School / Facility Radon Testing Report Form

Instructions: *Submit one testing report form per-facility per-round of testing. 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.

School Year: **23-24**

Facility:	North Chevy Chase Elementary School
Address:	3700 Jones Bridge Road
	Chevy Chase, MD 20815

Reason for Testing:	☐ Scheduled Re-Testing (2 or 5-year schedule) ☒ Clearance Testing (Post-Mitigation) ☐ System(s) Performance Testing (Post-Mitigation) ☐ New Construction/Facility
Facility Current Radon Status:	☒ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule) ☐ Not Previously Tested
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 or Considered ☐ Required (>8.0-pCi/L) ☐ Required (≥4.0-pCi/L) ☐ Consider (≥2.0 & <4.0-pCi/L)	☒ No Change in Status ☐ Active Mitigation (2-year regular schedule) ☐ No Active Mitigation (5-year regular schedule)

Detector and Deployment

MCPS DEM SUSTAINABILITY & COMPLIANCE

School / Facility Radon Testing Report Form

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 Lab	

Person(s) Deploying or Retrieving Test Devices and certification number	Organization/Company
Tyler McCleaf	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):	01/29/2024
				02/01/2024
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**
Test Locations[1]	52	1	53
Duplicates[2]	5	0	5
Field Blanks[3]	2	0	2
		Grand Total	60

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.

Spike Samples[1]	6	Trip Blank(s)[2]	1	Office Blank(s)[3,4]	1

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.

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 QA plan previously submitted?	☒ Yes ☐ No

Quality Assurance / Quality Control (QA/QC) (continued)

*If "**No**" to either, please describe any QC measurements that were missing or outside of control tolerances established in the QAP here:*

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

	Ground-Contact	Upper-Level(s)	Total
Number of test locations:	52	1	53
Number of locations ≥8.0-pCi/L:	0	0	0
Number of locations ≥4.0 and ≤8-pCi/L:	0	0	0
Number of locations ≥2.7 and ≤4-pCi/L:	1	0	1
Number of locations ≥2.0 and ≤4-pCi/L:	0	0	0
Number of missing required test locations[3]:	0	0	0
Percentage of missing test locations for the facility[4,5]:	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)

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
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
***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 there sufficient valid measurements obtained?[1,2] ***If Yes** – then Testing Status - '**No Further Testing Needed**' complete Conclusion section* ***If No**, then Testing Status - '**Follow-up Testing Required**' continue below*	☐ 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.

- **If 'No Further Testing Needed'** complete conclusions section on first page.
- **If 'Follow-up Testing Required'** – complete Follow-up Testing described below and the conclusion section on the first page for only the valid measurements/results obtained

Follow-Up Testing (if required)

Required if –

1- Not enough valid results were obtained from a facility (table above);
2- Any results ≥ 4.0 – pCi/L; and
3- At the discretion of MCPS IAQ Staff

Follow-up Testing:

1- If an insufficient number of valid measurements obtained during initial round:
   - return to facility to test locations that require valid measurements
2- Follow-up Testing for valid measurements ≥ 4.0-pCi/L

Initial Result(s)	Procedure	Follow-up Result	Conclusion
≥ 4.0-pCi/L	1- Short-term follow-up test 2- Average the results of the two tests	≥4.0	Mitigation Required
		<4.0 but >2.0	Consider Mitigation
		<2.0	Not Required or Considered

- **Complete second School/Facility Radon Testing Report Form for only Follow-up Testing locations.**

Attachment 1:

Summary Data Tables

Table 1- Radon Testing Results		
North Chevy Chase Elementary School		
Test Period: 01/29/2024 - 02/01/2024		
Kit Number	Room / Area	Result
11463655	10	0.7
11463656	12	0.9
11464888	13	< 0.3
11464900	14	0.8
11464887	15	0.8
11464801	16	1.1
11463699	17	< 0.3
11463700	17	< 0.3
11464886	18	< 0.3
11463665	20	< 0.3
11463695	21	< 0.3
11464898	21	< 0.3
11463673	23	< 0.3
11464896	23	< 0.3
11463666	24	< 0.3
11463672	25	< 0.3
11463663	26	< 0.3
11463671	27	< 0.3
11463583	31	0.7
11463569	32	0.8
11463687	33	1.0
11463688	33	1.3
11463589	34	0.8
11463600	34	< 0.3
11464897	100	0.6
11463587	103	1.3
11463586	104	0.8
11463588	105	1.0
11463585	107	1.1
11463578	112	0.9
11287174	114	1.1
11463577	114	0.8
11463596	200	0.8
11463597	110A	1.0
11463689	118A	1.0
11463690	118B	1.1
11463598	118C	1.1
11463599	118D	1.3
11463592	118E	0.9
11463570	APR	0.8
11463674	APR	2.9
11463658	BUILDING SERVICES	< 0.3
11463664	BUILDING SERVICES	< 0.3

Table 1- Radon Testing Results		
North Chevy Chase Elementary School		
Test Period: 01/29/2024 - 02/01/2024		
Kit Number	Room / Area	Result
11463692	CONFERENCE	1.0
11464894	COUNSELOR	0.7
11463680	GYM	< 0.3
11463681	GYM	< 0.3
11463682	GYM OFFICE	0.7
11463696	MEDIA	< 0.3
11463697	MEDIA	< 0.3
11463698	MEDIA OFFICE	< 0.3
11463648	MEDIA WORKROOM	< 0.3
11463694	NURSE	< 0.3
11463679	OFFICE 1	< 0.3
11463657	OFFICE 2	< 0.3
11463693	PRINCIPAL	< 0.3
11464893	SPEECH	0.9
11464895	STAFF DEV	0.9
11463683	STAFF LOUNGE	< 0.3
11464899	WORKROOM	0.7

Table 2 - Summary Testing Results ≥2.0 pCi/L							
North Chevy Chase Elementary School							
Test Period: 01/29/2024 - 02/01/2024							
≥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	APR	2.9	N/A	N/A	N/A	N/A

Table 3 - QC Radon Testing Results			
North Chevy Chase Middle School			
Test Period: 01/29/2024 - 02/01/2024			
Kit Number	**QC Type**	**Room / Area**	**Result**
11463699	D	17	<0.3
11463695	FB	21	<0.3
11463673	D	23	<0.3
11463688	D	33	1.3
11463600	FB	34	<0.3
11287174	D	114	1.1
11463658	D	Building Services	<0.3

Table 4 - Summary of Invalid Measurement Locations		
North Chevy Chase Elementary School		
Test Period: 01/29/24 - 02/01/24		
Kit Number	**Room/Area**	**Result**
N/A	N/A	N/A

Attachment 2:

Laboratory Reports

February 7, 2024

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

NORTH CHEVY CHASE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11463655	10	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.7 ± 0.3	2024-02-05
11464897	100	2024-01-29 @ 11:00 am	2024-02-01 @ 11:00 am	0.6 ± 0.3	2024-02-05
11463587	103	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.3 ± 0.3	2024-02-05
11463586	104	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.8 ± 0.3	2024-02-05
11463588	105	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.0 ± 0.3	2024-02-05
11463585	107	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.1 ± 0.3	2024-02-05
11463597	110A	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.0 ± 0.3	2024-02-05
11463578	112	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	0.9 ± 0.3	2024-02-05
11287174	114	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.1 ± 0.3	2024-02-05
11463577	114	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	0.8 ± 0.3	2024-02-05
11463689	118A	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.0 ± 0.3	2024-02-05
11463690	118B	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.1 ± 0.3	2024-02-05
11463598	118C	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.1 ± 0.3	2024-02-05
11463599	118D	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	1.3 ± 0.3	2024-02-05
11463592	118E	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	0.9 ± 0.3	2024-02-05
11463656	12	2024-01-29 @ 12:00 pm	2024-02-01 @ 12:00 pm	0.9 ± 0.3	2024-02-05
11464888	13	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11464900	14	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.8 ± 0.3	2024-02-05
11464887	15	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.8 ± 0.3	2024-02-05
11464801	16	2024-01-29 @ 12:00 pm	2024-02-01 @ 12:00 pm	1.1 ± 0.3	2024-02-05
11463700	17	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463699	17	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11464886	18	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463665	20	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463596	200	2024-01-29 @ 1:00 pm	2024-02-01 @ 12:00 pm	0.8 ± 0.3	2024-02-05
11464898	21	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463695	21	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463673	23	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11464896	23	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463666	24	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463672	25	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463663	26	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463671	27	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463583	31	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.7 ± 0.3	2024-02-05
11463569	32	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.8 ± 0.3	2024-02-05
11463688	33	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	1.3 ± 0.3	2024-02-05
11463687	33	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	1.0 ± 0.3	2024-02-05

