



**Test Location Information**

Building Type: Residential  
Floor: B1 | Year Built: 1960  
Location: Basement  
25 Eagle Court  
Carlisle OH 45005 Montgomery

**Device Information**

Serial: LPT0001164 | Model: CRM-510LPT  
Rn Cal: 0.417 CPM/pCi/l | Bkg: 0.2 pCi/l  
CO Cal: Calibration Gas @ 150 ppm  
CO2 Cal: Factory Calibrated  
Calibrated: 07/11/2022

**Final Result(s)**

Average VOC: 1/3 (Good)  
Average Carbon Monoxide: 0 ppm  
Average Carbon Dioxide: 601 ppm  
Average Radon: 1.2 pCi/l  
**Radon is below EPA action level.**

**PURPOSE OF THIS INSPECTION REPORT**

To provide a professional opinion of a structure's radon level & indoor air quality at the time of the test period, limited to the conditions identified in this report.

**EXPLANATION OF TEST RESULTS**

Radon, carbon monoxide, carbon dioxide, VOC's, airborne mold, and viruses have always been a concern for people spending time indoors.

- The U.S. Environmental Protection Agency (EPA) and the Surgeon General strongly recommend taking further action when the home's radon test results are 4.0 pCi/l or greater.
- The U.S. Environmental Protection Agency (EPA) recommends that carbon monoxide levels should not exceed 9 ppm in any given 8-hour period, 35 ppm for 1-hour.
- The Occupational Safety and Health Administration recommend that carbon dioxide levels should not exceed 5,000 ppm in any given 8-hour period, or 30,000 ppm for a 10-min period.
- The U.S. Environmental Protection Agency (EPA) and the Centers for Disease Control and Prevention (CDC) recommend keeping indoor humidity levels between 30-50% to minimize the presence of airborne mold and 40-50% to minimize the potential transfer of airborne viruses. The ideal indoor humidity level is 40-50% to minimize the potential of airborne mold and viruses.

**LIMITATIONS OF LIABILITY**

femto-TECH, INC. cannot guarantee the necessary conditions were maintained during the test period. There can be uncertainty with any radon & air quality measurement due to statistical variations and other factors such as changes in the weather and operation of the dwelling. We make NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, for the consequences of erroneous test results.

femto-TECH, INC. and its employees or agents shall not be liable under any claim, charge or demand, whether in contract, tort, or otherwise, for any and all loss, cost, charge, claim, demand, fee, or expense of any nature or kind arising out of, connected with, resulting from, or sustained as a result of any radon or air quality test.

**Technician Information**

Placed by: Bill Nye                      Retrieved by: Jane Doe  
ID: 54321                                      ID: 09876

Signature:

**Client Information**

Marie Curie                                      25 Eagle Court  
(123) 456-7890                                      Carlisle OH 45005

Signature:

**Notes**

Put any additional notes/information here.

## RADON ANALYSIS

This test was conducted with a *femto* -TECH CRM-510LPT, an EPA and Industry approved radon testing device. This test was performed in accordance with the current Standards and Guidelines accepted for radon testing.

Weather Stations (3): MIDDLETOWN HOOK FIELD MUNICIPAL AIRPORT, DAYTON WRIGHT BROTHERS AIRPORT, HAMILTON BUTLER CO REGIONA...

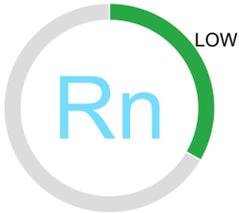
Weather Conditions (in order of observation): Clear, Partially cloudy, Rain & Overcast, Rain & Partially cloudy, Overcast.

Mitigation/Ventilation Present: No active mitigation or ventilation system observed.

### Radon Risk

Radon is the second leading cause of lung cancer, after smoking. The U.S. Environmental Protection Agency (EPA) and the Surgeon General strongly recommend taking further action when the home's radon test results are 4.0 pCi/l (picocuries per liter of air) or greater. Radon levels less than 4.0 pCi/l still pose some risk and in many cases may be reduced. The national average indoor radon level is about 1.3 pCi/l while outdoor radon levels average 0.4 pCi/l. The higher a home's radon level, the greater the health risk to you and your family. Smokers and former smokers are at especially high risk. You can call your state radon office to obtain information, including a list of EPA or State approved radon contractors who can correct or help you develop a plan for correcting the radon problem. [Many questions you may have can be found in the EPA's publication "Home Buyer's and Seller's Guide to Radon".](#)

