Carnow, Conibear & Assoc., Ltd.
Environmental Consulting Services
600 W. Van Buren St., Suite 500, Chicago, IL 60607
t: 312.782.4486 f: 312.782.5145
www.ccaltd.com

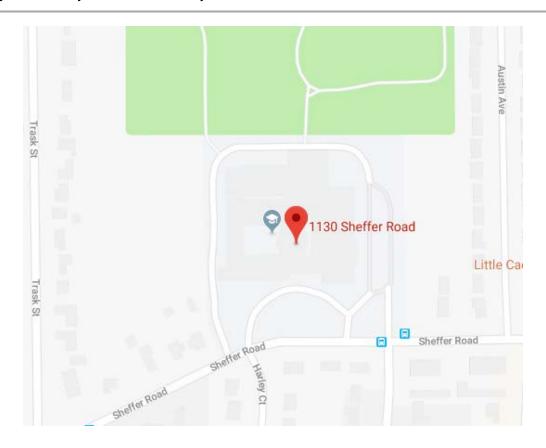


Radon Measurement Survey Report

Site:

Simmons Middle School 1130 Sheffer Road Aurora, Illinois 60505

Survey Dates: May 16, 2018 thru May 18, 2018



Prepared For:

East Aurora School District 131 417 Fifth Street Aurora, Illinois 60505

Carnow Conibear Project No. A146000137

Carnow, Conibear & Assoc., Ltd.
Environmental Consulting Services
600 W. Van Buren St., Suite 500, Chicago, IL 60607
t: 312.782.4486 f: 312.782.5145
www.ccaltd.com



Radon Measurement Survey Report

Site:

Simmons Middle School 1130 Sheffer Road Aurora, Illinois 60505

Surveyed by:

Nicole Bennett

Micole Bennett

Nicole Bennett

Radon Measurement Professional

Report by:

Nicole Bennett

Radon Measurement Professional

Reviewed by:

Derek Lantry

Director, Technical Services

Report Issued: July 3, 2018

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	1
2.0	BACKGROUND	2
3.0	SCOPE OF WORK	3
4.0	METHODOLOGY	4
5.0	SUMMARY OF RESULTS	. 5
6.0	CONCLUSIONS	7
7.0	LIMITATIONS AND CONDITIONS	8

APPENDICES

Appendix A Floor Plans – Radon Sampling Locations
Appendix B Laboratory Analysis Report
Appendix C Radon Measurement Professional License

1.0 EXECUTIVE SUMMARY

Carnow, Conibear, & Assoc., Ltd. (Carnow Conibear) was contracted by East Aurora School District 131 to perform a radon measurement survey at the Simmons Middle School located at 1130 Sheffer Road in Aurora, Illinois. The survey was initiated on May 16, 2018 and completed on May 18, 2018 by Nicole Bennett, an Illinois Emergency Management Agency (IEMA) licensed Radon Measurement Professional (License No. RNI2016213). The scope of work included short term (two to four day) radon measurements in frequently occupied rooms with substantial ground contact. The radon sampling was performed following IEMA and the United States Environmental Protection Agency (USEPA) testing protocols for commercial and school radon measurements, the radon device manufacturer's recommendations, and Carnow Conibear's Quality Assurance Plan.

A total of one hundred thirty-three (133) radon test devices were deployed including one hundred sixteen (116) single devices, eleven (11) duplicates, and six (6) blanks. Activated radon charcoal devices manufactured by Air Chek Inc. were utilized during the radon survey. The activated charcoal devices are passive devices containing activated carbon to measure radon. Testing was initiated on May 16, 2018 and completed on May 18, 2018.

Radon measurement results ranged from less than (<) 0.3 to 2.4 PicoCuries per liter (pCi/L). The radon measurement results indicate areas tested were below the EPA and IEMA recommended action level of 4.0 pCi/L during the time of the test. The average indoor radon concentrations are 1.3 pCi/L nationwide. The average outdoor radon concentration is 0.4 pCi/L.

Based on the radon measurement results Carnow Conibear recommends routine followup radon measurement survey every three (3) years, preferably at different seasonal times of the year. Additional radon testing is recommended if significant changes are made to the building's structural or mechanical components.

2.0 BACKGROUND

Radon is a naturally occurring, radioactive, colorless, odorless, tasteless gas produced from the decay of uranium and radium found in most soil and rock. Natural soils and rock such as granites, shales, and corals, contaminated soils from uranium processing mills, contaminated building materials, and groundwater water supplies directly from wells are a few common sources of radon. Radon can be found at some level in all indoor and outdoor air. Unlike most airborne contaminants radon is chemically inert, or chemically inactive. As a result, it is not chemically bound or attached to other materials and can move easily through porous materials or void space.

Typically, most radon gas is generated from the surrounding soil or bedrock, pulled through the soil or rock by air pressure differentials and enters the structure. However, radon gas can come from water, outside air, or contaminated building materials. The strength of the radon source has the biggest impact on indoor radon concentrations. The route of entry (i.e. through holes in the foundation), the building's ventilation rate, foundation type and differences in soils beneath the building can affect the indoor radon concentrations.

The primary health effect attributed to radon exposure is lung cancer. The World Health Organization (WHO), the National Academy of Sciences, the US Department of Health and Human Services, and the EPA classify radon as known human carcinogen. The EPA states radon is the largest source of radiation exposure and risk to the general public. When radon and products of radon decay are inhaled, decay can occur while in contact with the lung prior to being expelled. Because radon is chemically inert, most inhaled radon is rapidly exhaled. However, the inhaled decay products are readily deposited in the lungs, release energy in the form of radiation causing lung tissue damage and consequently increase the risk of lung cancer.

Radon concentrations in air are commonly expressed in picoCuries per liter (pCi/L) in the United States. An EPA national residential radon survey completed in 1991, determined the average indoor radon level is 1.3 pCi/L and the average outdoor level is about 0.4 pCi/L. The National Academy of Sciences' (NAS) latest report on radon, the Biological Effects of Ionizing Radiation (BEIR) VI Report (1999) estimates radon in indoor air causes about 21,000 lung cancer deaths each year in the United States. The EPA states that any level of radon carries some risk, there are no safe levels, and has established an action level of 4.0 pCi/L.

3.0 SCOPE OF WORK

Carnow, Conibear was contracted by East Aurora School District 131 to perform a radon survey at the Simmons Middle School located at 1130 Sheffer Road in Aurora, Illinois.