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

February 7, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
NORTH CHEVY CHASE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11463600	34	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463589	34	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.8 ± 0.3	2024-02-05
11463570	APR	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.8 ± 0.3	2024-02-05
11463674	APR	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	2.9 ± 0.4	2024-02-05
11463664	BUILDING SERVICES	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463658	BUILDING SERVICES	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463692	CONFERENCE	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	1.0 ± 0.3	2024-02-05
11464894	COUNSELOR	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.7 ± 0.3	2024-02-05
11463680	GYM	2024-01-29 @ 12:00 pm	2024-02-01 @ 12:00 pm	< 0.3	2024-02-05
11463681	GYM	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463682	GYM OFFICE	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.7 ± 0.3	2024-02-05
11463696	MEDIA	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463697	MEDIA	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463698	MEDIA OFFICE	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463648	MEDIA WORKROOM	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463694	NURSE	2024-01-29 @ 11:00 am	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463679	OFFICE 1	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463657	OFFICE 2	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11463693	PRINCIPAL	2024-01-29 @ 11:00 am	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11464893	SPEECH	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.9 ± 0.3	2024-02-05
11464895	STAFF DEV	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.9 ± 0.3	2024-02-05
11463683	STAFF LOUNGE	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	< 0.3	2024-02-05
11464899	WORKROOM	2024-01-29 @ 12:00 pm	2024-02-01 @ 11:00 am	0.7 ± 0.3	2024-02-05

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February 7, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
OFFICE BLANK
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285577	OB	2024-01-29 @ 10:00 am	2024-02-01 @ 11:00 am	< 0.3	2024-02-05

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February 7, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRAVEL BLANK
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11633585	TB	2024-01-29 @ 10:00 am	2024-02-01 @ 11:00 am	< 0.3	2024-02-05

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January 29, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
STORAGE
KCI

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11635097	Storage	2024-01-07 @ 9:00 am	2024-01-11 @ 9:00 am	< 0.3	2024-01-15

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 213327

NOMINAL Conditions: Radon Conc 49.5 pCi/L Rel. Hum 24.7 % Temp. 69.8 F

Date Start: 1/19/24 Date Stop: 1/22/24	Date Start: _____ Date Stop: _____
Time Start: 0831 Time Stop: 0831	Time Start: _____ Time Stop: _____
Device No.'s: (6) CHAR BAGS -	Device No.'s: _____
11284003, 11284005, 11284006	_____
11284007, 11284008, 11284013	_____
F3 Left	
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

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

January 29, 2024 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
BOWSER MORNER
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11284003	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	47.0 ± 3.8	2024-01-29
11284005	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	43.4 ± 3.5	2024-01-29
11284006	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	42.1 ± 3.4	2024-01-29
11284007	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	46.4 ± 3.7	2024-01-29
11284008	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	46.2 ± 3.7	2024-01-29
11284013	SK	2024-01-19 @ 9:00 am	2024-01-22 @ 9:00 am	45.6 ± 3.6	2024-01-29

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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 January 29th – February 1st 2024

Name of Schools:

1. John F. Kennedy HS
2. Francis Scott Key MS
3. Montgomery Village MS
4. Oak View ES
5. North Chevy Chase ES
6. Cabin Branch ES

	Date	Initials
Radon Test Kits Deployed	01/29/2024	
Radon Test Kits Collected	02/01/2024	
Radon Test Kits Shipped to Lab*	02/01/2024	
Radon Test Kits Received by Lab*	02/05/2024	

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

Attachment 3:

Sampling Location Map

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING – EXECUTIVE SUMMARY

Site Name	North Chevy Chase Elementary School
Date of Test Report	1/04/2023
Round of Testing	Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# Rooms Tested	55
# Rooms ≥ 4.0 pCi/L	1
Lowest Value	<0.3 pCi/L
Highest Value	4.3 pCi/L

Project Status:

1. Initial testing completed;
2. Mitigate Room 25

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

January 4, 2023

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

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

Location: North Chevy Chase Elementary School
3700 Jones Bridge Rd.
Chevy Chase, MD 20815

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the North Chevy Chase Elementary School, located at 3700 Jones Bridge Rd. Chevy Chase, MD 20815 (subject site).

Scope of Services:

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

KCI visited the site on December 5, 2022 and deployed sixty-four (64) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

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

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

KCI returned to the site on December 8, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc.

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

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to initial testing.

These tests were conducted to:

- Evaluate radon concentration levels at the facility.

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

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

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

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 20s°F and high temperatures ranged to the mid-50s°F. Maximum sustained winds ranged from 0-12 miles per hour. Average humidity was around 75% with .04 inches of precipitation (rain) was recorded during testing period.

Results:

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

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	25	4.3
<4.0 piC/L	See Attachment B	

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

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

Sincerely,

Tyler McCleaf

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

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

Table 1- Radon Testing Results		
North Chevy Chase ES		
Test Period: 12/05/2022 - 12/08/2022		
Kit Number	Room / Area	Result
11287209	10	0.8
11287202	12	1.0
11287214	13	1.4
11287219	13	1.4
11287213	14	1.4
11287220	15	1.2
11287221	16	1.9
11287218	17	0.8
11287227	18	0.6
11287222	20	< 0.3
11287235	21	3.3
11287230	22	1.2
11287236	23	1.6
11287216	24	1.6
11287223	25	4.3
11287217	26	2.4
11287231	27	2.4
11287237	27	2.6
11287234	31	1.0
11287242	31	1.0
11287245	32	1.6
11287251	32	1.7
11287239	33	1.3
11287240	34	1.7
11287247	103	1.7
11287246	104	1.5
11287253	104	1.0
11287254	105	1.9
11287267	107	1.4
11287255	112	1.4
11287256	112	< 0.3
11287258	114	< 0.3
11287268	114	1.7
11287257	208	< 0.3
11287259	110A	1.8
11287260	118A	1.5
11287248	118B	2.0
11287261	118C	1.8
11287249	118D	1.9
11287262	118E	2.0
11287243	APR	1.2
11287244	APR	1.6

Table 1- Radon Testing Results		
North Chevy Chase ES		
Test Period: 12/05/2022 - 12/08/2022		
Kit Number	Room / Area	Result
11287224	BLDG SERVICE OFFICE	1.2
11287201	CONFERENCE ROOM	2.3
11287210	COUNSELOR	1.2
11287250	GYM	1.1
11287252	GYM	0.9
11287241	GYM OFFICE	1.2
11287204	HEALTH	2.2
11287203	MAIN OFFICE	2.1
11287207	MEDIA	1.0
11287215	MEDIA	1.8
11287208	MEDIA OFFICE	1.5
11287229	MEDIA OFFICE	0.8
11287226	MEDIA WORKROOM	1.2
11287228	MEDIA WORKROOM	1.4
11287211	PRINCIPAL	2.4
11287206	SPEECH	1.6
11287212	STAFF DEVELOPMENT	2.1
11287232	STAFF LOUNGE	1.4
11287225	STAFF OFFICE 1	1.7
11287238	STAFF OFFICE 2	1.3
11287233	STAFF OFFICE 3	1.2
11287205	STAFF ROOM	1.1

Table 2- Radon Testing Results			
North Chevy Chase ES			
Test Period: 12/05/22 - 12/08/22			
Kit Number	QC Type	Room / Area	Result
11287219	D	13	1.4
11287237	D	27	2.6
11287242	FB	31	1.0
11287245	D	32	1.6
11287253	D	104	1.0
11287255	D	112	1.4
11287258	FB	114	< 0.3
11287229	FB	Media office	0.8
11287226	D	Media workroom	1.2
11133716	OB	OFFICE BLANK	< 0.3
11140129	TB	TRAVEL BLANK	< 0.3

Summary of Missed Locations		
North Chevy Chase ES		
Test Period: 12/05/22 - 12/08/22		
Kit Number	Room/Area	Result
	N/A	

