 7:02:00 AM	70	60	Customer
381509982-0057							
Sample Notes:							
225585	Class 138 N side shelf 6'	0.4	12/10/2015 10:17:00 AM	12/14/2015 7:02:00 AM	70	60	Customer
381509982-0058							
Sample Notes:							
Summary for EMSL Kit 133202		**Average Radon Result:**	**0.4 pCi/L**				

Samples for EMSL Kit 133201

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225561	Class 132 N side, shelf 6'	0.3	12/10/2015 10:20:00 AM	12/14/2015 6:55:00 AM	70	60	Customer
381509982-0059							
Sample Notes:							
225526	Class 132 N side, shelf 6'	0.4	12/10/2015 10:20:00 AM	12/14/2015 6:55:00 AM	70	60	Customer
381509982-0060							
Sample Notes:							
Summary for EMSL Kit 133201		**Average Radon Result:**	**0.4 pCi/L**				

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http://www.EMSL.com cinnaminsonradonlab@emsl.com

EMSL Order: 381509982
CustomerID: LEID42
CustomerPO:
ProjectID:

Attn: **John Whelpley**
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11951 Freedom Dr.
Reston, VA 20190

Phone: (571) 268-0697
Fax:
Received: 12/15/15 12:30 PM
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Samples for EMSL Kit 133211

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225723	Class 130 S side shelf 6'	0.4	12/10/2015 10:26:00 AM	12/14/2015 6:53:00 AM	72	60	Customer
381509982-0061							
Sample Notes:							
225871	Class 130 S side shelf 6'	0.3	12/10/2015 10:26:00 AM	12/14/2015 6:53:00 AM	72	60	Customer
381509982-0062							
Sample Notes:							
Summary for EMSL Kit 133211		**Average Radon Result:**	**0.4 pCi/L**				

Samples for EMSL Kit 133216

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225775	Class 128 S side, shelf 6'	0.3	12/10/2015 10:28:00 AM	12/14/2015 6:52:00 AM	72	60	Customer
381509982-0063							
Sample Notes:							
225554	Class 128 S side, shelf 6'	0.4	12/10/2015 10:28:00 AM	12/14/2015 6:52:00 AM	72	60	Customer
381509982-0064							
Sample Notes:							
Summary for EMSL Kit 133216		**Average Radon Result:**	**0.4 pCi/L**				

Samples for EMSL Kit 133190

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225782	Class 124 S side, shelf 6'	0.4	12/10/2015 10:30:00 AM	12/14/2015 6:51:00 AM	70	60	Customer
381509982-0065							
Sample Notes:							
225582	Class 124 S side, shelf 6'	0.6	12/10/2015 10:30:00 AM	12/14/2015 6:51:00 AM	70	60	Customer
381509982-0066							
Sample Notes:							
Summary for EMSL Kit 133190		**Average Radon Result:**	**0.5 pCi/L**				

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Samples for EMSL Kit 133212

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225808	Class 122 S side, shelf 6'	0.1	12/10/2015 10:33:00 AM	12/14/2015 6:50:00 AM	76	40	Customer
381509982-0067							
Sample Notes:							
225919	Class 122 S side, shelf 6'	0.3	12/10/2015 10:33:00 AM	12/14/2015 6:50:00 AM	76	40	Customer
381509982-0068							
Sample Notes:							
Summary for EMSL Kit 133212		**Average Radon Result:**	**0.2 pCi/L**				

Samples for EMSL Kit 133199

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225570	Class 118 kitchen shelf 6'	0.5	12/10/2015 10:36:00 AM	12/14/2015 6:47:00 AM	70	70	Customer
381509982-0069							
Sample Notes:							
225732	Class 118 kitchen shelf 6'	0.4	12/10/2015 10:36:00 AM	12/14/2015 6:47:00 AM	70	70	Customer
381509982-0070							
Sample Notes:							
Summary for EMSL Kit 133199		**Average Radon Result:**	**0.4 pCi/L**				

Samples for EMSL Kit 133210

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225551	Class 114 E side, kitchen shelf 6'	0.3	12/10/2015 10:39:00 AM	12/14/2015 6:43:00 AM	70	60	Customer
381509982-0071							
Sample Notes:							
225744	Class 114 E side, kitchen shelf 6'	0.4	12/10/2015 10:39:00 AM	12/14/2015 6:43:00 AM	70	60	Customer
381509982-0072							
Sample Notes:							
Summary for EMSL Kit 133210		**Average Radon Result:**	**0.4 pCi/L**				