**Radon is below the EPA action level. No mitigation is required.**



Radon Avg: 1.2 pCi/l

#### Start Time

9/2/2022 3:55:00 PM

#### Stop Time

9/4/2022 3:55:00 PM

#### Test Length

48 Hours

#### Serial

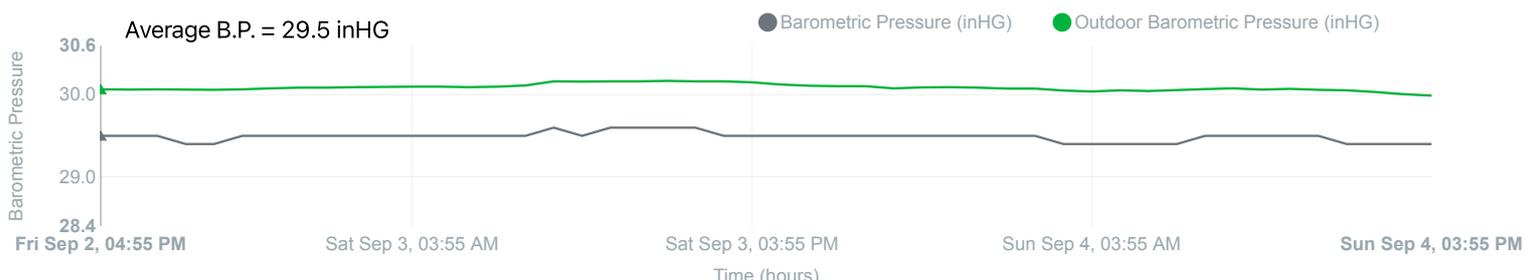
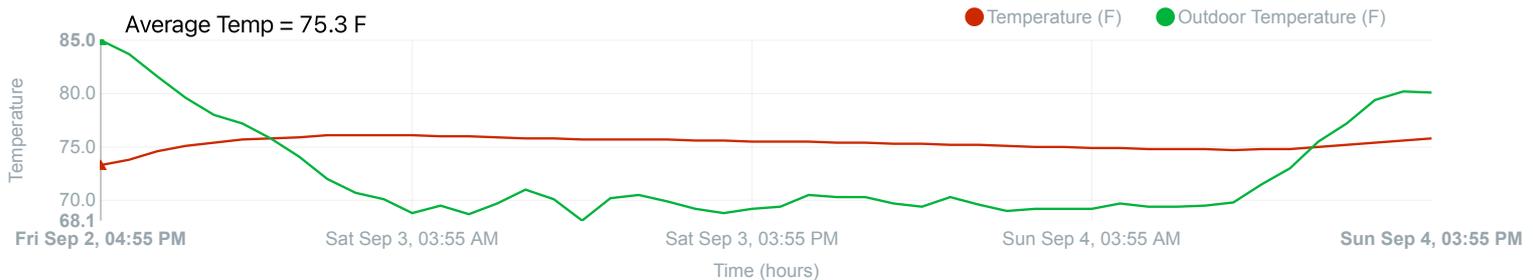
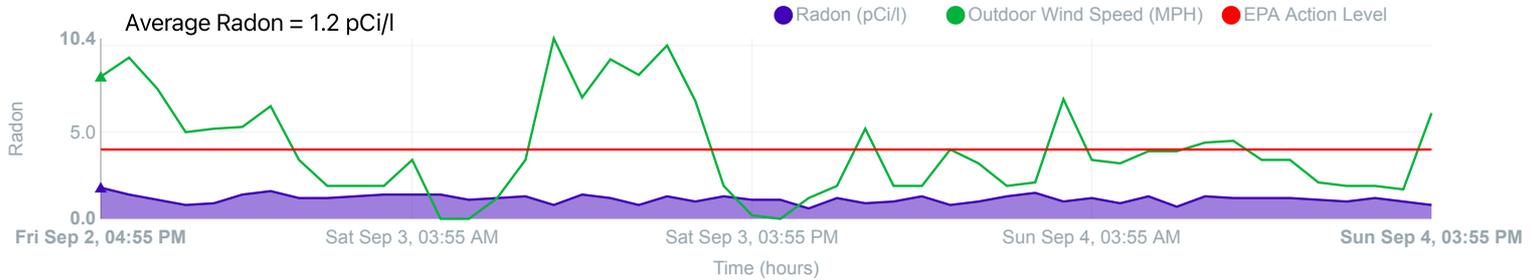
LPT0001164