Summary of Missing, Compromised and >/= 4 piC/L Tests		
North Chevy Chase ES		
Test Period: 12/05/22 - 12/08/22		
Kit Number	Room/Area	Result
11287223	25	4.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 14, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
NORTH CHEVY CHASE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287209	10	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287247	103	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287246	104	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.5 ± 0.5	2022-12-14
11287253	104	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.5	2022-12-14
11287254	105	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.9 ± 0.5	2022-12-14
11287267	107	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287259	110A	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.8 ± 0.5	2022-12-14
11287255	112	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287256	112	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287258	114	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287268	114	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287260	118A	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.5 ± 0.5	2022-12-14
11287248	118B	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	2.0 ± 0.6	2022-12-14
11287261	118C	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.8 ± 0.5	2022-12-14
11287249	118D	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.9 ± 0.5	2022-12-14
11287262	118E	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	2.0 ± 0.5	2022-12-14
11287202	12	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.0 ± 0.5	2022-12-14
11287219	13	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287214	13	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287213	14	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287220	15	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287221	16	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.9 ± 0.5	2022-12-14
11287218	17	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287227	18	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.6 ± 0.5	2022-12-14
11287222	20	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	< 0.3	2022-12-14
11287257	208	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	< 0.3	2022-12-14
11287235	21	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	3.3 ± 0.6	2022-12-14
11287230	22	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287236	23	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.6	2022-12-14
11287216	24	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.5	2022-12-14
11287223	25	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	4.3 ± 0.8	2022-12-14
11287217	26	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287237	27	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.6 ± 0.6	2022-12-14
11287231	27	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287234	31	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.6	2022-12-14
11287242	31	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.0 ± 0.6	2022-12-14
11287251	32	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14

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

December 14, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
NORTH CHEVY CHASE ES
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11287245	32	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.6 ± 0.5	2022-12-14
11287239	33	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.3 ± 0.5	2022-12-14
11287240	34	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287244	APR	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.6 ± 0.5	2022-12-14
11287243	APR	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287224	BLDG SERVICE OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287201	CONFERENCE ROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.3 ± 0.6	2022-12-14
11287210	COUNSELOR	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287252	GYM	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	0.9 ± 0.5	2022-12-14
11287250	GYM	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.1 ± 0.5	2022-12-14
11287241	GYM OFFICE	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287204	HEALTH	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.2 ± 0.5	2022-12-14
11287203	MAIN OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.1 ± 0.5	2022-12-14
11287215	MEDIA	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.8 ± 0.5	2022-12-14
11287207	MEDIA	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.0 ± 0.5	2022-12-14
11287208	MEDIA OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.5 ± 0.5	2022-12-14
11287229	MEDIA OFFICE	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	0.8 ± 0.5	2022-12-14
11287226	MEDIA WORKROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.2 ± 0.5	2022-12-14
11287228	MEDIA WORKROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.4 ± 0.5	2022-12-14
11287211	PRINCIPAL	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.4 ± 0.6	2022-12-14
11287206	SPEECH	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.6 ± 0.6	2022-12-14
11287212	STAFF DEVELOPMENT	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	2.1 ± 0.6	2022-12-14
11287232	STAFF LOUNGE	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.4 ± 0.5	2022-12-14
11287225	STAFF OFFICE 1	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.7 ± 0.5	2022-12-14
11287238	STAFF OFFICE 2	2022-12-05 @ 10:00 am	2022-12-08 @ 11:00 am	1.3 ± 0.5	2022-12-14
11287233	STAFF OFFICE 3	2022-12-05 @ 11:00 am	2022-12-08 @ 11:00 am	1.2 ± 0.5	2022-12-14
11287205	STAFF ROOM	2022-12-05 @ 10:00 am	2022-12-08 @ 10:00 am	1.1 ± 0.5	2022-12-14

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 KC I TECHNOLOGIES, INC Job Number 208343

NOMINAL Conditions: Radon Conc 34.7 pCi/L Rel. Hum 49.4 % Temp. 69.6 F

Date Start: 12/24/22 Date Stop: 12/27/22	Date Start: _____ Date Stop: _____
Time Start: 0810 Time Stop: 0810	Time Start: _____ Time Stop: _____
Device No.'s: (5) CHAR BAGS -	Device No.'s: _____
11285109, 11285110, 11285101	_____
THRU 11285103	_____
BY CRF	_____
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 29, 2022 **** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

OFFICE
MA

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within ± 25% of the chamber's reference value (34.7 pCi/L).

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
11285110	SK1	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	31.7 ± 2.5	2022-12-29
11285101	SK2	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	30.1 ± 2.4	2022-12-29
11285103	SK3	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	34.0 ± 2.7	2022-12-29
11285102	SK4	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	30.9 ± 2.5	2022-12-29
11285109	SK5	2022-12-24 @ 8:00 am	2022-12-27 @ 8:00 am	32.0 ± 2.6	2022-12-29

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 – April 2022 Schools – Retesting

Name of Schools:

1. Lynnbrook Center
2. Chevy Chase ES
3. North Chevy Chase ES
4. Wood Acres ES
5. Ashburton ES
6. Carderock Springs ES
7. North Bethesda MS
8. Brooke Grove ES

	Date	Initials
Radon Test Kits Deployed	12/05/2022	BMM
Radon Test Kits Collected	12/08/2022	BMM
Radon Test Kits Shipped to Lab*	12/08/2022	BMM
Radon Test Kits Received by Lab*	12/14/2022	BMM

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

RADON SCREENING SURVEY – FOLLOW-UP NORTH CHEVY CHASE ELEMENTARY SCHOOL

3700 Jones Bridge Road, Chevy Chase, Maryland 20815

EXECUTIVE SUMMARY

Date of Test Report:	3/7/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	4
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 3/3/16 (Rev 1) Initial	Result (pCi/L) 3/7/16 Follow-Up	Average Result (pCi/L)
32	5.0	1.7	3.4
MAIN OFFICE	1.6 (tampered)	0.8	1.2
Principal's Office	missing	0.6	0.6
MPR	missing	1.4 (tampered)	1.4

KCI TECHNOLOGIES

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MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/7/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	4
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7

Project Status:
Retesting completed; use the average of the initial and re-test results in a room to determine if remediation is necessary.
Retesting completed; missing or compromised samples need re-test.

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 7, 2016

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

Re: **Radon Testing Services**
KCI Job # 12146341.28

Location: North Chevy Chase Elementary School
3700 Jones Bridge Road
Chevy Chase, MD 20815

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (subject site).

Scope of Services:

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

KCI visited the site on February 8, 2016 and deployed six (6) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on February 11, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65° F.

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 8 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
North Chevy Chase Elementary School		
Test Period: 02/08/16-02/11/16		
Kit Number	**Room / Area**	**Result**
7730299	32	1.7
7730295	MAIN OFFICE	0.8
7730297	* MPR (tampered)	1.4
7730296	PRINC OFF	0.6

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
North Chevy Chase Elementary School		
Test Period: 02/08/16-02/11/16		
Kit Number	**QC Type**	**Result**
7730298	* D (MPR:tampered)	1.3
7730300	FB (32)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 25, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

NORTH CHEVY CHASE ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7730299	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.7 ± 0.4	2016-02-15
7730300	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	< 0.3	2016-02-15
7730295	MAIN OFFICE	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.8 ± 0.3	2016-02-15
7730297	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.4 ± 0.4	2016-02-15
7730298	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.3 ± 0.3	2016-02-15
7730296	PRINC OFF	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.6 ± 0.3	2016-02-15

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

February 25, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS RADON
PHASE 8
OFFICE BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7729754	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729757	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729758	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15

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

February 23, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT- PHASE 7, 8, 9
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7734937	1	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734946	10	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734955	11	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734956	12	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734959	13	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734930	14	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734953	15	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734954	16	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734940	17	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734949	18	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734948	19	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734939	2	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734942	20	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734929	21	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734933	22	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734934	23	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734936	24	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734943	25	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734944	26	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734935	27	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734928	28	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734952	29	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734947	3	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734931	30	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734932	31	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718520	32	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718523	33	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718522	34	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718521	35	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734945	4	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734960	5	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734958	6	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734951	7	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734957	8	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734938	9	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23

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

February 15, 2016

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7718273	101A	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04
7718281	102B	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.4 ± 0.6	2016-02-04
7718282	103C	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.3 ± 0.6	2016-02-04
7718288	104D	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.7 ± 0.6	2016-02-04
7718289	105E	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.6 ± 0.6	2016-02-04
7718291	106F	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

NOMINAL Conditions: Radon Conc 5.9 pCi/L Rel. Hum 45.9 % Temp. 79.0 F

Date Start: 1/30/16 Date Stop: 2/1/16	Date Start: _____ Date Stop: _____
Time Start: 0926 Time Stop: 0926	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags -	Device No.'s: _____
7718281, 7718282, 7718291,	_____
7718288, 7718289, 7718273	_____
E3 Left	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

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

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 Phase 8

Name of Schools:

1. Blair G. Ewing Center
2. Cedar Grove ES
3. Clarksburg ES
4. Cloverly ES
5. Cold Spring ES
6. Damascus ES
7. Dufief ES
8. East Silver Spring
9. Georgian Forest ES
10. Germantown ES
11. Glenallen ES
12. Jackson Road ES
13. Jones Lane ES
14. Lake Seneca ES
15. Laytonsville ES
16. Montgomery Knolls ES
17. North Chevy Chase ES
18. Oakview ES
19. Randolph Maint
20. Robert Frost MS
21. Shady Grove Maint
22. Viers Mill ES

	Date	Initials
Radon Test Kits Deployed	2/8/16	JM
Radon Test Kits Collected	2/11/16	JM
Radon Test Kits Shipped to Lab*	12/11/16	JM
Radon Test Kits Received by Lab*	12/15/16	JM

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/3/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	50
# Rooms ≥ 4.0 pCi/L:	1
Low Value:	< 0.3
High Value:	5.0

Rooms with results ≥ 4.0 pCi/L:
Room CR32 (5.0 pCi/L)

Project Status:
Initial testing completed; re-test needed for results ≥ 4.0 pCi/L.
Initial testing completed; missing or compromised samples need re-test.