The scope of work included short term radon measurements in frequently occupied rooms with substantial ground contact. The duration of short term measurements can range from two (2) to four (4) days. Prior to placement of the radon measurement devices a Quality Assurance Project Plan (QAPP) was developed and general observations were performed to verify test conditions, identify device placement locations, and determine structural and mechanical building components. The QAPP was created to document and describe the necessary quality assurance procedures, quality control activities, and provide a clear, concise, and complete plan for the radon measurement operations. Observations of test conditions verified closed building conditions were maintained at a minimum of twelve (12) hours prior to testing and throughout the measurement period. Closed building conditions are necessary for short term radon measurements in order to stabilize the radon and radon decay product concentrations and increase the reproducibility of the measurement. Closed building conditions require windows and exterior doors on all levels be kept closed (except for normal entry and exit) during the measurement period. Closed building conditions also require the normal operation of heating, ventilating, and air conditions systems.

Radon test devices were deployed in one hundred sixteen (116) locations. In addition, eleven (11) duplicates, and six (6) blanks, were utilized to measure precision and bias, and ensure quality data. Radon test devices were documented in a permanent log noting the address of the building measured, a diagram of the test area noting the exact locations of all measurement devices deployed, exact start and stop times of the measurement period, a description of the device used and serial number, and the name and IEMA license number of the Radon Measurement Professional. At the end of the measurement period the radon test devices were retrieved, resealed, and mailed to the laboratory for analysis.

The radon measurement results are reported in picoCurie per liter. A picoCurie per liter is 2.22 atomic radon disintegrations per minute for each liter of air. The results of the radon measurements are interpreted to determine the need for additional testing and assess the quality and confidence of the measurement data. Typically, follow-up measurements will be recommended in every room with results greater than 4.0 pCi/L. The recommendation to mitigate elevated levels of radon shall not be based on the initial measurement results.

4.0 METHODOLOGY

The radon testing was performed following requirements set forth by the IEMA, USEPA, and Carnow Conibear's Quality Assurance Plan. The radon measurement survey consisted of several phases. The initial phase consisted of preliminary testing protocol, including an explanation of services, instructions to comply with closed building conditions, the development of the Quality Assurance Project Plan, and determination of the testing period. Next, general observations of the building were performed to verify test conditions, identify device placement locations, and determine structural and mechanical building components.

The measurement phase included the radon testing device placement and retrieval. Activated radon charcoal devices manufactured by Air Chek Inc. were utilized during this radon survey. The activated charcoal devices are passive devices containing activated carbon to measure radon. Radon test devices were placed in such a way to limit unintentional interference from building occupants. The measurement devices were placed at least three feet from doors, windows to the outside, at least one foot from exterior walls, at least four feet from heat sources, out of the direct flow of ventilation ducts and sunlight, and suspended in the general breathing zone. Duplicate tests were conducted for a minimum of 10% of the total radon test devices deployed to measure precision. Field blanks were submitted for a minimum of 5% of the total number of radon test devices deployed to measure background gamma radiation. Spike tests were submitted for this survey and are submitted for a minimum of three per 100 radon test devices or a minimum of three per year to measure laboratory accuracy. A total of one hundred thirty-three (133) radon test devices were deployed including one hundred sixteen (116) single devices, eleven (11) duplicates, and six (6) blanks. At the end of the measurement period the radon measurement devices were retrieved, resealed, and shipped overnight to Air Chek Inc. for analysis. Air Chek Inc. calculates the radon concentration after measuring the gamma activity by the radon decay products produced from the random decay of the collected radon. The final phase consisted of interpreting the results and an assessment of the quality and confidence of the measurement data.

5.0 SUMMARY OF RESULTS

Table 1.0 Radon Measurement Device Results identify all the radon measurement devices deployed and the reported radon results. The radon measurement results are reported in picoCurie per liter (pCi/L).

Radon measurement results were below 4.0pCi/L. The radon measurement results indicate areas tested were below the EPA and IEMA recommended action level of 4.0 pCi/L during the time of the test. No radon mitigation systems were observed in the building. Additionally, the following testing abnormalities were noted during the radon measurement interval:

- The device (serial #9051137) placed in Classroom 135 was missing at the time of retrieval
- The device (serial #9051172) placed in Classroom 665 was missing at the time of retrieval

Device Location	Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Result (pCi/L)	Comments
MPR 1 Cafeteria	9051112	5/16/2018	6:05 PM	5/18/2018	6:10 PM	< 0.3	
MPR 1 Cafeteria	9051113	5/16/2018	6:06 PM	5/18/2018	6:11 PM	< 0.3	
MPR 1A Closet	9051114	5/16/2018	6:07 PM	5/18/2018	6:11 PM	< 0.3	
367 (363) Teachers' Lounge	9051115	5/16/2018	6:09 PM	5/18/2018	6:11 PM	< 0.3	
7E	9051116	5/16/2018	6:11 PM	5/18/2018	6:12 PM	0.7	
7E	9051117	5/16/2018	6:11 PM	5/18/2018	6:12 PM	0.8	Duplicate RPD = 13.3%
97G	9051118	5/16/2018	6:12 PM	5/18/2018	6:13 PM	1.1	
97F	9051119	5/16/2018	6:13 PM	5/18/2018	6:13 PM	0.8	
Storage Next to 7E	9051120	5/16/2018	6:14 PM	5/18/2018	6:14 PM	1.0	
7D	9051121	5/16/2018	6:15 PM	5/18/2018	6:17 PM	0.8	
7 (7C)	9051122	5/16/2018	6:16 PM	5/18/2018	6:18 PM	0.8	
Closet Near 7D	9051123	5/16/2018	6:17 PM	5/18/2018	6:18 PM	0.7	
7A Nurse	9051124	5/16/2018	6:19 PM	5/18/2018	6:21 PM	0.8	
7B	9051125	5/16/2018	6:20 PM	5/18/2018	6:22 PM	1.0	
7F	9051126	5/16/2018	6:21 PM	5/18/2018	6:23 PM	0.8	
107C	9051127	5/16/2018	6:22 PM	5/18/2018	6:23 PM	< 0.3	
107B	9051128	5/16/2018	6:23 PM	5/18/2018	6:24 PM	< 0.3	
107B	9051129	5/16/2018	6:23 PM	5/18/2018	6:24 PM	< 0.3	Duplicate RPD = 0.0%
107A	9051130	5/16/2018	6:24 PM	5/18/2018	6:25 PM	< 0.3	
Classroom 105	9051131	5/16/2018	6:26 PM	5/18/2018	6:35 PM	< 0.3	
Classroom 110	9051132	5/16/2018	6:27 PM	5/18/2018	6:36 PM	< 0.3	