#### Location

Basement

### Radon Graphing

Δ = tilt occurred





VOC Avg: 1/3

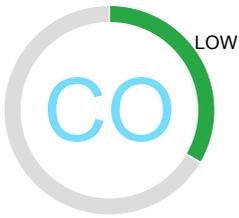
**VOC Risk**

Volatile organic compounds, or VOCs, are gases that are emitted into the air from man-made products or natural processes. Some can be very harmful to our health and in some cases they can cause cancer. Certain VOC's can react with other gases in the air and form other air pollutants.

Breathing in VOCs can irritate your eyes, nose and throat, cause difficulty breathing, nausea, and damage your central nervous system as well as other organs. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors.

Paints, varnishes and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products, even fuel. All of these products can release organic compounds while you are using them and to some degree when they are stored.

**VOC Rating: (Good) No action necessary.**



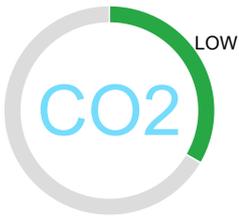
CO Avg: 0 ppm

**CO Risk**

Carbon monoxide is an odorless, colorless and toxic gas. Because it is impossible to see, taste or smell, CO can kill you before you are aware it is in your home. The effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

Average levels in homes without gas stoves vary from 0.5 to 5 parts per million (ppm). Levels near properly adjusted gas stoves are often 5 to 15 ppm and those near poorly adjusted stoves may be 30 ppm or higher. The U.S. Environmental Protection Agency (EPA) strongly recommends taking further action when the average carbon monoxide level exceeds 9 ppm. Many questions you may have can be found in the EPA's publication "Carbon Monoxide's Impact on Indoor Air Quality".

**Carbon monoxide is below the EPA action level.**



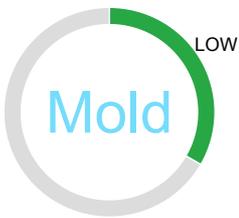
CO2 Avg: 601 ppm

**CO2 Risk**

Carbon dioxide is a odorless, colorless gas. It is more dense than air and at high concentrations it can persist in open pits and other areas below grade. The current OSHA standard is 5000 ppm as an 8-hour time-weighted average (TWA) concentration.

Gaseous carbon dioxide is an asphyxiant. Concentrations of 10% (100,000 ppm) or more can produce unconsciousness or death. Lower concentrations may cause headache, sweating, rapid breathing, increased heartbeat, shortness of breath, dizziness, mental depression, visual disturbances or shaking. CO2 levels can serve as an indication of poor ventilation for the amount of occupants in the building.

**Carbon dioxide is below the EPA action level.**



RH Avg: 42.8%

**Mold Risk**

Molds are part of the natural environment. Outdoors, molds play a part in nature by breaking down dead organic matter such as fallen leaves and dead trees, but indoors, mold growth should be avoided. Molds reproduce by means of tiny spores; the spores are invisible to the naked eye and float through outdoor and indoor air. Inhaling or touching mold or mold spores may cause allergic reactions in sensitive individuals.

Allergic responses include hay fever-type symptoms, such as sneezing, runny nose, red eyes, and skin rash (dermatitis). Nominal relative humidity (%) for airborne mold protection is 50% and less. Many questions you may have can be found in the EPA's publication "A Brief Guide to Mold, Moisture and Your Home".

**Mold risk is low due to average relative humidity being below 50%.**

\*VOC risk is calculated using publicized research by the following:  
[American Lung Association](#)  
[Agency for Toxic Substances and Disease](#)  
[United States Environmental Protection Agency](#)

Radon Level  
**1.2 pCi/l**  
(Below Action)

CO Level  
**0 ppm**  
(Below Action)

CO2 Level  
**601 ppm**  
(Below Action)

