



# Radon Test Report

**Company Name** Premier Property Inspections

## Client Information

Name: Mathew Lovick

Test Address: 1428 Pioneer Ct

City: Northfield

State: MN

Zip Code: 55057

## Device Information

### Test Unit #1

Manufacturer & Model: Sun Nuclear 1028    Serial #: 104215021    Calibration Date: 3/23/21

Test Location: Basement Bedroom

Start Date: 9/9/2020    Start Time: 9:39 am    End Date: 9/11/2020    End Time: 9:39 am

**Average Radon Level:** 10.3 pCi/L

**Test Unit #2**    Not applicable:     Duplicate for QA:     Different Foundation:

Manufacturer & Model:    Serial #:    Calibration Date:

Test Location:

Start Date:    Start Time:    End Date:    End Time:

**Average Radon Level:**    pCi/L

- If test #2 was for QA, the average radon results is N/A pCi/L. This value should be used for mitigation decisions.
- If multiple foundation types were tested, consider the results separately for mitigation decision.

## Radon Test Data

Attached to this report is a copy of the actual test data taken from a Minnesota Department of Health approved testing device. The test was performed in accordance with the current ANSI/AARST standards and guidelines accepted for radon testing.

Mandy Fredrickson

RMEA-00148

Licensed Radon Professional

MDH License Number

Email: ppi@southmetro-ppi.com

Phone: 612-849-2221

Fax:

## RADON TEST REPORT

### Recommendations:

#### Test result is 4.0 pCi/L or greater:

- Fix the building if test results indicate 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 results between 2.0 and 4.0 pCi/L

- Consider fixing the building if the test results indicate 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) or,
    - Natural settlement causing major cracks to develop
  - Earthquakes, construction blasting, or formation of sink holes nearby; or
  - A mitigation system is altered, modified or repaired.

### Radon Information

More information about radon is available by contacting the Minnesota Department of Health at:

Phone: 651-201-4601 Website: [mn.gov/radon](http://mn.gov/radon) Email: [health.indoorair@state.mn.us](mailto:health.indoorair@state.mn.us)

RADON TEST REPORT

### Conditions Observed During the Test

The noninterference agreement was: Signed  Not Signed

The required test conditions were observed at deployment and retrieval: Yes  No

if no, describe:

Radon levels in a home can be influenced by many factors including weather, season, living conditions, and occupancy patterns. Temporary conditions observed during the testing period may cause the test to not reflect the client's risk from radon. The radon levels stated for this time period had the following situations present:

- Property was vacant during testing.
- Testing device(s) was placed in a location that doesn't meet minimum requirements of this standard. This was unavoidable because:
  - Building temperature was outside of normal occupied range of 65 – 80 degrees.
  - Radon testing device was moved or tampered with during the test.
  - A radon mitigation system was observed. The system was operational: yes  no  unknown
  - A temporary mitigation strategy was observed. Describe:
  - A heat recovery ventilator or air-to-air heat exchanger, is installed in the building.
    - Operating during the test? Yes  at \_\_\_\_\_ setting No
    - Functional and properly maintained? yes  no  unknown
    - Intake free of obstacles/debris? Yes  no  unknown
- Unusually severe storms or periods of unusually high winds occurred during the test.
- Passive crawlspace vents to the outside: Open  Closed
- Active or passive air supplies to the building or to combustion appliances were:
  - operating as intended  blocked
- Forced-air HVAC System? Yes  No  Sub-slab return ducts? Yes  No 
  - Fan Setting: On  Auto  Off
- Unavoidable construction activities were being done to the house that could possibly have affected radon levels. Describe:
- Other temporary factors that could have influenced the test results, including:



**Premier Property Inspections**  
 2325 Seurer Ct.  
 Elko New Market, MN 55054  
 612-849-2221

## Radon Inspection Report

**Test Location:**

Mathew Lovick  
 1428 Pioneer Ct.  
 Northfield, MN 55057

**Test For:**

Mathew Lovick  
 1428 Pioneer Ct.  
 Northfield, MN 55057

**Inspected By:**

Premier Property Inspections  
 2325 Seurer Ct.  
 Elko New Market, MN 55054  
 612-849-2221  
 Lic/Cert. # RMEA-00148

Bldg. Type: Residential Single Family

Type: Real Estate Transaction

## Test Result: Mitigation Recommended

Overall Average:

**8.9 pCi/l**

EPA Average:

**9.0 pCi/l**

**Test Device Details:**

Serial Number: 104215021  
 Model Number: 1028  
 Last Calibration: 03/23/2020  
 Next Calibration: 03/23/2021  
 Cal-Factors: 2.66  
 Motion Error: No

**Test Site Condition:**

Condition: Clear and Dry  
 Wind: North East 0-5mph  
 Structure Type: Split Level  
 Year Built: 1979  
 Sq Ft: 2943

**Test Summary:**

<u>CRM Location:</u>	<u>Start:</u>	<u>Stop:</u>	<u>Interval:</u>	<u>Duration:</u>
Basement Bedroom	09/09/2020 09:39 AM	09/11/2020 09:39 AM	1 hr	48 hr
*First 4 hrs of data excluded	<u>Min:</u>	<u>Max:</u>	<u>Average:</u>	<u>Measurement Units:</u>
Radon Concentration:	1.9	16.5	9.0	pCi/l

**Comments:**

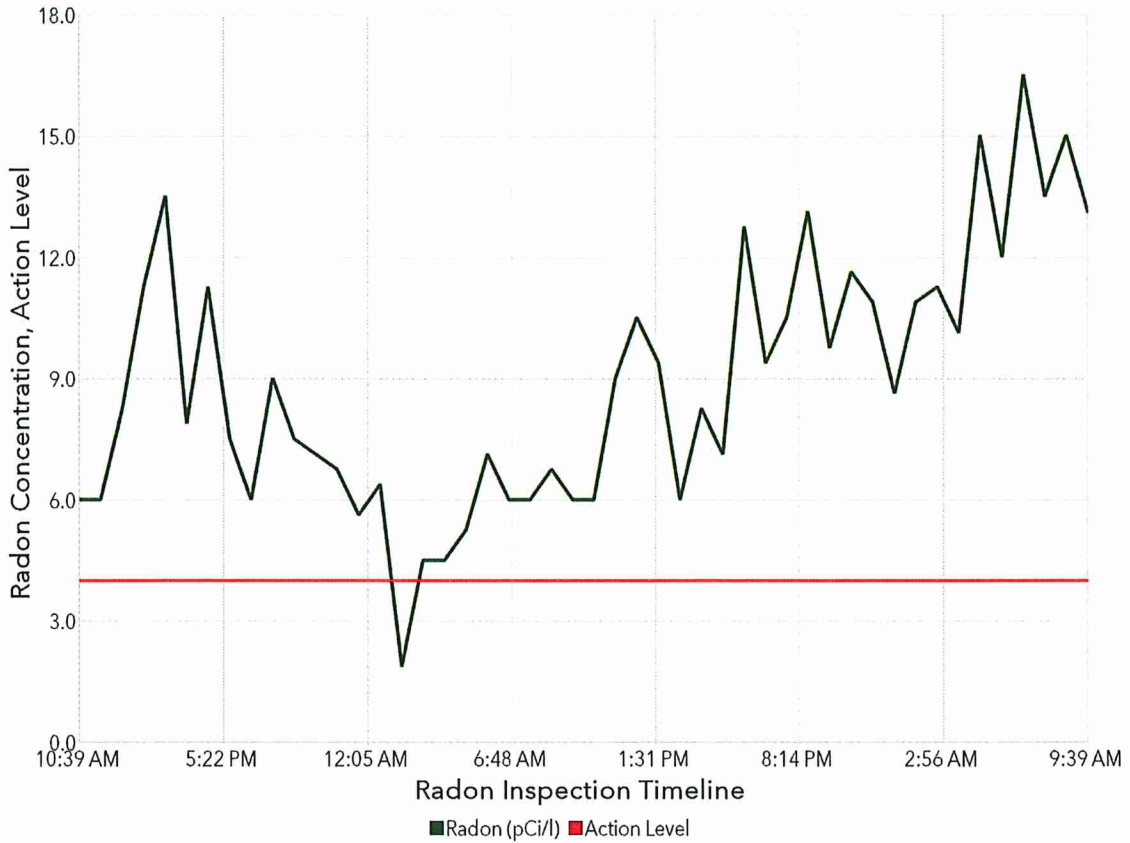
Premier Property Inspections makes every effort to ensure valid test results. Premier Property Inspections is not responsible for testing conditions and parameters not being followed before and during radon testing.