Device Location	Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Result (pCi/L)	Comments
Classroom 115	9051133	5/16/2018	6:29 PM	5/18/2018	6:36 PM	< 0.3	
Classroom 120	9051134	5/16/2018	6:30 PM	5/18/2018	6:37 PM	< 0.3	
Classroom 125	9051135	5/16/2018	6:31 PM	5/18/2018	6:38 PM	< 0.3	
Classroom 130	9051136	5/16/2018	6:33 PM	5/18/2018	6:38 PM	< 0.3	
Classroom 135	9051137	5/16/2018	6:34 PM	5/18/2018			Device Missing
Classroom 140	9051138	5/16/2018	6:34 PM	5/18/2018	6:39 PM	< 0.3	
Classroom 145	9051139	5/16/2018	6:35 PM	5/18/2018	6:40 PM	< 0.3	
Classroom 145	9051140	5/16/2018	6:36 PM	5/18/2018	6:40 PM	< 0.3	Duplicate RPD = 0.0%
200	9051141	5/16/2018	6:37 PM	5/18/2018	6:44 PM	< 0.3	
200A	9051142	5/16/2018	6:40 PM	5/18/2018	6:44 PM	< 0.3	
205	9051143	5/16/2018	6:41 PM	5/18/2018	6:44 PM	< 0.3	
205A	9051144	5/16/2018	6:42 PM	5/18/2018	6:45 PM	0.6	
Classroom 210	9051145	5/16/2018	6:43 PM	5/18/2018	6:45 PM	< 0.3	
210A Closet	9051146	5/16/2018	6:44 PM	5/18/2018	6:45 PM	< 0.3	
Classroom 215	9051147	5/16/2018	6:45 PM	5/18/2018	6:46 PM	< 0.3	
215/220 Closet	9051148	5/16/2018	6:47 PM	5/18/2018	6:48 PM	< 0.3	
Classroom 220	9051149	5/16/2018	6:48 PM	5/18/2018	6:48 PM	< 0.3	
Classroom 220	9051150	5/16/2018	6:48 PM	5/18/2018	6:48 PM	< 0.3	Duplicate RPD = 0.0%
Classroom 225	9051151	5/16/2018	6:50 PM	5/18/2018	6:51 PM	< 0.3	
225A Closet	9051152	5/16/2018	6:51 PM	5/18/2018	6:51 PM	< 0.3	
Room 227	9051153	5/16/2018	6:52 PM	5/18/2018	6:52 PM	< 0.3	
Classroom 230	9051154	5/16/2018	6:53 PM	5/18/2018	6:53 PM	< 0.3	

Device Location	Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Result (pCi/L)	Comments
230A Closet	9051155	5/16/2018	6:55 PM	5/18/2018	6:55 PM	< 0.3	
Storage Across from 230	9051156	5/16/2018	6:56 PM	5/18/2018	6:57 PM	< 0.3	
Janitors Closet across from 235	9051157	5/16/2018	6:57 PM	5/18/2018	6:58 PM	< 0.3	
Classroom 235	9051158	5/16/2018	6:58 PM	5/18/2018	6:59 PM	< 0.3	
Room 237	9051159	5/16/2018	6:59 PM	5/18/2018	7:00 PM	< 0.3	
Classroom 240	9051160	5/16/2018	7:01 PM	5/18/2018	7:01 PM	< 0.3	
Classroom 300	9051161	5/16/2018	7:02 PM	5/18/2018	7:03 PM	< 0.3	
Classroom 305	9051162	5/16/2018	7:03 PM	5/18/2018	7:03 PM	< 0.3	
Classroom 310	9051163	5/16/2018	7:04 PM	5/18/2018	7:04 PM	< 0.3	
Classroom 315	9051164	5/16/2018	7:05 PM	5/18/2018	7:06 PM	< 0.3	
Classroom 315	9051165	5/16/2018	7:05 PM	5/18/2018	7:06 PM	< 0.3	Duplicate RPD = 0.0%
Classroom 320	9051166	5/16/2018	7:06 PM	5/18/2018	7:07 PM	< 0.3	
Classroom 325	9051167	5/16/2018	7:07 PM	5/18/2018	7:08 PM	< 0.3	
Classroom 330	9051168	5/16/2018	7:09 PM	5/18/2018	7:09 PM	< 0.3	
Classroom 335	9051169	5/16/2018	7:10 PM	5/18/2018	7:10 PM	< 0.3	
Classroom 340	9051170	5/16/2018	7:12 PM	5/18/2018	7:12 PM	< 0.3	
Custodian Closet near 665	9051171	5/16/2018	7:13 PM	5/18/2018	7:14 PM	< 0.3	
Classroom 665	9051172	5/16/2018	7:15 PM	5/18/2018			Device Missing
Classroom 670	9051173	5/16/2018	7:16 PM	5/18/2018	7:16 PM	< 0.3	
Classroom 660	9051174	5/16/2018	7:17 PM	5/18/2018	7:17 PM	< 0.3	
Classroom 655	9051175	5/16/2018	7:18 PM	5/18/2018	7:21 PM	< 0.3	
Classroom 655	9051176	5/16/2018	7:18 PM	5/18/2018	7:22 PM	< 0.3	Duplicate RPD = 0.0%

Device Location	Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Result (pCi/L)	Comments
Classroom 650	9051177	5/16/2018	7:19 PM	5/18/2018	7:22 PM	< 0.3	
Classroom 645	9051178	5/16/2018	7:20 PM	5/18/2018	7:22 PM	< 0.3	
Classroom 640	9051179	5/16/2018	7:21 PM	5/18/2018	7:23 PM	< 0.3	
Classroom 635	9051180	5/16/2018	7:22 PM	5/18/2018	7:23 PM	< 0.3	
Classroom 630	9051181	5/16/2018	7:23 PM	5/18/2018	7:23 PM	< 0.3	
Classroom 625	9051182	5/16/2018	7:24 PM	5/18/2018	7:24 PM	< 0.3	
Classroom 615	9051183	5/16/2018	7:26 PM	5/18/2018	7:26 PM	< 0.3	
Classroom 610	9051184	5/16/2018	7:25 PM	5/18/2018	7:26 PM	< 0.3	
Room 600	9051185	5/16/2018	7:26 PM	5/18/2018	7:26 PM	< 0.3	
Room 605	9051186	5/16/2018	7:28 PM	5/18/2018	7:28 PM	< 0.3	
Room 605	9051187	5/16/2018	7:28 PM	5/18/2018	7:28 PM	< 0.3	Duplicate RPD = 0.0%
Room 345	9051188	5/16/2018	7:29 PM	5/18/2018	7:30 PM	< 0.3	
Room 347	9051189	5/16/2018	7:33 PM	5/18/2018	7:35 PM	< 0.3	
LRC 1	9051190	5/16/2018	7:37 PM	5/18/2018	7:38 PM	< 0.3	
LRC 1	9051191	5/16/2018	7:38 PM	5/18/2018	7:38 PM	< 0.3	
Room 103A	9051192	5/16/2018	7:39 PM	5/18/2018	7:39 PM	< 0.3	
Room 103B	9051193	5/16/2018	7:40 PM	5/18/2018	7:40 PM	< 0.3	
Room 103C East	9051194	5/16/2018	7:41 PM	5/18/2018	7:41 PM	< 0.3	
Room 103C West	9051195	5/16/2018	7:41 PM	5/18/2018	7:41 PM	< 0.3	
Room 100	9051196	5/16/2018	7:43 PM	5/18/2018	7:44 PM	< 0.3	
Room 100	9051197	5/16/2018	7:43 PM	5/18/2018	7:44 PM	< 0.3	Duplicate RPD = 0.0%
Room 350	9051198	5/16/2018	7:46 PM	5/18/2018	7:50 PM	< 0.3	