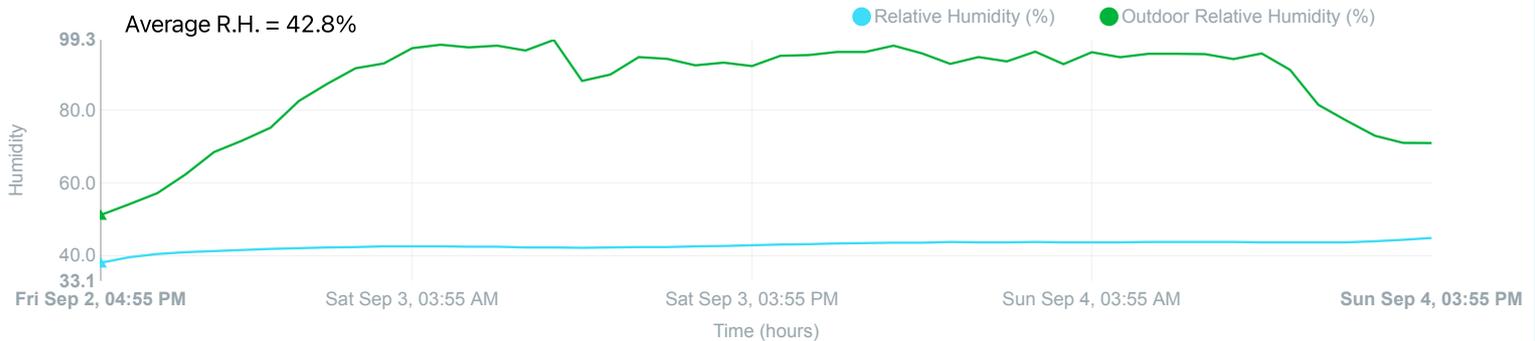
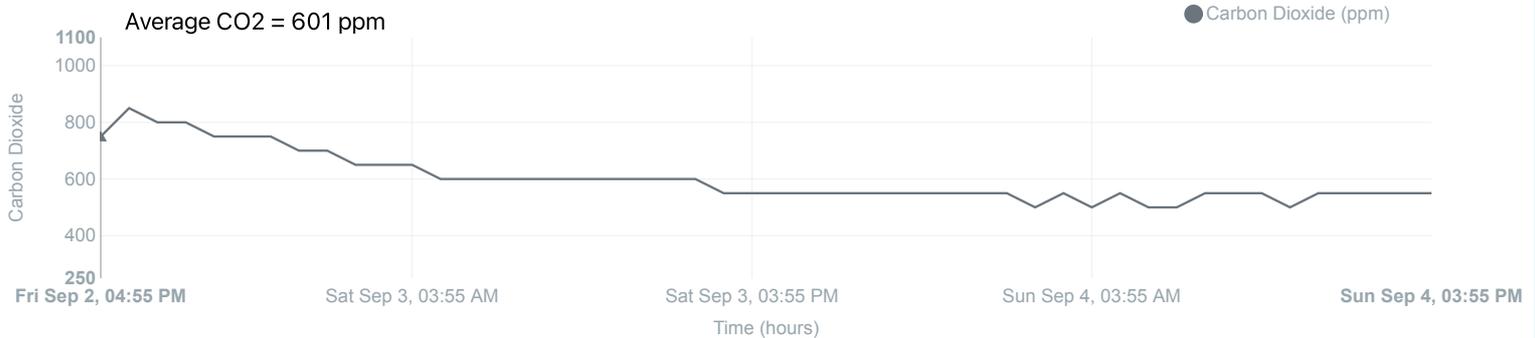