**Lic/Cert Signature**

**Inspection Report Date:** 09/11/2020



### Radon Inspection Chart



**Test Result: Mitigation Recommended**

Test Location: 1428 Pioneer Ct. Northfield, MN 55057

Inspection Report Date: 09/11/2020



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## Test Checklist

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- The location of the detector was selected so the detector was not to be disturbed during testing.
- The monitor was not placed in an area of high humidity such as: Kitchen, laundry room, cellar, spa room, garage, crawl space or sump area.
- The detector was not located near drafts caused by HVAC vents, windows and doors.
- Whole house fans were turned off during the testing.
- The detector was not placed near areas of excessive heat, such as a fireplace or in direct sunlight.
- Portable window fans were removed or sealed in place prior to testing.
- The detector was placed within the breathing zone of at least 20 inches to 6 feet above the floor and at least 1 foot below the ceiling if suspended.
- Window air conditioners were operable in recirculation mode only.
- The detector was not placed within 1 foot of outside walls of the home or within 3 feet of any windows or doors to the exterior of the home.
- Ceiling fans, portable dehumidifiers, portable humidifiers, portable air filters, and all window air conditioners are not operated within 20 feet of the detector.

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### Test Result: Mitigation Recommended

**Test Location:** 1428 Pioneer Ct. Northfield, MN 55057

**Inspection Report Date:** 09/11/2020

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## Test Table

\* Data from first 4 hours excluded from EPA calculations

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Date/Time	Radon(pCi/l)	Flags
09/09/20 10:39 AM	6.0	-
09/09/20 11:39 AM	6.0	-
09/09/20 12:39 PM	8.3	-
09/09/20 01:39 PM	11.3	-
09/09/20 02:39 PM	13.5	-
09/09/20 03:39 PM	7.9	-
09/09/20 04:39 PM	11.3	-
09/09/20 05:39 PM	7.5	-
09/09/20 06:39 PM	6.0	-
09/09/20 07:39 PM	9.0	-
09/09/20 08:39 PM	7.5	-
09/09/20 09:39 PM	7.1	-
09/09/20 10:39 PM	6.8	-
09/09/20 11:39 PM	5.6	-
09/10/20 12:39 AM	6.4	-
09/10/20 01:39 AM	1.9	-
09/10/20 02:39 AM	4.5	-
09/10/20 03:39 AM	4.5	-
09/10/20 04:39 AM	5.3	-
09/10/20 05:39 AM	7.1	-
09/10/20 06:39 AM	6.0	-
09/10/20 07:39 AM	6.0	-
09/10/20 08:39 AM	6.8	-
09/10/20 09:39 AM	6.0	-
09/10/20 10:39 AM	6.0	-
09/10/20 11:39 AM	9.0	-
09/10/20 12:39 PM	10.5	-
09/10/20 01:39 PM	9.4	-
09/10/20 02:39 PM	6.0	-
09/10/20 03:39 PM	8.3	-
09/10/20 04:39 PM	7.1	-
09/10/20 05:39 PM	12.8	-
09/10/20 06:39 PM	9.4	-
09/10/20 07:39 PM	10.5	-
09/10/20 08:39 PM	13.2	-
09/10/20 09:39 PM	9.8	-
09/10/20 10:39 PM	11.6	-
09/10/20 11:39 PM	10.9	-
09/11/20 12:39 AM	8.6	-
09/11/20 01:39 AM	10.9	-
09/11/20 02:39 AM	11.3	-
09/11/20 03:39 AM	10.1	-
09/11/20 04:39 AM	15.0	-
09/11/20 05:39 AM	12.0	-

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### Test Result: Mitigation Recommended

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## Test Table

\* Data from first 4 hours excluded from EPA calculations

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<u>Date/Time</u>	<u>Radon(pCi/l)</u>	<u>Flags</u>
09/11/20 06:39 AM	16.5	-
09/11/20 07:39 AM	13.5	-
09/11/20 08:39 AM	15.0	-
09/11/20 09:39 AM	13.2	-

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**Test Result: Mitigation Recommended**

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## Radon Test Information

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### Radon Risk Information

Radon causes lung cancer by means of the decay of its daughter products after breathing in air contaminated with higher levels of Radon. The World Health Organization (WHO) estimates that 15% of lung cancers worldwide are caused by exposure to elevated indoor levels of Radon. Overall, radon is the second leading cause of lung cancer responsible for about 21,000 lung cancer deaths every year in the US alone. Radon gas is the number one cause of lung cancer among non-smokers. The U.S. Environmental Protection Agency (EPA), the U.S. Surgeon General, and the Center for Disease Control and Prevention (CDC) strongly recommend that ALL homebuyers have an indoor radon test performed prior to purchase or taking occupancy and recommend having the radon levels professionally mitigated if elevated radon concentrations are found.