Device Location	Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Result (pCi/L)	Comments
Room 470	9051199	5/16/2018	7:51 PM	5/18/2018	7:51 PM	0.5	
Room 460	9051200	5/16/2018	7:52 PM	5/18/2018	7:52 PM	0.6	
Room 450	9051001	5/16/2018	7:54 PM	5/18/2018	7:54 PM	< 0.3	
Room 440	9051002	5/16/2018	7:55 PM	5/18/2018	7:55 PM	0.5	
Room 420B	9051003	5/16/2018	7:58 PM	5/18/2018	7:58 PM	< 0.3	
Custodian Closet Near 430	9051004	5/16/2018	7:59 PM	5/18/2018	7:59 PM	< 0.3	
Room 400	9051005	5/16/2018	8:00 PM	5/18/2018	8:02 PM	< 0.3	
Room 430	9051006	5/16/2018	8:00 PM	5/18/2018	8:02 PM	< 0.3	
Room 420B	9051007	5/16/2018	8:03 PM	5/18/2018	8:03 PM	< 0.3	
Room 405	9051008	5/16/2018	8:05 PM	5/18/2018	8:05 PM	< 0.3	
Room 420C	9051009	5/16/2018	8:06 PM	5/18/2018	8:06 PM	< 0.3	
Room 410	9051010	5/16/2018	8:07 PM	5/18/2018	8:07 PM	< 0.3	
Room D near Kitchen	9051011	5/16/2018	8:10 PM	5/18/2018	8:10 PM	0.7	
Room E near Boiler	9051012	5/16/2018	8:14 PM	5/18/2018	8:14 PM	0.5	
Boiler	9051013	5/16/2018	8:15 PM	5/18/2018	8:15 PM	< 0.3	
Boiler	9051014	5/16/2018	8:16 PM	5/18/2018	8:16 PM	< 0.3	
Office by 370	9051015	5/16/2018	8:19 PM	5/18/2018	8:19 PM	< 0.3	
Room 370	9051016	5/16/2018	8:21 PM	5/18/2018	8:23 PM	0.9	
Room 370	9051017	5/16/2018	8:23 PM	5/18/2018	8:23 PM	1.1	Duplicate RPD = 20.0%
G7B (360E)	9051018	5/16/2018	8:24 PM	5/18/2018	8:24 PM	0.9	
LR2	9051019	5/16/2018	8:25 PM	5/18/2018	8:25 PM	1.2	
Gym 1	9051020	5/16/2018	8:28 PM	5/18/2018	8:28 PM	1.3	
Gym 1	9051021	5/16/2018	8:29 PM	5/18/2018	8:29 PM	1.3	

Device Location	Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Result (pCi/L)	Comments
Room 360 Exercise Room	9051022	5/16/2018	8:30 PM	5/18/2018	8:32 PM	1.4	
Room 360 Exercise Room	9051023	5/16/2018	8:30 PM	5/18/2018	8:33 PM	1.2	Duplicate RPD = 15.4%
Room 360G Equipment Room	9051024	5/16/2018	8:31 PM	5/18/2018	8:34 PM	1.3	
Room 360B	9051025	5/16/2018	8:32 PM	5/18/2018	8:34 PM	2.4	
Room 360F	9051026	5/16/2018	8:34 PM	5/18/2018	8:34 PM	1.3	
LR1	9051027	5/16/2018	8:36 PM	5/18/2018	8:35 PM	1.9	
Gym 2	9051028	5/16/2018	8:37 PM	5/18/2018	8:38 PM	< 0.3	
Gym 2	9051029	5/16/2018	8:39 PM	5/18/2018	8:39 PM	< 0.3	
Room 680	9051030	5/16/2018	8:40 PM	5/18/2018	8:42 PM	0.7	
Room 680B	9051031	5/16/2018	8:44 PM	5/18/2018	8:44 PM	< 0.3	
Room 680A	9051032	5/16/2018	8:45 PM	5/18/2018	8:45 PM	0.5	
Electrical Room	9051033	5/16/2018	8:47 PM	5/18/2018	8:47 PM	< 0.3	
Room 393	9051034	5/16/2018	8:50 PM	5/18/2018	8:50 PM	< 0.3	
Room 390	9051035	5/16/2018	8:51 PM	5/18/2018	8:51 PM	< 0.3	
Room 390	9051036	5/16/2018	8:51 PM	5/18/2018	8:51 PM	< 0.3	Duplicate RPD = 0.0%
Room 380A	9051037	5/16/2018	8:52 PM	5/18/2018	8:52 PM	< 0.3	
Room 390A	9051038	5/16/2018	8:53 PM	5/18/2018	8:53 PM	< 0.3	
Room 383	9051039	5/16/2018	8:55 PM	5/18/2018	8:57 PM	< 0.3	
Room 380	9051040	5/16/2018	8:57 PM	5/18/2018	8:57 PM	< 0.3	
Hall	9051041	5/16/2018	9:00 PM	5/18/2018	9:00 PM	< 0.3	Blank
Hall	9051042	5/16/2018	9:00 PM	5/18/2018	9:00 PM	< 0.3	Blank
Hall	9051043	5/16/2018	9:00 PM	5/18/2018	9:00 PM	< 0.3	Blank

Radon Survey Report Simmons Middle School 1130 Sheffer Road, Aurora, Illinois 60505 Carnow Conibear Project No. A146000137

Table 1.0 Radon Measurement Device Results

Simmons Middle School -1130 Sheffer Road Aurora, Illinois 60505

Device Location	Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Result (pCi/L)	Comments
Hall	9051044	5/16/2018	9:00 PM	5/18/2018	9:00 PM	< 0.3	Blank
Hall	9051045	5/16/2018	9:00 PM	5/18/2018	9:00 PM	< 0.3	Blank
Hall	9051046	5/16/2018	9:00 PM	5/18/2018	9:00 PM	< 0.3	Blank

RPD - Relative Percent Difference = difference divided by the average of simultaneous results times 100. Results less than 4.0 pCi/L shall agree with a RPD of less than 67 percent. Results greater than 4.0 pCi/l shall agree with a RDP of less than 36 percent. The EPA and IEMA recommended radon action level is 4.0 pCi/L.