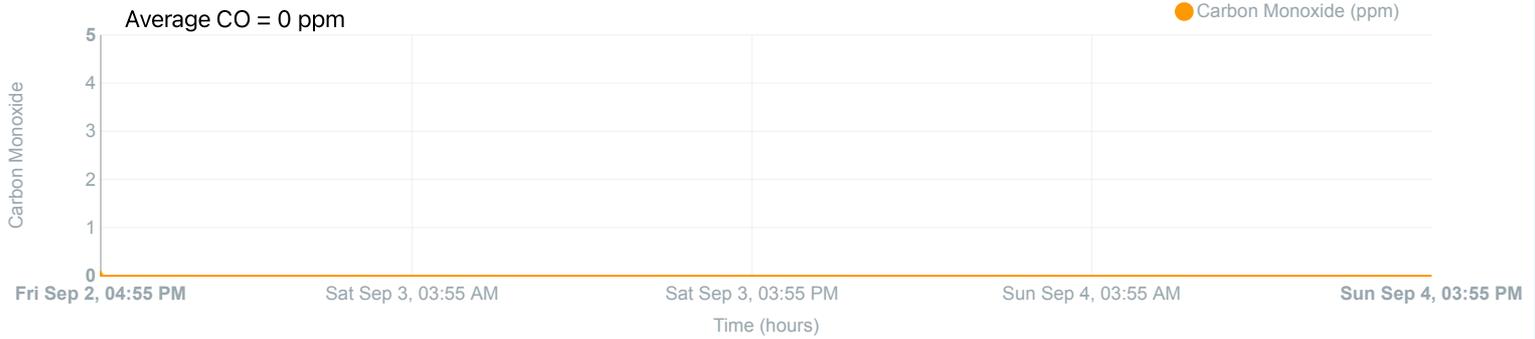
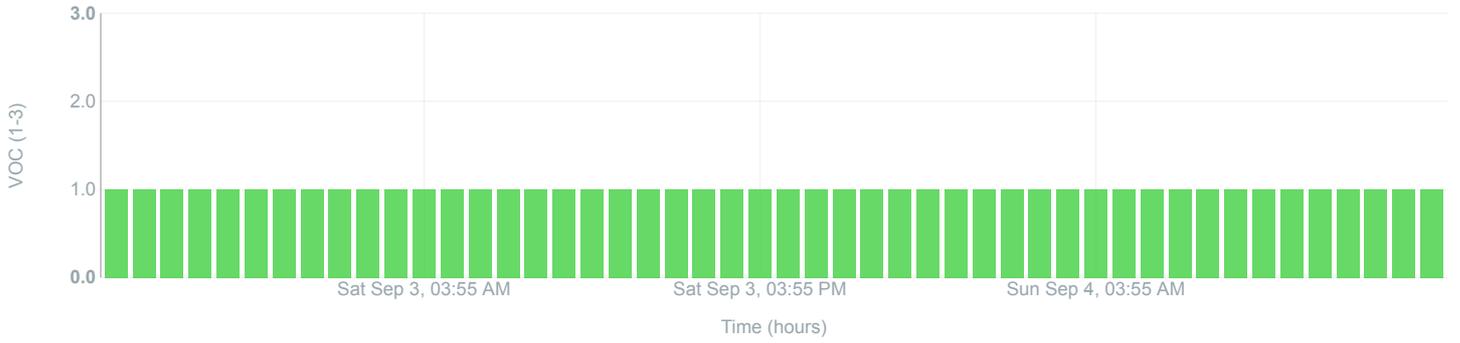
VOC  
**1/3**  
(Good)