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 3, 2016 (Rev 1)

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

Re: **Radon Testing Services**
KCI Job # 12146341.20

Location: North Chevy Chase Elementary School
3700 Jones Bridge Road
Chevy Chase, MD 20815

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (subject site).

Scope of Services:

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

KCI visited the site on December 21, 2015 and deployed sixty (60) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on December 24, 2015 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65° F.

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	CR32	5.0
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
North Chevy Chase E.S		
Test Period: 12/21/15-12/24/15		
Kit Number	**Room / Area**	**Result**
7712046	112	1.8
7712042	114	2.0
7712058	205	1.8
7712052	110A	2.0
7712038	118A	2.3
7712041	118B	2.5
7712049	118C	3.0
7712055	118D	2.7
7712039	BLDG SER	1.5
7712032	CF21	1.7
7712002	CONF RM	1.8
7712012	COUNSELOR RM	1.2
7712013	CR10	1.4
7712043	CR103	2.2
7712047	CR104	1.2
7712051	CR105	2.5
7712037	CR107	2.5
7712016	CR12	1.4
7712017	CR13	1.2
7712001	CR14	1.4
7712019	CR15	1.1
7712015	CR16	1.9
7712020	CR17	0.8
7712024	CR18	0.7
7712021	CR20	1.1
7712028	CR22	1.2
7712031	CR23	2.1
7712025	CR24	1.9
7712029	CR25	1.6
7712027	CR26	1.8
7712026	CR27	1.3
7712050	CR31	< 0.3
7712045	CR32	5.0
7712054	CR33	1.0
7712059	CR34	2.0
7712009	DEVEL TEACH OFF	2.9
7712053	GYM	< 0.3
7712070	GYM	0.6
7712057	GYM OFF	1.4
7712008	HEALTH RM	1.8
7712004	* MAIN OFF (tampered)	1.6
7712018	MEDIA CTR	1.3
7712022	MEDIA CTR	1.2
7712011	MEDIA CTR OFF	1.3
7712033	* MPR (missing)	-
7712014	PHONE ROOM	1.8

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
North Chevy Chase E.S		
Test Period: 12/21/15-12/24/15		
Kit Number	**Room / Area**	**Result**
7712003	* PRINC OFF (missing)	-
7712034	SLOUNGE	0.9
7712036	SOFF1	0.8
7712030	SOFF2	1.2
7712005	SPEECH OFF	2.1
7712007	STAFF WORK	1.8

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
North Chevy Chase E.S		
Test Period: 12/21/15-12/24/15		
Kit Number	**QC Type**	**Result**
7712056	D (118C)	2.5
7712035	D (BLDG SER)	1.4
7712006	D (CONF RM)	2.1
7712023	D (MEDIA CTR)	1.7
7712044	* D (MPR:missing)	-
7712010	FB (PHONE RM)	< 0.3
7712040	FB (SOFF2)	< 0.3
7712192	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 14, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

NORTH CHEVY CHASE E.S
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712192	00	2015-12-21 @ 6:00 pm	2015-12-24 @ 2:00 pm	< 0.3	2015-12-29
7712052	110A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712046	112	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712042	114	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712038	118A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.3 ± 0.4	2015-12-29
7712041	118B	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712049	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	3.0 ± 0.5	2015-12-29
7712056	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712055	118D	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.7 ± 0.4	2015-12-29
7712058	205	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712035	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712039	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.5 ± 0.4	2015-12-29
7712032	CF21	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.7 ± 0.4	2015-12-29
7712002	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712006	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	2.1 ± 0.4	2015-12-29
7712012	COUNSELOR RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712013	CR10	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712043	CR103	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.2 ± 0.4	2015-12-29
7712047	CR104	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712051	CR105	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712037	CR107	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712016	CR12	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712017	CR13	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712001	CR14	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712019	CR15	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.4	2015-12-29
7712015	CR16	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712020	CR17	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712024	CR18	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7712021	CR20	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.3	2015-12-29
7712028	CR22	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712031	CR23	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712025	CR24	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712029	CR25	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.6 ± 0.4	2015-12-29
7712027	CR26	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712026	CR27	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712050	CR31	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712045	CR32	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	5.0 ± 0.6	2015-12-29

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

January 14, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

NORTH CHEVY CHASE E.S
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712054	CR33	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.0 ± 0.3	2015-12-29
7712059	CR34	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	2.0 ± 0.4	2015-12-29
7712009	DEVEL TEACH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.9 ± 0.5	2015-12-29
7712053	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712070	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	0.6 ± 0.3	2015-12-29
7712057	GYM OFF	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.4 ± 0.4	2015-12-29
7712008	HEALTH RM	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712004	MAIN OFF	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.6 ± 0.4	2015-12-29
7712022	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.2 ± 0.4	2015-12-29
7712023	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.7 ± 0.4	2015-12-29
7712018	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.3 ± 0.4	2015-12-29
7712011	MEDIA CTR OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712033	MPR	@	@		
7712044	MPR	@	@		
7712010	PHONE RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712014	PHONE ROOM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712003	PRINC OFF	@	@		
7712034	SLOUNGE	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.9 ± 0.4	2015-12-29
7712036	SOFF1	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712030	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712040	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712005	SPEECH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712007	STAFF WORK	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29

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

December 29, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT DEC 14 2015
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7704395	TRANSIT 1	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706508	TRANSIT 10	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706510	TRANSIT 11	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706511	TRANSIT 12	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706505	TRANSIT 13	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704371	TRANSIT 14	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706506	TRANSIT 15	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704381	TRANSIT 16	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704399	TRANSIT 17	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704390	TRANSIT 18	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704396	TRANSIT 2	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704364	TRANSIT 3	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704370	TRANSIT 4	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704368	TRANSIT 5	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706524	TRANSIT 6	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706526	TRANSIT 7	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706518	TRANSIT 8	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706516	TRANSIT 9	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16

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

December 23, 2015

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173224

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

Date Start: 12/18/15 Date Stop: 12/21/15	Date Start: _____ Date Stop: _____
Time Start: 0929 Time Stop: 0929	Time Start: _____ Time Stop: _____
Device No.'s: 7705132, 7706208, 7706211, 7706366, 7706380, 7706381 F3 Left	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Chain of Custody

Project Name: MCPS Radon Phase II

School Names:

1. Bannonckburn ES
2. Walt Whitman HS
3. Walter Johnson HS
4. North Chevy Chase ES
5. Piney Branch ES
6. Forest Knolls ES
7. Newport Mill MS
8. Broad Acres ES
9. Briggs Chaney MS
10. Blair G. Ewing Center
11. Sherwood HS
12. Hadley Farms
13. S. Christa McAuliffe ES
14. Ronald A. McNair ES
15. MLK MS
16. Ashburton ES
17. Bradley Hills ES
18. Flora M. Singer ES
19. Woodlin ES
20. Montgomery Knolls ES
21. Fairland ES
22. Cannon Road ES
23. Richard Montgomery HS
24. Brooke Grove ES
25. Belmont ES
26. Emory Grove
27. Clarksburg HS
28. Clarksburg ES
29. John T. Baker MS

	Date	Initials
Radon Test Kits Deployed	12/21/2015	
Radon Test Kits Collected	12/24/2015	
Radon Test Kits Shipped to Lab*	12/24/2015	
Radon Test Kits Received by Lab*	12/28/2015	

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

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
North Chevy Chase Elementary School

3700 Jones Bridge Road,
Chevy Chase, MD 20815

Date of Test Report:	3/29/2019
Round of Testing:	Initial **Follow-up** Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested:	1
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	0
High Value:	0

Project Status
Missing: APR

March 29, 2019

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

Re: Radon Testing Services

Location: Northlake Center
15101 Bauer Drive
Rockville, MD 20853

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for North Chevy Chase Elementary School, located at 370 Jones Bridge Road, Chevy Chase, MD 20815 (subject site).