6.0 CONCLUSIONS

Carnow, Conibear, & Assoc., Ltd. (Carnow Conibear) was contracted by East Aurora School District 131 to perform a radon survey at the Simmons Middle School located at 1130 Sheffer Road in Aurora, Illinois. The survey was initiated on May 16, 2018 and completed on May 18, 2018 by Nicole Bennett, an Illinois Emergency Management Agency (IEMA) licensed Radon Measurement Professional (License No. RNI2016213). The scope of work included short term (two to four day) radon measurements in frequently occupied rooms with substantial ground contact. The radon survey was performed in following the IEMA and the USEPA testing protocols for commercial and school radon measurements, the radon device manufacturer's recommendations, and the Carnow Conibear Quality Assurance Plan.

Radon measurement results ranged from less than (<) 0.3 to 2.4 pCi/L. The radon measurement results indicate radon concentrations for areas tested were below the EPA and IEMA recommended action level of 4.0 pCi/L during the time of the test. The average indoor radon concentrations are 1.3 pCi/L nationwide. The average outdoor radon concentration is 0.4 pCi/L.

Based on the radon measurement results Carnow Conibear recommends the following:

- A routine follow-up radon measurement survey every three (3) years, preferably at different seasonal times of the year. Follow-up radon testing is also recommended in locations with invalid test results.
- Additional radon testing if significant changes are made to the building's structural or mechanical components.