Mold Risk  
**LOW**  
(Ideal R.H.)

Serial  
**LPT0001164**

### Air Quality Graphing

Δ = tilt occurred



| TIME                  | HOUR | RADON (PCI/L) | COUNTS | CO (PPM) | CO2 (PPM) | VOC  | TEMP (F) | BP (INHG) | RH (%) | TILTS |
|-----------------------|------|---------------|--------|----------|-----------|------|----------|-----------|--------|-------|
| 9/2/2022, 4:55:00 PM  | 1    | 1.8           | 51     | 0        | 750       | Good | 73.3     | 29.5      | 38.1   | 1     |
| 9/2/2022, 5:55:00 PM  | 2    | 1.4           | 41     | 0        | 850       | Good | 73.8     | 29.5      | 39.6   | 0     |
| 9/2/2022, 6:55:00 PM  | 3    | 1.1           | 32     | 0        | 800       | Good | 74.6     | 29.5      | 40.5   | 0     |
| 9/2/2022, 7:55:00 PM  | 4    | 0.8           | 24     | 0        | 800       | Good | 75.1     | 29.4      | 41.0   | 0     |
| 9/2/2022, 8:55:00 PM  | 5    | 0.9           | 28     | 0        | 750       | Good | 75.4     | 29.4      | 41.3   | 0     |
| 9/2/2022, 9:55:00 PM  | 6    | 1.4           | 39     | 0        | 750       | Good | 75.7     | 29.5      | 41.6   | 0     |
| 9/2/2022, 10:55:00 PM | 7    | 1.6           | 44     | 0        | 750       | Good | 75.8     | 29.5      | 41.9   | 0     |
| 9/2/2022, 11:55:00 PM | 8    | 1.2           | 35     | 0        | 700       | Good | 75.9     | 29.5      | 42.1   | 0     |
| 9/3/2022, 12:55:00 AM | 9    | 1.2           | 36     | 0        | 700       | Good | 76.1     | 29.5      | 42.3   | 0     |
| 9/3/2022, 1:55:00 AM  | 10   | 1.3           | 38     | 0        | 650       | Good | 76.1     | 29.5      | 42.4   | 0     |
| 9/3/2022, 2:55:00 AM  | 11   | 1.4           | 41     | 0        | 650       | Good | 76.1     | 29.5      | 42.6   | 0     |
| 9/3/2022, 3:55:00 AM  | 12   | 1.4           | 39     | 0        | 650       | Good | 76.1     | 29.5      | 42.6   | 0     |
| 9/3/2022, 4:55:00 AM  | 13   | 1.4           | 40     | 0        | 600       | Good | 76.0     | 29.5      | 42.6   | 0     |
| 9/3/2022, 5:55:00 AM  | 14   | 1.1           | 33     | 0        | 600       | Good | 76.0     | 29.5      | 42.5   | 0     |
| 9/3/2022, 6:55:00 AM  | 15   | 1.2           | 34     | 0        | 600       | Good | 75.9     | 29.5      | 42.5   | 0     |
| 9/3/2022, 7:55:00 AM  | 16   | 1.3           | 38     | 0        | 600       | Good | 75.8     | 29.5      | 42.3   | 0     |
| 9/3/2022, 8:55:00 AM  | 17   | 0.8           | 26     | 0        | 600       | Good | 75.8     | 29.6      | 42.3   | 0     |
| 9/3/2022, 9:55:00 AM  | 18   | 1.4           | 40     | 0        | 600       | Good | 75.7     | 29.5      | 42.2   | 0     |
| 9/3/2022, 10:55:00 AM | 19   | 1.2           | 34     | 0        | 600       | Good | 75.7     | 29.6      | 42.3   | 0     |
| 9/3/2022, 11:55:00 AM | 20   | 0.8           | 25     | 0        | 600       | Good | 75.7     | 29.6      | 42.4   | 0     |
| 9/3/2022, 12:55:00 PM | 21   | 1.3           | 38     | 0        | 600       | Good | 75.7     | 29.6      | 42.4   | 0     |
| 9/3/2022, 1:55:00 PM  | 22   | 1.0           | 31     | 0        | 600       | Good | 75.6     | 29.6      | 42.6   | 0     |
| 9/3/2022, 2:55:00 PM  | 23   | 1.3           | 38     | 0        | 550       | Good | 75.6     | 29.5      | 42.7   | 0     |
| 9/3/2022, 3:55:00 PM  | 24   | 1.1           | 33     | 0        | 550       | Good | 75.5     | 29.5      | 42.9   | 0     |
| 9/3/2022, 4:55:00 PM  | 25   | 1.1           | 32     | 0        | 550       | Good | 75.5     | 29.5      | 43.1   | 0     |
| 9/3/2022, 5:55:00 PM  | 26   | 0.6           | 21     | 0        | 550       | Good | 75.5     | 29.5      | 43.2   | 0     |
| 9/3/2022, 6:55:00 PM  | 27   | 1.2           | 34     | 0        | 550       | Good | 75.4     | 29.5      | 43.4   | 0     |
| 9/3/2022, 7:55:00 PM  | 28   | 0.9           | 28     | 0        | 550       | Good | 75.4     | 29.5      | 43.5   | 0     |
| 9/3/2022, 8:55:00 PM  | 29   | 1.0           | 31     | 0        | 550       | Good | 75.3     | 29.5      | 43.6   | 0     |
| 9/3/2022, 9:55:00 PM  | 30   | 1.3           | 38     | 0        | 550       | Good | 75.3     | 29.5      | 43.6   | 0     |
| 9/3/2022, 10:55:00 PM | 31   | 0.8           | 26     | 0        | 550       | Good | 75.2     | 29.5      | 43.8   | 0     |
| 9/3/2022, 11:55:00 PM | 32   | 1.0           | 29     | 0        | 550       | Good | 75.2     | 29.5      | 43.7   | 0     |
| 9/4/2022, 12:55:00 AM | 33   | 1.3           | 38     | 0        | 550       | Good | 75.1     | 29.5      | 43.7   | 0     |
| 9/4/2022, 1:55:00 AM  | 34   | 1.5           | 42     | 0        | 500       | Good | 75.0     | 29.5      | 43.8   | 0     |
| 9/4/2022, 2:55:00 AM  | 35   | 1.0           | 31     | 0        | 550       | Good | 75.0     | 29.4      | 43.7   | 0     |