### Understanding Radon Test Results

Recommended Action Levels vary by country and typically range from 3 pCi/l (100 Bq/m<sup>3</sup>) to 8 pCi/l (300 Bq/m<sup>3</sup>). Recommendations below are based on test results by a Continuous Radon Monitor (CRM) Test of at least 48h duration and are based on recommendations by the EPA.

Measured Average Radon Level:

- At or above 4.0 pCi/l (148 Bq/m<sup>3</sup>): Corrective measures to reduce exposure to radon gas is strongly recommended (ANSI MAH2014)
- Between 2-4 pCi/l (74-148 Bq/m<sup>3</sup>): Consider mitigation or periodic retest as indoor Radon levels vary by season and weather conditions
- Below 2 pCi/l (74 Bq/m<sup>3</sup>): Consider bi-annual retest or whenever significant changes to the home structure or mechanical systems occurred

### Minnesota Notice to Clients

For more information on radon, please contact the Minnesota Department of Health at 651-201-4601 or [health.indoorair@state.mn.us](mailto:health.indoorair@state.mn.us) or visit their website at <http://www.health.state.mn.us/divs/eh/indoorair/radon/index.html>.

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## Test Result: Mitigation Recommended

**Test Location:** 1428 Pioneer Ct. Northfield, MN 55057

**Inspection Report Date:** 09/11/2020

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# Test Results



## Minnesota Radon Specialists

4059 Pennsylvania Ave  
Eagan, MN 55123  
Phone: 612-940-3796  
Email: [service@radonmn.com](mailto:service@radonmn.com)

Test Submitted To: Noah Cashman

Date: October 12, 2020

Job Site Address: 1428 Pioneer Court  
City, State Zip: Northfield, MN 55057  
Phone: (612) 210-3790  
Email: [cashlaw@charter.net](mailto:cashlaw@charter.net)

**Average Radon Level: 2.2 pCi/l**

Thank you for using Minnesota Radon Specialists for your radon test. Your average radon level was 2.2 pico curries per liter (pCi/L). While no amount of radon is considered safe the EPA's action level is 4.0 pCi/l. If your level is 4.0 pCi/l or more then the EPA recommends that the house is mitigated of radon. Also recommend: if level is between 2.0 pCi/l and 4.0 pCi/l that you consider the house to be mitigated for radon.

The Minnesota Department of Health also recommends the following:

Test Type	Results (pCi/l)	Recommended Action
Initial short-term Test	Less than 2	Consider Performing a long-term test. (Test over 90 days)
	2-10	Perform long-term test.
Second Short-term Test	Greater than 10	Perform a second short-term test.
	Less than 8	Perform long-term test.
Long-term Test	8 or greater	Mitigation strongly recommended if first test result was also < 4.0
	Less than 2	Retest if major changes made to home.
	2 - 4	Consider performing mitigation.
	Greater than 4	Mitigation strongly recommended

We use a Sun Nuclear 1027 Professional Continuous Radon Monitor for our testing procedures. The raw data from the monitor is also in the attachment. Our monitor is calibrated every year.

If you require more information on radon testing or have any general questions about radon please refer to our web site at [www.radonmn.com](http://www.radonmn.com).

Test Deployed by: Brian Benasutti  
License Number: RMITS-00048

Signature: 

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Professional  
Radon Monitor

Start Date : 10/5/2020  
Start Time : 1:00 PM  
End Date : 10/9/2020  
End Time : 9:45 AM  
Serial # : 3  
Location : 1428 Pioneer Court  
Northfield, MN 55057

Signature: Brian Benasutti

Data in pCi/l  
Time Interval 1 Hr

3.1 3.6 4.3  
2.8 2.8 2.3  
3.1 2.3 1.5  
3.1 0.7 2.8

0.7 0.3 0.7  
1.1 1.5 0.7  
2.3 0.7 1.1  
1.5 4.0 2.3

3.1 1.5 2.3  
2.8 2.3 0.3  
2.0 1.1 1.5  
2.0 0.7 2.3

3.1 3.1 3.1  
2.8 1.5 2.3  
3.1 1.1 3.6  
3.1 1.5 3.1

0.7 2.8 3.6  
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2.3 3.1 3.6  
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2.0 3.1 1.1  
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