Scope of Services:

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on February 26, 2019 and deployed one (1) activated charcoal (AC) radon test kit. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on March 01, 2019 to retrieve the radon sampling test kit but sample was missing. A floor plan map of the building with the test location is included as Attachment A of this report.

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

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65°F.

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D -Duplicate Sample

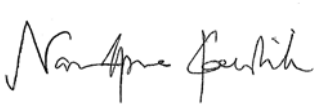
The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within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

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C).

Laboratory results and exposure data for the spike samples are also included in Attachment C. Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (703) 698-9300.

Respectfully Submitted,

INTERTEK - PSI



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

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

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
North Chevy Chase Elementary School		
Testing period: 2/26/19 - 3/01/19		
Kit Number	**Room / Area**	**Result (pCi/L)**
--	APR	--

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

MONTGOMERY COUNTY PUBLIC SCHOOLS
RADON TESTING

Executive Summary:
North Chevy Chase Elementary School

3700 Jones Bridge Road,
Chevy Chase, MD 20815

Date of Test Report:	02/05/2019
Round of Testing:	Initial Follow-up Post Remediation 2 Year Testing **5 Year Testing** HVAC Upgrade Window Replacement New Addition New Facility
# of Rooms Tested:	57
# of Rooms ≥ 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	1.3

Project Status

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

February 5, 2019

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

Re: Radon Testing Services

Location: North Chevy Chase Elementary School
3700 Jones Bridge Road,
Chevy Chase, MD 20815

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for North Chevy Chase Elementary School, located at 370 Jones Bridge Road, Chevy Chase, MD 20815 (subject site).

Scope of Services:

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on December 3, 2018 and deployed seventy-three (73) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on December 6, 2018 to retrieve the radon sampling test kits. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, PSI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, PSI submitted ten (10) test kits to Bowser-Morner Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner Inc. prior to being returned to the laboratory for analysis.

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

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65°F.

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

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D -Duplicate Sample

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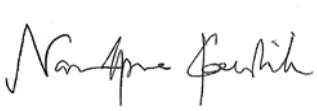
Respectfully Submitted,

INTERTEK-PSI



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

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

ATTACHMENT B

Radon Test Summary Spreadsheet

Radon Testing Results		
North Chevy Chase Elementary School		
Testing period: 12/3/18 - 12/6/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3927906	112	<0.4
3927905	114	<0.4
3927908	110A	<0.4
3927909	118A	<0.4
3927902	118B	<0.4
3927901	118C	<0.4
3927900	118D	<0.4
3927898	118D	<0.4
3927899	118E	<0.4
3927894	AR200	<0.4
3927895	AR205	<0.4
3927897	AR208	<0.4
3927944	CR10	<0.4
3927910	CR103	<0.4
3927872	CR104	<0.4
3927904	CR105	<0.4
3927907	CR107	<0.4
3927903	CR107	<0.4
3927970	CR12	<0.4
3927962	CR13	<0.4
3927968	CR14	0.5
3927965	CR15	<0.4
3927961	CR16	0.5
3927966	CR17	<0.4
3927963	CR18	<0.4
3927951	CR21	1.0
3927918	CR23	0.7
3927920	CR25	0.7
3927917	CR26	1.0
3927919	CR27	1.3
3927878	CR31	0.6
3927880	CR32	0.7
3927876	CR33	1.3
3927875	CR34	0.9
3927956	Room 20	0.6
3927953	Room 22	<0.4
3927952	Room 24	0.8
3881190	APR	0.4
3881166	APR (MISSING)	--
3927916	Building Services	<0.4
3927942	Conference	<0.4
3927967	Counselor	0.6
3927914	ESOL	0.4

Radon Testing Results		
North Chevy Chase Elementary School		
Testing period: 12/3/18 - 12/6/18		
Kit Number	**Room / Area**	**Result (pCi/L)**
3927871	Gym	0.8
3927873	Gym	0.9
3927874	Gym Office	0.9
3927950	Health	0.8
3927947	Health Office	0.7
3927912	Kitchen	0.9
3927948	Main Office	0.6
3927957	Media Center	0.6
3927954	Media Center	0.8
3927959	Media Office #1	0.6
3927958	Media Office #2	0.8
3927945	Principal	0.6
3927969	Speech	0.6
3927943	Staff Development	0.7
3927911	Staff Lounge	0.6
3927913	Staff Office 1	<0.4
3927960	Studio	0.4
3927946	Workroom	<0.4

Radon Testing Results		
North Chevy Chase Elementary School		
Testing period: 12/3/18 - 12/6/18		
Kit Number	**QC Type**	**Result (pCi/L)**
3927941	CR10 (D)	<0.4
3927964	CR18 (D)	<0.4
3927915	CR25 (D)	0.6
3927877	CR32 (D)	1.0
3927949	Main Office (D)	0.5
3927955	Room 22 (D)	<0.4
3927879	Staff Lounge (D)	0.6
3928060	Field Blank	<0.4
3928051	Field Blank	<0.4
3926362	Field Blank	<0.4
3926370	Office Blank	<0.4
3926367	Transit Blank	Invalid

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

AccuStar
Professional Radon Laboratory Services Since 1984

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey
North Chevy Chase ES
3700 Jones Bridge Road
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2404240	3927948	12/03/2018 9:30 am	12/06/2018 8:14 am	Bldg North Chevy Chase ES Flr First Rm Main Of	0.6
2404241	3927949	12/03/2018 9:30 am	12/06/2018 8:14 am	Bldg North Chevy Chase ES Flr First Rm Main off	0.5
2404242	3927950	12/03/2018 9:31 am	12/06/2018 8:15 am	Bldg North Chevy Chase ES Flr First Rm Health	0.8
2404243	3927947	12/03/2018 9:32 am	12/06/2018 8:15 am	Bldg North Chevy Chase ES Flr First Rm Nurses	0.7
2404244	3927945	12/03/2018 9:33 am	12/06/2018 8:16 am	Bldg North Chevy Chase ES Flr First Rm Principa	0.6
2404245	3927946	12/03/2018 9:34 am	12/06/2018 8:17 am	Bldg North Chevy Chase ES Flr First Rm Work R	< 0.4
2404246	3927942	12/03/2018 9:36 am	12/06/2018 8:17 am	Bldg North Chevy Chase ES Flr First Rm Conf R	< 0.4
2404247	3927943	12/03/2018 9:38 am	12/06/2018 8:18 am	Bldg North Chevy Chase ES Flr First Rm Staff De	0.7
2404248	3927944	12/03/2018 9:39 am	12/06/2018 8:20 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404249	3927941	12/03/2018 9:39 am	12/06/2018 8:20 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404250	3927970	12/03/2018 9:40 am	12/06/2018 8:21 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/09/2018 Date Reported: 12/21/2018

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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AccuStar
Professional Radon Laboratory Services Since 1984

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey
North Chevy Chase ES
3700 Jones Bridge Road
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result pCi/L
2404251	3927969	12/03/2018 9:41 am	12/06/2018 8:22 am	Bldg North Chevy Chase ES Flr First Rm Speech	0.6
2404252	3927967	12/03/2018 9:42 am	12/06/2018 8:22 am	Bldg North Chevy Chase ES Flr First Rm Counsel	0.6
2404253	3927968	12/03/2018 9:44 am	12/06/2018 8:23 am	Bldg North Chevy Chase ES Floor First Room CR	0.5
2404254	3927962	12/03/2018 9:45 am	12/06/2018 8:24 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404255	3927965	12/03/2018 9:46 am	12/06/2018 8:25 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404256	3927961	12/03/2018 9:47 am	12/06/2018 8:26 am	Bldg North Chevy Chase ES Floor First Room CR	0.5
2404257	3927966	12/03/2018 9:48 am	12/06/2018 8:27 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404258	3927963	12/03/2018 9:50 am	12/06/2018 8:30 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404259	3927964	12/03/2018 9:50 am	12/06/2018 8:30 am	Bldg North Chevy Chase ES Floor First Room CR	< 0.4
2404260	3927960	12/03/2018 9:51 am	12/06/2018 8:31 am	Bldg North Chevy Chase ES Flr First Rm Studio	0.4
2404261	3927959	12/03/2018 9:52 am	12/06/2018 8:32 am	Bldg North Chevy Chase ES Flr First Rm Media O	0.6

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/09/2018 Date Reported: 12/21/2018