| TIME                  | HOUR | RADON (PCI/L) | COUNTS | CO (PPM) | CO2 (PPM) | VOC  | TEMP (F) | BP (INHG) | RH (%) | TILTS |
|-----------------------|------|---------------|--------|----------|-----------|------|----------|-----------|--------|-------|
| 9/4/2022, 3:55:00 AM  | 36   | 1.2           | 36     | 0        | 500       | Good | 74.9     | 29.4      | 43.7   | 0     |
| 9/4/2022, 4:55:00 AM  | 37   | 0.9           | 28     | 0        | 550       | Good | 74.9     | 29.4      | 43.7   | 0     |
| 9/4/2022, 5:55:00 AM  | 38   | 1.3           | 37     | 0        | 500       | Good | 74.8     | 29.4      | 43.8   | 0     |
| 9/4/2022, 6:55:00 AM  | 39   | 0.7           | 23     | 0        | 500       | Good | 74.8     | 29.4      | 43.8   | 0     |
| 9/4/2022, 7:55:00 AM  | 40   | 1.3           | 37     | 0        | 550       | Good | 74.8     | 29.5      | 43.8   | 0     |
| 9/4/2022, 8:55:00 AM  | 41   | 1.2           | 35     | 0        | 550       | Good | 74.7     | 29.5      | 43.8   | 0     |
| 9/4/2022, 9:55:00 AM  | 42   | 1.2           | 34     | 0        | 550       | Good | 74.8     | 29.5      | 43.7   | 0     |
| 9/4/2022, 10:55:00 AM | 43   | 1.2           | 34     | 0        | 500       | Good | 74.8     | 29.5      | 43.7   | 0     |
| 9/4/2022, 11:55:00 AM | 44   | 1.1           | 32     | 0        | 550       | Good | 75.0     | 29.5      | 43.7   | 0     |
| 9/4/2022, 12:55:00 PM | 45   | 1.0           | 30     | 0        | 550       | Good | 75.2     | 29.4      | 43.7   | 0     |
| 9/4/2022, 1:55:00 PM  | 46   | 1.2           | 35     | 0        | 550       | Good | 75.4     | 29.4      | 44.0   | 0     |
| 9/4/2022, 2:55:00 PM  | 47   | 1.0           | 29     | 0        | 550       | Good | 75.6     | 29.4      | 44.4   | 0     |
| 9/4/2022, 3:55:00 PM  | 48   | 0.8           | 26     | 0        | 550       | Good | 75.8     | 29.4      | 44.9   | 0     |

# Post-Test Recommendations

## Test result is 4.0 pCi/L or greater

- Fix the building if the test result indicates occupants may be exposed to radon concentrations that meet or exceed the EPA action level of 4.0 pCi/L.
- Efforts to reduce radon concentrations are not complete until a retest provides evidence of effectiveness.
  - Complete a short-term radon test between 24 hours and 30 days after the installation of a mitigation system.
  - Retest every 2 years to ensure the system remains effective.

## Test result is between 2.0 and 4.0 pCi/L

- Consider fixing the building if the test result indicates radon levels greater than half the action level.
- Tests conducted when heating systems are active both day and night are more likely to provide a clear characterization of potential radon hazards.

## When to Retest

- Retest every 5 years if NO mitigation system is installed.
- Retest in conjunction with the sale of any new or existing buildings.
- Be certain to test again if and when any of the following circumstances occur:
  - A new addition is constructed or alterations for building rehab or reconfiguration occur.
  - A ground contact area not previously tested is occupied, or a home is newly occupied.
  - Heating and cooling systems are significantly altered.
  - Ventilation is significantly altered by extensive weatherization, changes to mechanical systems or comparable procedures.
  - Significant openings to the soil occur due to:
    - Groundwater or slab surface water control systems that are altered or added ( ex. sumps, perimeter drain tile, shower/tub retrofits).
    - Natural settlement causing major cracks to develop.
  - Earthquakes, construction blasting, or formation of sink holes nearby.
  - A mitigation system is altered, modified, or repaired.

## State Radon Information

### State

Ohio

### Phone

(614) 644-8480

### E-Mail

gene.phillips@odh.ohio.gov

### Website

<http://www.odh.ohio.gov/odhprograms/rp/radprot/radprot1.aspx>

### Information

More information about radon is available by contacting the Ohio Department of Health.