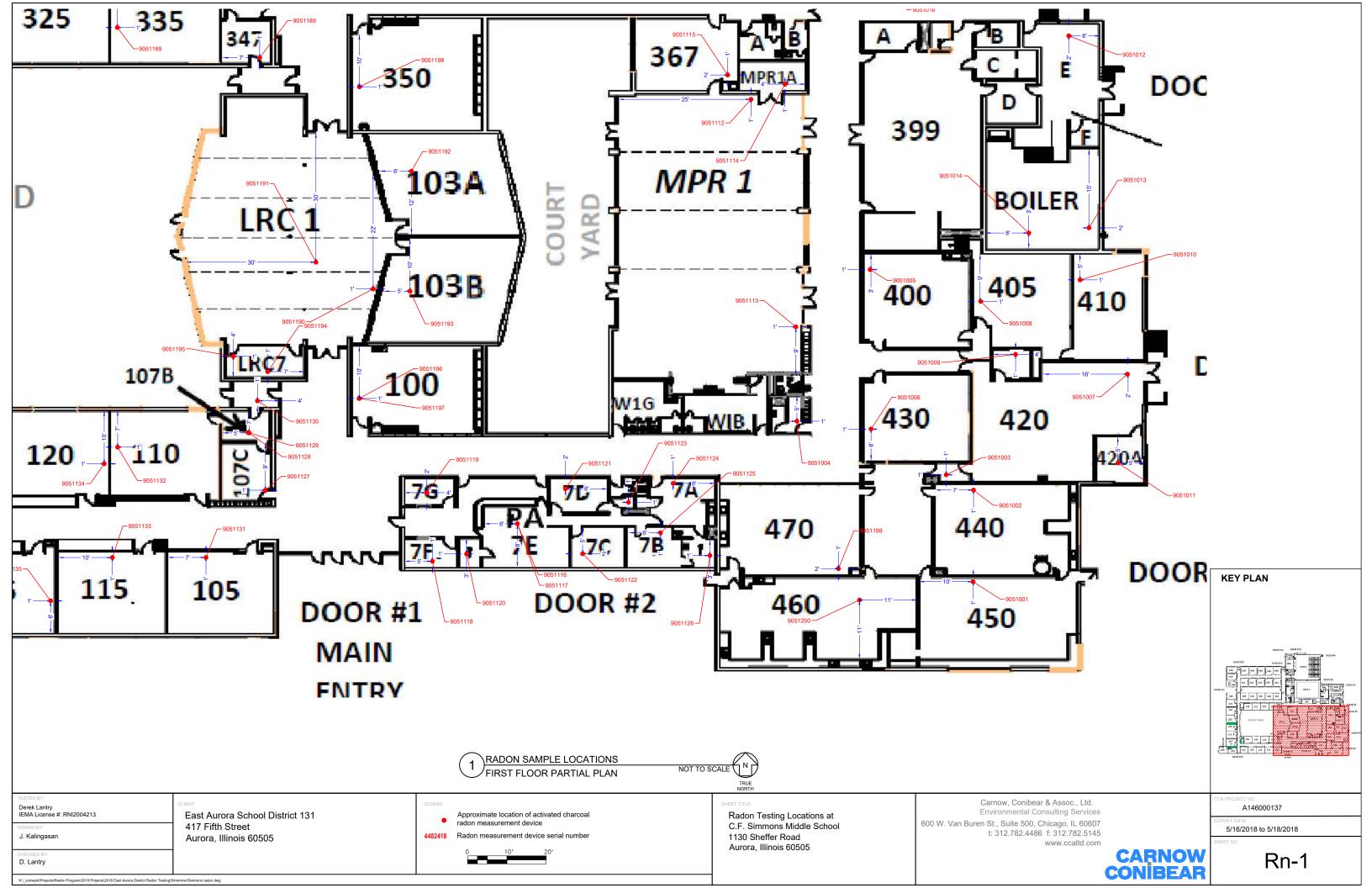
7.0 LIMITATIONS AND CONDITIONS

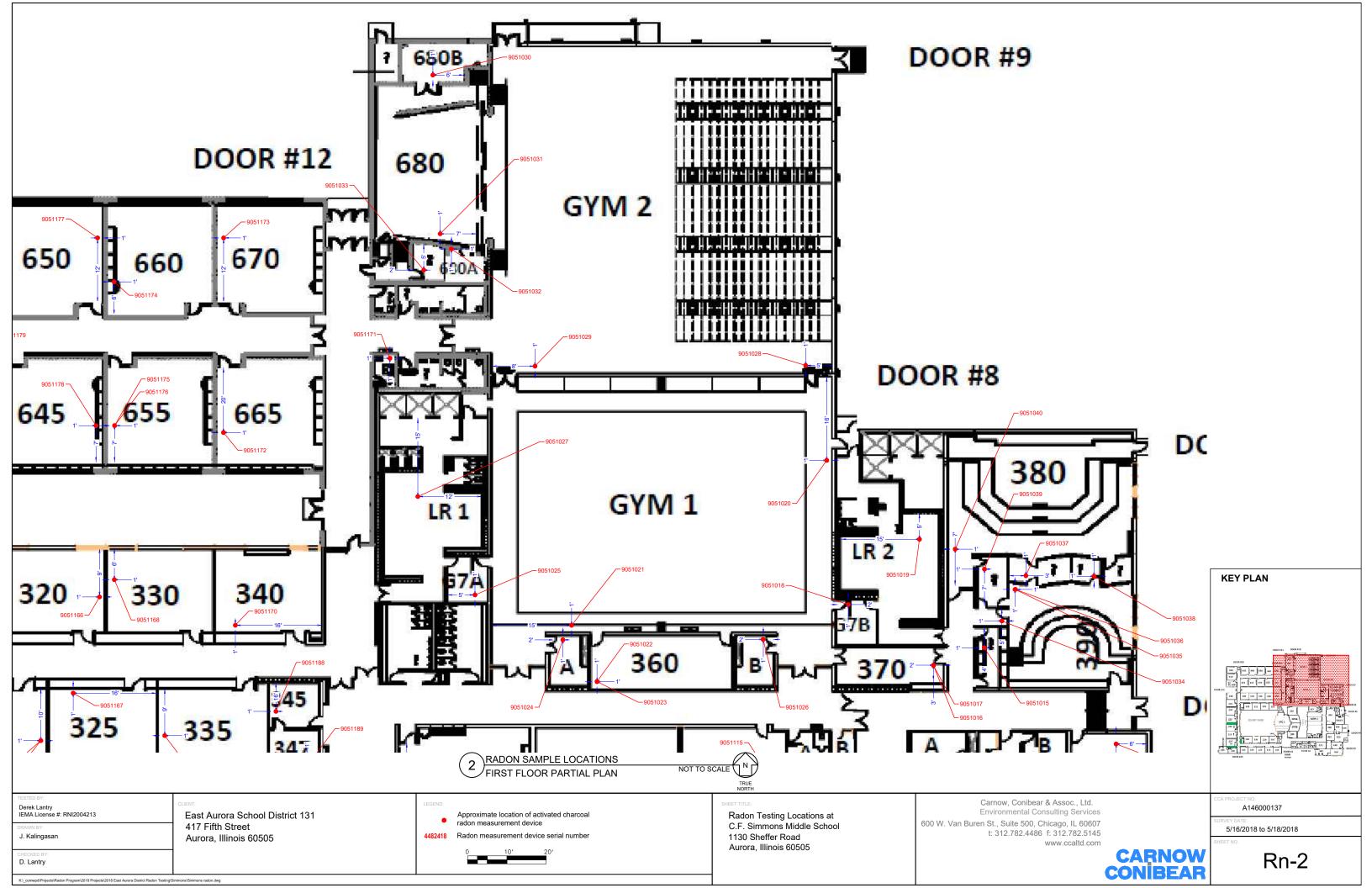
The information contained in this report was prepared for the exclusive use and reliance of East Aurora School District 131 and Carnow Conibear. This information is based on the specific parameters of the scope of work for this project and the regulations in force at the time of the report.

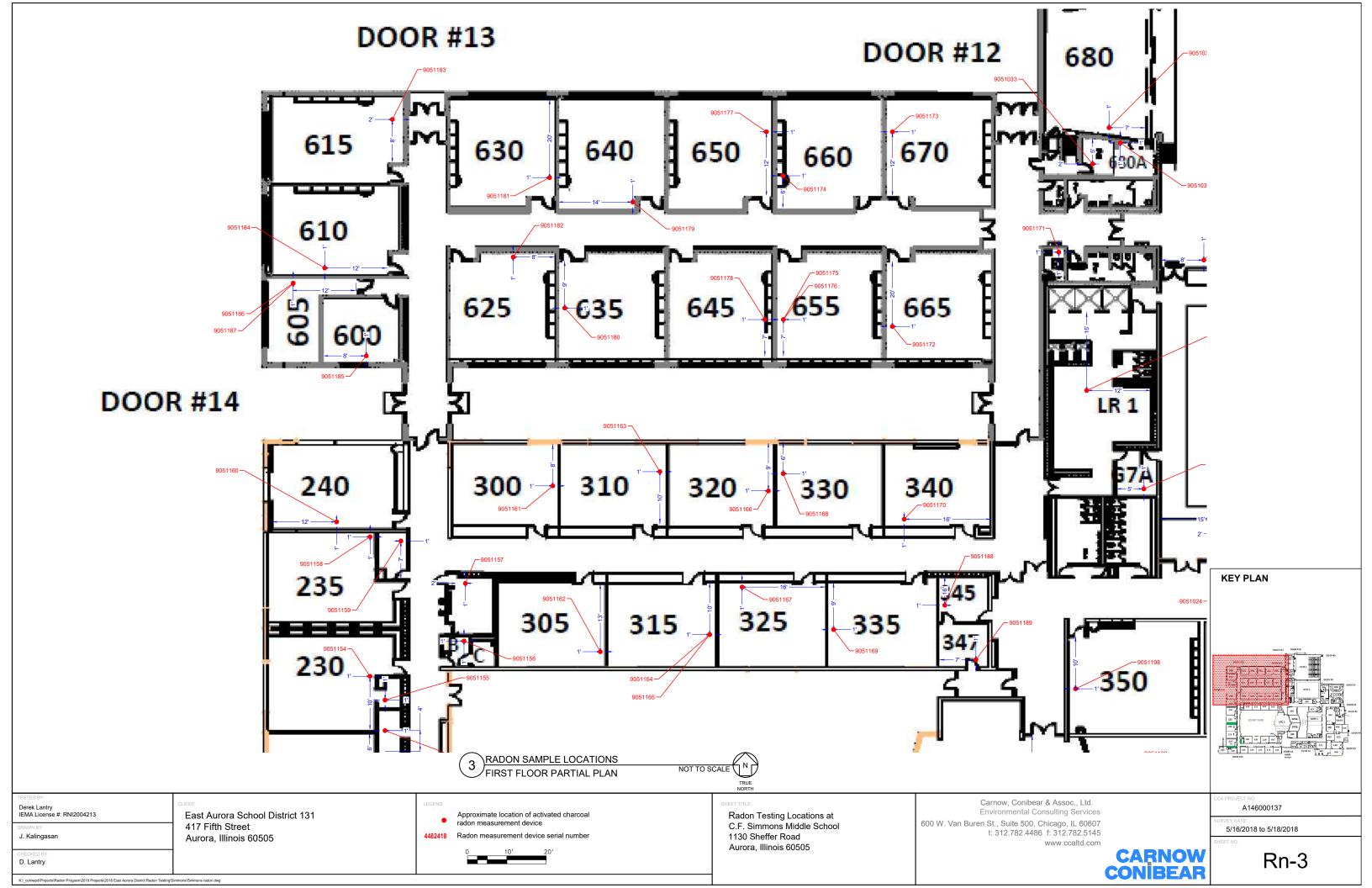
Carnow Conibear has applied prevailing industry standards and reasonable judgment and effort within the scope of work, while conducting the radon measurement survey. The standards, judgment, and effort used by Carnow Conibear personnel to investigate, assess, and determine the presence of potential environmental hazards and liabilities associated with the radon survey at the Simmons Middle School, Aurora, Illinois are consistent with requirements outlined in federal and state guidelines. Carnow Conibear makes no warranty, express or implied, that the findings and interpretations in this report are a complete representation of the environmental hazards and liabilities, associated with the Simmons Middle School, Aurora, Illinois.