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Samples for EMSL Kit 133219

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225709	S side 11, shelf 6'	0.7	12/10/2015 10:43:00 AM	12/14/2015 7:25:00 AM	72	50	Customer
381509982-0073							
Sample Notes:							
225706	S side 11, shelf 6'	0.7	12/10/2015 10:43:00 AM	12/14/2015 7:25:00 AM	72	50	Customer
381509982-0074							
Sample Notes:							
Summary for EMSL Kit 133219		**Average Radon Result:**	**0.7 pCi/L**				

Samples for EMSL Kit 133209

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225702	Gym office 110 shelf 6'	0.4	12/10/2015 10:49:00 AM	12/14/2015 6:37:00 AM	70	40	Customer
381509982-0075							
Sample Notes:							
225581	Gym office 110 shelf 6'	0.6	12/10/2015 10:49:00 AM	12/14/2015 6:37:00 AM	70	40	Customer
381509982-0076							
Sample Notes:							
Summary for EMSL Kit 133209		**Average Radon Result:**	**0.5 pCi/L**				

Samples for EMSL Kit 133195

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225739	Class 125, N side shelf 6'	0.3	12/10/2015 10:53:00 AM	12/14/2015 6:49:00 AM	70	60	Customer
381509982-0077							
Sample Notes:							
225598	Class 125, N side shelf 6'	0.3	12/10/2015 10:53:00 AM	12/14/2015 6:49:00 AM	70	60	Customer
381509982-0078							
Sample Notes:							
Summary for EMSL Kit 133195		**Average Radon Result:**	**0.3 pCi/L**				

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Samples for EMSL Kit 133194

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225762	Library 101 W side, bookshelf 6'	0.9	12/10/2015 10:58:00 AM	12/14/2015 7:22:00 AM	68	60	Customer
381509982-0079							
Sample Notes:							
225785	Library 101 W side, bookshelf 6'	0.9	12/10/2015 10:58:00 AM	12/14/2015 7:22:00 AM	68	60	Customer
381509982-0080							
Sample Notes:							
Summary for EMSL Kit 133194		**Average Radon Result:**	**0.9 pCi/L**				

Samples for EMSL Kit 133193

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225691	Library 101 N side	0.7	12/10/2015 11:00:00 AM	12/14/2015 7:23:00 AM	68	60	Customer
381509982-0081							
Sample Notes:							
225781	Library 101 N side	0.9	12/10/2015 11:00:00 AM	12/14/2015 7:23:00 AM	68	60	Customer
381509982-0082							
Sample Notes:							
Summary for EMSL Kit 133193		**Average Radon Result:**	**0.8 pCi/L**				

Samples for EMSL Kit 133501

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
225148	B	0	12/10/2015 11:02:00 AM	12/14/2015 7:24:00 AM	70	40	Customer
381509982-0083							
Sample Notes:							
225155	B	-0.1	12/10/2015 11:02:00 AM	12/14/2015 7:24:00 AM	70	40	Customer
381509982-0084							
Sample Notes:							
Summary for EMSL Kit 133501		**Average Radon Result:**	**0.0 pCi/L**				

The radon test was performed using a liquid scintillation radon detector/s and counted on a liquid scintillation counter using approved EPA testing protocols for Radon in Air testing. The EPA recommends fixing your home if the average of two short-term tests taken in the lowest lived-in level of the home show radon levels that are equal to or greater than 4.0pCi/L.
The EPA recommends retesting your home every two years.

Please contact EMSL Analytical, Inc. or your State Health Department for further information.
All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of Radon in Air.

Report Note

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Test Report: Radon in Air Test Results

Analyst(s)

Kathryn Lickfield (84)

Laura Freeman, Interim Laboratory Manager &
Subash Rashat, New Jersey Radiation Specialist NJ MES 10152
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ Accreditations: NRSB ARL6006, NJ DEP 03036, MEB 92525, PA 2573, IN 00455, IA L00032, RI RAS-024, ME 20200C, NE RMB-1083, NY ELAP 10872, NM 885-10L, FL RB2034, OH RL-39, NRPP #106178AL, KS-LB-0005. Subash Rashat certification #MES10152

Initial report from 12/18/2015 10:13:18

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