Report Reviewed By: _____ Report Approved By: _____

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey
North Chevy Chase ES
3700 Jones Bridge Road
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
2404262	3927958	12/03/2018	9:53 am	12/06/2018	8:32 am	Bldg North Chevy Chase ES Flr First Rm Media O	0.8
2404263	3927954	12/03/2018	9:54 am	12/06/2018	8:33 am	Bldg North Chevy Chase ES Flr First Rm Media C	0.8
2404264	3927957	12/03/2018	9:54 am	12/06/2018	8:33 am	Bldg North Chevy Chase ES Flr First Rm Media C	0.6
2404265	3927956	12/03/2018	9:55 am	12/06/2018	8:34 am	Bldg North Chevy Chase ES Flr First Rm Rm 20	0.6
2404266	3927953	12/03/2018	9:56 am	12/06/2018	8:35 am	Bldg North Chevy Chase ES Flr First Rm Rm 22	< 0.4
2404267	3927955	12/03/2018	9:57 am	12/06/2018	8:35 am	Bldg North Chevy Chase ES Floor First Room Rm	< 0.4
2404268	3927952	12/03/2018	9:58 am	12/06/2018	8:36 am	Bldg North Chevy Chase ES Floor First Room Rm	0.8
2404269	3927951	12/03/2018	10:00 am	12/06/2018	8:37 am	Bldg North Chevy Chase ES Floor First Room CR	1.0
2404270	3927917	12/03/2018	10:02 am	12/06/2018	8:38 am	Bldg North Chevy Chase ES Floor First Room CR	1.0
2404271	3927918	12/03/2018	10:04 am	12/06/2018	8:39 am	Bldg North Chevy Chase ES Floor First Room CR	0.7
2404272	3927919	12/03/2018	10:06 am	12/06/2018	8:40 am	Bldg North Chevy Chase ES Floor First Room CR	1.3

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/09/2018 Date Reported: 12/21/2018

Report Reviewed By: _____ Report Approved By: _____

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey
North Chevy Chase ES
3700 Jones Bridge Road
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
2404273	3927920	12/03/2018	10:08 am	12/06/2018	8:42 am	Bldg North Chevy Chase ES Floor First Room CR	0.7
2404274	3927915	12/03/2018	10:08 am	12/06/2018	8:42 am	Bldg North Chevy Chase ES Floor First Room CR	0.6
2404275	3927916	12/03/2018	10:10 am	12/06/2018	8:45 am	Bldg North Chevy Chase ES Flr First Rm Bldg Sv	< 0.4
2404276	3927913	12/03/2018	10:12 am	12/06/2018	8:46 am	Bldg North Chevy Chase ES Flr First Rm Staff Off	< 0.4
2404277	3927914	12/03/2018	10:14 am	12/06/2018	8:46 am	Bldg North Chevy Chase ES Floor First Room ES	0.4
2404278	3927912	12/03/2018	10:16 am	12/06/2018	8:47 am	Bldg North Chevy Chase ES Flr First Rm Kitchen	0.9
2404279	3927911	12/03/2018	10:18 am	12/06/2018	8:48 am	Bldg North Chevy Chase ES Flr First Rm Staff Lo	0.6
2404280	3927879	12/03/2018	10:18 am	12/06/2018	8:48 am	Bldg North Chevy Chase ES Flr First Rm Staff Lo	0.6
2404281	3927880	12/03/2018	10:26 am	12/06/2018	8:51 am	Bldg North Chevy Chase ES Floor First Room CR	0.7
2404282	3927877	12/03/2018	10:26 am	12/06/2018	8:51 am	Bldg North Chevy Chase ES Floor First Room CR	1.0
2404283	3927878	12/03/2018	10:28 am	12/06/2018	8:52 am	Bldg North Chevy Chase ES Floor First Room CR	0.6

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/09/2018 Date Reported: 12/21/2018

Report Reviewed By: _____ Report Approved By: _____

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey
North Chevy Chase ES
3700 Jones Bridge Road
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
2404284	3927875	12/03/2018	10:29 am	12/06/2018	8:53 am	Bldg North Chevy Chase ES Floor First Room CR	0.9
2404285	3927876	12/03/2018	10:30 am	12/06/2018	8:54 am	Bldg North Chevy Chase ES Floor First Room CR	1.3
2404286	3927874	12/03/2018	10:31 am	12/06/2018	8:55 am	Bldg North Chevy Chase ES Flr First Rm PE Off	0.9
2404287	3927871	12/03/2018	10:32 am	12/06/2018	8:57 am	Bldg North Chevy Chase ES Floor First Room Gy	0.8
2404288	3927873	12/03/2018	10:34 am	12/06/2018	8:57 am	Bldg North Chevy Chase ES Floor First Room Gy	0.9
2404289	3927872	12/03/2018	10:35 am	12/06/2018	8:58 am	Bldg North Chevy Chase ES Flr First Rm CR104	< 0.4
2404290	3927908	12/03/2018	10:37 am	12/06/2018	9:00 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404291	3927909	12/03/2018	10:39 am	12/06/2018	9:01 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404292	3927910	12/03/2018	10:41 am	12/06/2018	9:01 am	Bldg North Chevy Chase ES Flr First Rm CR103	< 0.4
2404293	3927904	12/03/2018	10:42 am	12/06/2018	9:02 am	Bldg North Chevy Chase ES Flr First Rm CR105	< 0.4
2404294	3927906	12/03/2018	10:43 am	12/06/2018	9:02 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/09/2018 Date Reported: 12/21/2018

Report Reviewed By: _____ Report Approved By: _____

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

MCPS Radon Survey
North Chevy Chase ES
3700 Jones Bridge Road
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
2404295	3927905	12/03/2018	10:43 am	12/06/2018	9:03 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404296	3927907	12/03/2018	10:44 am	12/06/2018	9:04 am	Bldg North Chevy Chase ES Flr First Rm CR107	< 0.4
2404297	3927903	12/03/2018	10:44 am	12/06/2018	9:04 am	Bldg North Chevy Chase ES Flr First Rm CR107	< 0.4
2404298	3927902	12/03/2018	10:45 am	12/06/2018	9:05 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404299	3927901	12/03/2018	10:46 am	12/06/2018	9:05 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404300	3927900	12/03/2018	10:48 am	12/06/2018	9:06 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404301	3927898	12/03/2018	10:48 am	12/06/2018	9:06 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404302	3927899	12/03/2018	10:50 am	12/06/2018	9:07 am	Bldg North Chevy Chase ES Floor First Room 11	< 0.4
2404303	3927897	12/03/2018	10:51 am	12/06/2018	9:10 am	Bldg North Chevy Chase ES Flr Second Rm AR2	< 0.4
2404304	3927895	12/03/2018	10:52 am	12/06/2018	9:11 am	Bldg North Chevy Chase ES Flr Second Rm AR2	< 0.4
2404305	3927894	12/03/2018	10:54 am	12/06/2018	9:12 am	Bldg North Chevy Chase ES Flr Second Rm AR2	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/09/2018 Date Reported: 12/21/2018

Report Reviewed By: Report Approved By:

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Professional Radon Laboratory Services Since 1984

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

Laboratory Report for:

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

Property Tested: Project # 04481387-1

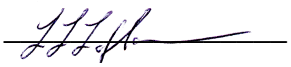
MCPS Radon Survey
North Chevy Chase ES
3700 Jones Bridge Road
Chevy Chase MD 20815 USA

Log Number	Device Number	Test Exposure Duration:				Area Tested	Result pCi/L
2404306	3928060	12/03/2018	9:30 am	12/06/2018	9:12 am	Bldg North Chevy Chase ES Flr NA Rm Field Bla	< 0.4
2404307	3928051	12/03/2018	9:30 am	12/06/2018	9:12 am	Bldg North Chevy Chase ES Flr NA Rm Field Bla	< 0.4
2404308	3926362	12/03/2018	9:30 am	12/06/2018	9:12 am	Bldg North Chevy Chase ES Flr NA Rm Field Bla	< 0.4
2404309	3926367	12/03/2018	9:30 am	12/06/2018	9:12 am	Bldg North Chevy Chase ES Flr NA Rm Transit Bl	Invalid
2404310	3926370	12/03/2018	6:00 am	12/06/2018	6:00 pm	Bldg North Chevy Chase ES Flr NA Rm Office Bla	< 0.4

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/09/2018 Date Reported: 12/21/2018

Report Reviewed By: 

Report Approved By: 

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Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 101193 AL
NRSB ARL0017

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

Laboratory Report for:

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

Property Tested: Project # 04481387-1
MCPS Radon Survey
North Chevy Chase ES
3700 Jones Bridge Road
Bethesda MD 20815

Log Number	Device Number	Area Tested	Result pCi/L
2403709	3881190	Bldg North Chevy Chase ES Floor First Room APR	0.4

Radon test results are below the EPA action level of 4 pCi/L. The EPA suggests that you may want to test again in the future to ensure that radon levels remain below the action level. If the property tested uses water from a private well, you may wish to consider testing for radon in water.