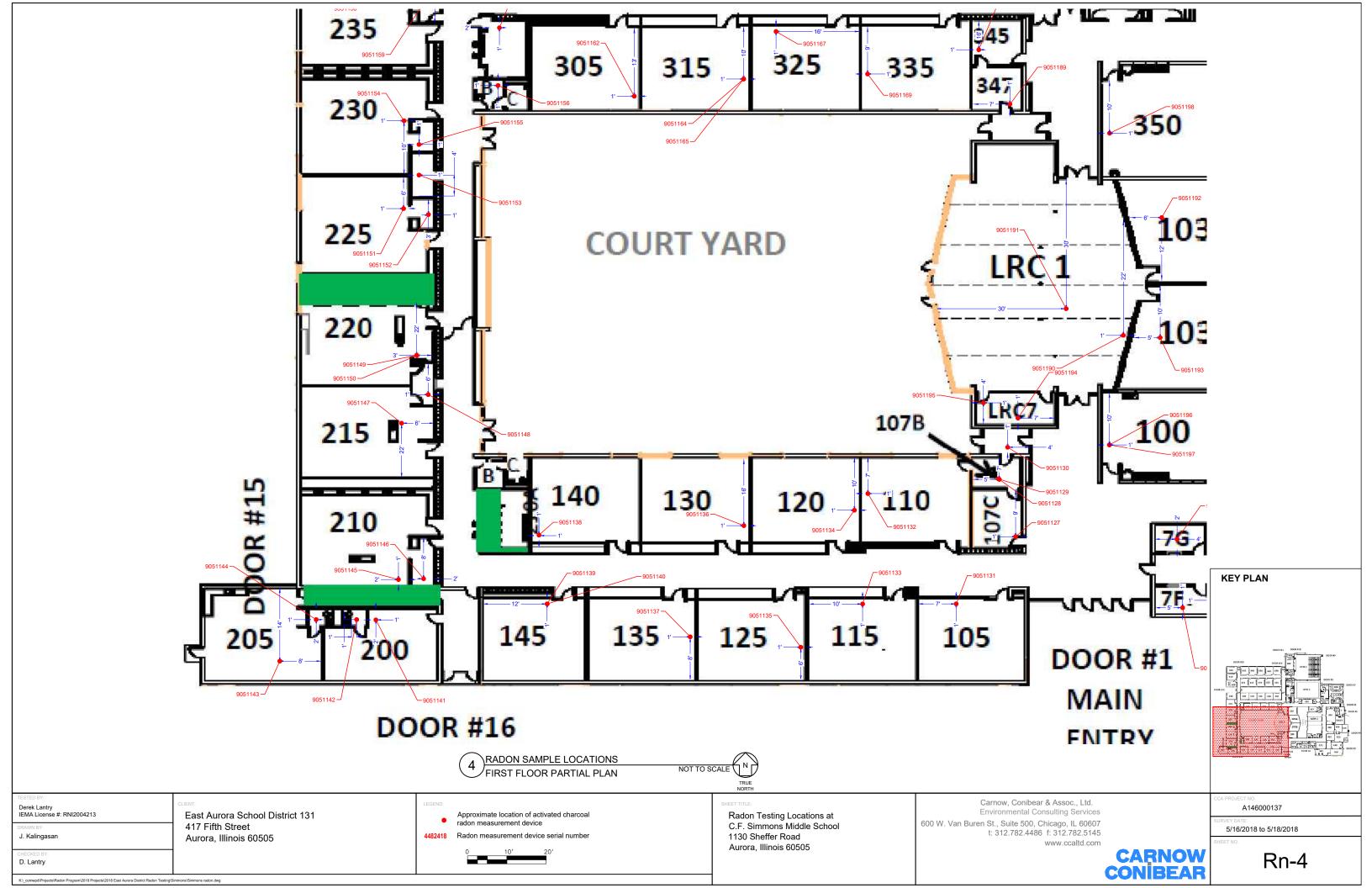
APPENDIX A

Floor Plans – Radon Sampling Locations









APPENDIX B

Laboratory Analysis Report

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9051130	107A	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	< 0.3	2018-05-21
9051129	107B	•	2018-05-18 @ 6:00 pm	< 0.3	2018-05-21
9051128	107B	•	2018-05-18 @ 6:00 pm	< 0.3	2018-05-21
9051127	107C	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	< 0.3	2018-05-21
9051141	200	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051142	200A	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051143	205	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051144	205A	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	0.6 ± 0.3	2018-05-21
9051146	210A CLOSET	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051148	215/220 CLOSET	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051152	225A CLOSET	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051155	230A CLOSET	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051115	367 (363) TEACHERS LOUNGE	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	< 0.3	2018-05-21
9051122	7 (7C)	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	0.8 ± 0.3	2018-05-21
9051124	7A NURSE	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	0.8 ± 0.3	2018-05-21
9051125	7B	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	1.0 ± 0.3	2018-05-21
9051121	7D	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	0.8 ± 0.3	2018-05-21
9051116	7E	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	0.7 ± 0.3	2018-05-21
9051117	7E	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	0.8 ± 0.3	2018-05-21
9051126	7F	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	0.8 ± 0.3	2018-05-21
9051119	97F	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	0.8 ± 0.3	2018-05-21
9051118	97G	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	1.1 ± 0.3	2018-05-21
9051014	BOILER	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051013	BOILER UNDER OFFICE	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051131	CLASSROOM 105	2018-05-16 @ 6:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051132	CLASSROOM 110	2018-05-16 @ 6:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051133	CLASSROOM 115	2018-05-16 @ 6:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051134	CLASSROOM 120	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051135	CLASSROOM 125	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051136	CLASSROOM 130	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051138	CLASSROOM 140	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051140	CLASSROOM 145	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051139	CLASSROOM 145	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051145	CLASSROOM 210	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051147	CLASSROOM 215	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051149	CLASSROOM 220	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051150	CLASSROOM 220	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9051151	CLASSROOM 225	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051154	CLASSROOM 230	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051158	CLASSROOM 235	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051160	CLASSROOM 240	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051161	CLASSROOM 300	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051162	CLASSROOM 305	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051163	CLASSROOM 310	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051165	CLASSROOM 315	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051164	CLASSROOM 315	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051166	CLASSROOM 320	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051167	CLASSROOM 325	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051168	CLASSROOM 330	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051169	CLASSROOM 335	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051170	CLASSROOM 340	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051184	CLASSROOM 610	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051183	CLASSROOM 615	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051182	CLASSROOM 625	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051181	CLASSROOM 630	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051180	CLASSROOM 635	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051179	CLASSROOM 640	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051178	CLASSROOM 645	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051177	CLASSROOM 650	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051176	CLASSROOM 655	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051175	CLASSROOM 655	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051174	CLASSROOM 660	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051173	CLASSROOM 670	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051123	CLOSET NEAR 7D	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	0.7 ± 0.3	2018-05-21
9051004	CUSTODIAN CLOSET NEAR 430	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051171	CUSTODIAN CLOSET NEAR 665	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051033	ELECTRICAL ROOM	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051018	G7B (360E)	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	0.9 ± 0.3	2018-05-21
9051020	GYM 1	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	1.3 ± 0.3	2018-05-21
9051021	GYM 1	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	1.3 ± 0.3	2018-05-21
9051029	GYM 2	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051028	GYM 2	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051045	HALL	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051042	HALL	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21

Kit#	Room Id	Started	Ended	pCi/L	
					Analyzed
9051046	HALL	•	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051043	HALL	•	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051044	HALL		2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051041	HALL	-	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
	JANITORS CLOSET ACROSS FROM 235	•	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051027	LR1	-	2018-05-18 @ 9:00 pm	1.9 ± 0.3	2018-05-21
9051019	LR2	•	2018-05-18 @ 8:00 pm	1.2 ± 0.3	2018-05-21
9051190	LRC 1	-	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051191	LRC 1	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051113	MPR 1 CAFETERIA	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	< 0.3	2018-05-21
9051112	MPR 1 CAFETERIA	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	< 0.3	2018-05-21
9051114	MPR 1A CLOSET	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	< 0.3	2018-05-21
9051015	OFFICE BY 370	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051196	ROOM 100	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051197	ROOM 100	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051192	ROOM 103A	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051193	ROOM 103B	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051194	ROOM 103C EAST	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051195	ROOM 103C WEST	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051153	ROOM 227	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051159	ROOM 237	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051188	ROOM 345	2018-05-16 @ 7:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051189	ROOM 347	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051198	ROOM 350		2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051022	ROOM 360 EXERCISE ROOM	-	2018-05-18 @ 9:00 pm	1.4 ± 0.3	2018-05-21
9051023	ROOM 360 EXERCISE ROOM	•	2018-05-18 @ 9:00 pm	1.2 ± 0.3	2018-05-21
9051025	ROOM 360B	•	2018-05-18 @ 9:00 pm	2.4 ± 0.3	2018-05-21
9051026	ROOM 360F	*	2018-05-18 @ 9:00 pm	1.3 ± 0.3	2018-05-21
9051024	ROOM 360G EQUIPMENT ROOM		2018-05-18 @ 9:00 pm	1.3 ± 0.3	2018-05-21
9051016	ROOM 370	•	2018-05-18 @ 8:00 pm	0.9 ± 0.3	2018-05-21
9051017	ROOM 370	•	2018-05-18 @ 8:00 pm	1.1 ± 0.3	2018-05-21
9051040	ROOM 380	*	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051037	ROOM 380A	•	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051039	ROOM 383	•	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051035	ROOM 390	•	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051036	ROOM 390	•	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051038	ROOM 390A	-	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
				, 3.2	

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
9051034	ROOM 393	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051005	ROOM 400	•	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051008	ROOM 405	•	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051010	ROOM 410	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051003	ROOM 420B	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051007	ROOM 420B	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051009	ROOM 420C	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051006	ROOM 430	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051002	ROOM 440	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	0.5 ± 0.2	2018-05-21
9051001	ROOM 450	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	< 0.3	2018-05-21
9051200	ROOM 460	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	0.6 ± 0.3	2018-05-21
9051199	ROOM 470	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	0.5 ± 0.3	2018-05-21
9051185	ROOM 600	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051186	ROOM 605	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051187	ROOM 605	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051030	ROOM 680	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	0.7 ± 0.3	2018-05-21
9051032	ROOM 680A	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	0.5 ± 0.3	2018-05-21
9051031	ROOM 680B	2018-05-16 @ 9:00 pm	2018-05-18 @ 9:00 pm	< 0.3	2018-05-21
9051011	ROOM D NEAR KITCHEN	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	0.7 ± 0.3	2018-05-21
9051012	ROOM E NEAR BOILER	2018-05-16 @ 8:00 pm	2018-05-18 @ 8:00 pm	0.5 ± 0.3	2018-05-21
9051156	STORAGE ACROSS FROM 230	2018-05-16 @ 7:00 pm	2018-05-18 @ 7:00 pm	< 0.3	2018-05-21
9051120	STORAGE NEXT TOÂ 7E	2018-05-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	1.0 ± 0.3	2018-05-21
9031120	STORAGE NEXT TOA /E	2018-03-16 @ 6:00 pm	2018-05-18 @ 6:00 pm	1.U ± U.3	2018-0

APPENDIX C

Radon Measurement Professional License

Bruce Rauner Governor

State of Illinois

James K. Joseph Director

IEMA Division of Nuclear Safety

Pursuant to the Radon Industry Licensing Act, 420 ILCS 44 et seg, and 32 Illinois Administrative Code 422, Licensing of Radon Detection and Mitigation Services, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued

This is to certify that Nicole Bennett

License Number RNI2016213

has met the requirements for Radon Measurement Professional

Issued - Expires 05/18/2016 - 05/31/2021

Limited to Radon measurements of residential real estate, home environment, school and commercial buildings only.

161391001

Patrick I. Daniels, Radon Program