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

Distributed by: Intertek-PSI (VA)

Test Began:	12/03/2018 10:20 am	Date Received:	12/10/2018	Date Analyzed:	12/08/2018
Test Ended:	12/06/2018 8:49 am	Date Logged:	12/10/2018	Date Reported:	12/21/2018

Test Exposure Duration: 70.5 Hours

Report Reviewed By: _____ Report Approved By: _____

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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Professional Radon Laboratory Services Since 1984

Radon in Air

NRPP 105011 AL
NRSB ARL0007
Ohio RL41

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

Laboratory Report for:

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

Property Tested:

MCPS Radon Survey
4514 Taylorsville Road
Dayton OH 45424

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

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

Test Performed By: Unknown

Distributed by: Intertek-PSI (VA)

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

Report Reviewed By: _____ Report Approved By: _____

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Intertek - PSI Job Number 187732

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

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

Time Start: 0947 Time Stop: 0947

Device No.'s: (10) Char. Cans- 3926831 thru 3926840

G2 Left

Date Start: Date Stop:

Time Start: Time Stop:

Device No.'s:

Date Start: Date Stop:

Time Start: Time Stop:

Device No.'s:

Date Start: Date Stop:

Time Start: Time Stop:

Device No.'s:

Date Start: Date Stop:

Time Start: Time Stop:

Device No.'s:

Date Start: Date Stop:

Time Start: Time Stop:

Device No.'s:

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

intertek
psi

Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

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

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

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

RADON SCREENING SURVEY – FOLLOW-UP NORTH CHEVY CHASE ELEMENTARY SCHOOL

3700 Jones Bridge Road, Chevy Chase, Maryland 20815

EXECUTIVE SUMMARY

Date of Test Report:	3/7/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	4
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7
Confirmed Rooms ≥ 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events ≥ 4.0 pCi/L

Room	Result (pCi/L) 3/3/16 (Rev 1) Initial	Result (pCi/L) 3/7/16 Follow-Up	Average Result (pCi/L)
32	5.0	1.7	3.4
MAIN OFFICE	1.6 (tampered)	0.8	1.2
Principal's Office	missing	0.6	0.6
MPR	missing	1.4 (tampered)	1.4

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/7/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	4
# Rooms ≥ 4.0 pCi/L:	0
Low Value:	0.6
High Value:	1.7

Project Status:
Retesting completed; use the average of the initial and re-test results in a room to determine if remediation is necessary.
Retesting completed; missing or compromised samples need re-test.

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 7, 2016

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

Re: **Radon Testing Services**
KCI Job # 12146341.28

Location: North Chevy Chase Elementary School
3700 Jones Bridge Road
Chevy Chase, MD 20815

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (subject site).

Scope of Services:

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

KCI visited the site on February 8, 2016 and deployed six (6) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on February 11, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65° F.

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 8 testing. Office blanks were not submitted under each school individually.

Radon Testing Results		
North Chevy Chase Elementary School		
Test Period: 02/08/16-02/11/16		
Kit Number	**Room / Area**	**Result**
7730299	32	1.7
7730295	MAIN OFFICE	0.8
7730297	* MPR (tampered)	1.4
7730296	PRINC OFF	0.6

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
North Chevy Chase Elementary School		
Test Period: 02/08/16-02/11/16		
Kit Number	**QC Type**	**Result**
7730298	* D (MPR:tampered)	1.3
7730300	FB (32)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 25, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

NORTH CHEVY CHASE ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7730299	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.7 ± 0.4	2016-02-15
7730300	32	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	< 0.3	2016-02-15
7730295	MAIN OFFICE	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.8 ± 0.3	2016-02-15
7730297	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.4 ± 0.4	2016-02-15
7730298	MPR	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	1.3 ± 0.3	2016-02-15
7730296	PRINC OFF	2016-02-08 @ 10:00 am	2016-02-11 @ 9:00 am	0.6 ± 0.3	2016-02-15

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

February 25, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

MCPS RADON
PHASE 8
OFFICE BLANKS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7729754	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729757	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15
7729758	0	2016-02-08 @ 4:00 pm	2016-02-11 @ 5:00 pm	< 0.3	2016-02-15

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

February 23, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT- PHASE 7, 8, 9
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7734937	1	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734946	10	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734955	11	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734956	12	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734959	13	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734930	14	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734953	15	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734954	16	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734940	17	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734949	18	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734948	19	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734939	2	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734942	20	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734929	21	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734933	22	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734934	23	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734936	24	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734943	25	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734944	26	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734935	27	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734928	28	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734952	29	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734947	3	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734931	30	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734932	31	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718520	32	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718523	33	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718522	34	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7718521	35	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734945	4	2016-02-19 @ 3:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734960	5	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734958	6	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734951	7	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734957	8	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23
7734938	9	2016-02-19 @ 4:00 pm	2016-02-22 @ 11:00 am	< 0.3	2016-02-23

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

February 15, 2016

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7718273	101A	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04
7718281	102B	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.4 ± 0.6	2016-02-04
7718282	103C	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.3 ± 0.6	2016-02-04
7718288	104D	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.7 ± 0.6	2016-02-04
7718289	105E	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.6 ± 0.6	2016-02-04
7718291	106F	2016-01-30 @ 9:00 am	2016-02-01 @ 9:00 am	6.5 ± 0.6	2016-02-04

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

NOMINAL Conditions: Radon Conc 5.9 pCi/L Rel. Hum 45.9 % Temp. 79.0 F

Date Start: 1/30/16 Date Stop: 2/1/16	Date Start: _____ Date Stop: _____
Time Start: 0926 Time Stop: 0926	Time Start: _____ Time Stop: _____
Device No.'s: (6) Char. Bags -	Device No.'s: _____
7718281, 7718282, 7718291,	_____
7718288, 7718289, 7718273	_____
E3 Left	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
_____	_____
_____	_____
_____	_____

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

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 Phase 8

Name of Schools:

1. Blair G. Ewing Center
2. Cedar Grove ES
3. Clarksburg ES
4. Cloverly ES
5. Cold Spring ES
6. Damascus ES
7. Dufief ES
8. East Silver Spring
9. Georgian Forest ES
10. Germantown ES
11. Glenallen ES
12. Jackson Road ES
13. Jones Lane ES
14. Lake Seneca ES
15. Laytonsville ES
16. Montgomery Knolls ES
17. North Chevy Chase ES
18. Oakview ES
19. Randolph Maint
20. Robert Frost MS
21. Shady Grove Maint
22. Viers Mill ES

	Date	Initials
Radon Test Kits Deployed	2/8/16	JM
Radon Test Kits Collected	2/11/16	JM
Radon Test Kits Shipped to Lab*	12/11/16	JM
Radon Test Kits Received by Lab*	12/15/16	JM

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

MCPS RADON TESTING

Executive Summary: North Chevy Chase Elementary School

Date of Test Report:	3/3/2016 (Rev 1)
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	50
# Rooms ≥ 4.0 pCi/L:	1
Low Value:	< 0.3
High Value:	5.0

Rooms with results ≥ 4.0 pCi/L:
Room CR32 (5.0 pCi/L)

Project Status:
Initial testing completed; re-test needed for results ≥ 4.0 pCi/L.
Initial testing completed; missing or compromised samples need re-test.

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

March 3, 2016 (Rev 1)

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

Re: **Radon Testing Services**
KCI Job # 12146341.20

Location: North Chevy Chase Elementary School
3700 Jones Bridge Road
Chevy Chase, MD 20815

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a "short-term" 3 day radon test for the North Chevy Chase Elementary School, located at 3700 Jones Bridge Road in Chevy Chase, Maryland 20815 (subject site).

Scope of Services:

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

KCI visited the site on December 21, 2015 and deployed sixty (60) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on December 24, 2015 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages ≤ 65° F.

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

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

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

Results:

The results of the radon test analysis indicated the following:

Radon Concentration	Room	Result
≥4.0 piC/L	CR32	5.0
<4.0 piC/L	See Attachment B	

Notes:
D- Duplicate sample

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

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

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

Sincerely,

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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

Radon Testing Results		
North Chevy Chase E.S		
Test Period: 12/21/15-12/24/15		
Kit Number	**Room / Area**	**Result**
7712046	112	1.8
7712042	114	2.0
7712058	205	1.8
7712052	110A	2.0
7712038	118A	2.3
7712041	118B	2.5
7712049	118C	3.0
7712055	118D	2.7
7712039	BLDG SER	1.5
7712032	CF21	1.7
7712002	CONF RM	1.8
7712012	COUNSELOR RM	1.2
7712013	CR10	1.4
7712043	CR103	2.2
7712047	CR104	1.2
7712051	CR105	2.5
7712037	CR107	2.5
7712016	CR12	1.4
7712017	CR13	1.2
7712001	CR14	1.4
7712019	CR15	1.1
7712015	CR16	1.9
7712020	CR17	0.8
7712024	CR18	0.7
7712021	CR20	1.1
7712028	CR22	1.2
7712031	CR23	2.1
7712025	CR24	1.9
7712029	CR25	1.6
7712027	CR26	1.8
7712026	CR27	1.3
7712050	CR31	< 0.3
7712045	CR32	5.0
7712054	CR33	1.0
7712059	CR34	2.0
7712009	DEVEL TEACH OFF	2.9
7712053	GYM	< 0.3
7712070	GYM	0.6
7712057	GYM OFF	1.4
7712008	HEALTH RM	1.8
7712004	* MAIN OFF (tampered)	1.6
7712018	MEDIA CTR	1.3
7712022	MEDIA CTR	1.2
7712011	MEDIA CTR OFF	1.3
7712033	* MPR (missing)	-
7712014	PHONE ROOM	1.8

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
North Chevy Chase E.S		
Test Period: 12/21/15-12/24/15		
Kit Number	**Room / Area**	**Result**
7712003	* PRINC OFF (missing)	-
7712034	SLOUNGE	0.9
7712036	SOFF1	0.8
7712030	SOFF2	1.2
7712005	SPEECH OFF	2.1
7712007	STAFF WORK	1.8

Table Note:
* Missing or Compromised Sample

Radon Testing Results		
North Chevy Chase E.S		
Test Period: 12/21/15-12/24/15		
Kit Number	**QC Type**	**Result**
7712056	D (118C)	2.5
7712035	D (BLDG SER)	1.4
7712006	D (CONF RM)	2.1
7712023	D (MEDIA CTR)	1.7
7712044	* D (MPR:missing)	-
7712010	FB (PHONE RM)	< 0.3
7712040	FB (SOFF2)	< 0.3
7712192	OB (0)	< 0.3

Table Note:
* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

January 14, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

NORTH CHEVY CHASE E.S
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712192	00	2015-12-21 @ 6:00 pm	2015-12-24 @ 2:00 pm	< 0.3	2015-12-29
7712052	110A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712046	112	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712042	114	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.0 ± 0.4	2015-12-29
7712038	118A	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.3 ± 0.4	2015-12-29
7712041	118B	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712049	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	3.0 ± 0.5	2015-12-29
7712056	118C	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712055	118D	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.7 ± 0.4	2015-12-29
7712058	205	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712035	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712039	BLDG SER	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.5 ± 0.4	2015-12-29
7712032	CF21	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.7 ± 0.4	2015-12-29
7712002	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712006	CONF RM	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	2.1 ± 0.4	2015-12-29
7712012	COUNSELOR RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712013	CR10	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712043	CR103	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.2 ± 0.4	2015-12-29
7712047	CR104	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712051	CR105	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712037	CR107	2015-12-21 @ 12:00 pm	2015-12-24 @ 9:00 am	2.5 ± 0.4	2015-12-29
7712016	CR12	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712017	CR13	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712001	CR14	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.4 ± 0.4	2015-12-29
7712019	CR15	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.4	2015-12-29
7712015	CR16	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712020	CR17	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712024	CR18	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	0.7 ± 0.3	2015-12-29
7712021	CR20	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.1 ± 0.3	2015-12-29
7712028	CR22	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712031	CR23	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712025	CR24	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.9 ± 0.4	2015-12-29
7712029	CR25	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.6 ± 0.4	2015-12-29
7712027	CR26	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712026	CR27	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712050	CR31	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712045	CR32	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	5.0 ± 0.6	2015-12-29

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

January 14, 2016

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

NORTH CHEVY CHASE E.S
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7712054	CR33	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.0 ± 0.3	2015-12-29
7712059	CR34	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	2.0 ± 0.4	2015-12-29
7712009	DEVEL TEACH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.9 ± 0.5	2015-12-29
7712053	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	< 0.3	2015-12-29
7712070	GYM	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	0.6 ± 0.3	2015-12-29
7712057	GYM OFF	2015-12-21 @ 12:00 pm	2015-12-24 @ 10:00 am	1.4 ± 0.4	2015-12-29
7712008	HEALTH RM	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29
7712004	MAIN OFF	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.6 ± 0.4	2015-12-29
7712022	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.2 ± 0.4	2015-12-29
7712023	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.7 ± 0.4	2015-12-29
7712018	MEDIA CTR	2015-12-21 @ 10:00 am	2015-12-24 @ 8:00 am	1.3 ± 0.4	2015-12-29
7712011	MEDIA CTR OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.3 ± 0.4	2015-12-29
7712033	MPR	@	@		
7712044	MPR	@	@		
7712010	PHONE RM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712014	PHONE ROOM	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	1.8 ± 0.4	2015-12-29
7712003	PRINC OFF	@	@		
7712034	SLOUNGE	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.9 ± 0.4	2015-12-29
7712036	SOFF1	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	0.8 ± 0.3	2015-12-29
7712030	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	1.2 ± 0.4	2015-12-29
7712040	SOFF2	2015-12-21 @ 11:00 am	2015-12-24 @ 9:00 am	< 0.3	2015-12-29
7712005	SPEECH OFF	2015-12-21 @ 10:00 am	2015-12-24 @ 9:00 am	2.1 ± 0.4	2015-12-29
7712007	STAFF WORK	2015-12-21 @ 9:00 am	2015-12-24 @ 8:00 am	1.8 ± 0.4	2015-12-29

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

December 29, 2015

** LABORATORY ANALYSIS REPORT **

Radon test result report for:

TRANSIT DEC 14 2015
NONE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7704395	TRANSIT 1	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706508	TRANSIT 10	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706510	TRANSIT 11	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706511	TRANSIT 12	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706505	TRANSIT 13	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704371	TRANSIT 14	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706506	TRANSIT 15	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704381	TRANSIT 16	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704399	TRANSIT 17	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704390	TRANSIT 18	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704396	TRANSIT 2	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704364	TRANSIT 3	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704370	TRANSIT 4	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7704368	TRANSIT 5	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706524	TRANSIT 6	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706526	TRANSIT 7	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706518	TRANSIT 8	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16
7706516	TRANSIT 9	2015-12-13 @ 10:00 am	2015-12-15 @ 10:00 am	< 0.3	2015-12-16

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

December 23, 2015

** LABORATORY ANALYSIS REPORT **

Spike Sample Laboratory Results

Radon test result report for:

MCPS

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 173224

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

Date Start: 12/18/15 Date Stop: 12/21/15	Date Start: _____ Date Stop: _____
Time Start: 0929 Time Stop: 0929	Time Start: _____ Time Stop: _____
Device No.'s: 7705132, 7706208, 7706211, 7706366, 7706380, 7706381 F3 Left	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____
Date Start: _____ Date Stop: _____	Date Start: _____ Date Stop: _____
Time Start: _____ Time Stop: _____	Time Start: _____ Time Stop: _____
Device No.'s: _____	Device No.'s: _____

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

KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

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

Chain of Custody

Project Name: MCPS Radon Phase II

School Names:

1. Bannonckburn ES
2. Walt Whitman HS
3. Walter Johnson HS
4. North Chevy Chase ES
5. Piney Branch ES
6. Forest Knolls ES
7. Newport Mill MS
8. Broad Acres ES
9. Briggs Chaney MS
10. Blair G. Ewing Center
11. Sherwood HS
12. Hadley Farms
13. S. Christa McAuliffe ES
14. Ronald A. McNair ES
15. MLK MS
16. Ashburton ES
17. Bradley Hills ES
18. Flora M. Singer ES
19. Woodlin ES
20. Montgomery Knolls ES
21. Fairland ES
22. Cannon Road ES
23. Richard Montgomery HS
24. Brooke Grove ES
25. Belmont ES
26. Emory Grove
27. Clarksburg HS
28. Clarksburg ES
29. John T. Baker MS

	Date	Initials
Radon Test Kits Deployed	12/21/2015	
Radon Test Kits Collected	12/24/2015	
Radon Test Kits Shipped to Lab*	12/24/2015	
Radon Test Kits Received by Lab*	12/28/2015	

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