|  |
| --- |
| ***RADON SCREENING SURVEY***  Woodsdale School 120 Chestnut Street Abington, MA  **Woodsdale School**  **120 Chestnut Street**  **Abington, MA**  Prepared by:  Massachusetts Department of Public Health  Bureau of Environmental Health  Indoor Air Quality Program  Radon Assessment Unit  April, 2019 |

# Background

|  |  |
| --- | --- |
| Dates of Assessment: | 12/10/2018 through 12/12/2018 |
| Building Name: | Woodsdale School |
| Address: | 120 Chestnut Street, Abington, MA |
| Assessment Requested by: | Abington Public Schools |
| Massachusetts Department of Public Health Bureau of Environmental Health (MDPH/BEH) Staff Conducting Assessment: | Lisa A. Hébert, Senior Technical Radon Specialist, Indoor Air Quality (IAQ) Program, Radon Unit |

# Methods

Radon samples were collected for the purpose of this radon survey using the United States Environmental Protection Agency (US EPA) Method #402-R-92-004 Liquid Scintillation (LS). Sampling devices were obtained through AccuStar Labs, a certified radon laboratory. Forty two devices were deployed throughout the building for a minimum 48-hour time period. Devices were deployed on December 10, 2018 and collected on December 12, 2018.

# Results

Tests were taken during normal operations at Woodsdale School. Of the forty-two areas where test devices were deployed, devices from forty-one areas were collected and submitted to AccuStar Labs. The lab results from the survey appear in Appendix A.

# Discussion

Radon Unit staff reviewed the lab results from AccuStar Labs and found all quality assurance parameters within acceptable limits. Appendix A shows that radon levels in the building ranged from less than 0.4pCi/L to 0.8pCi/L. None of the areas screened had radon levels above the US EPA action guideline of 4 picocuries per liter of air pCi/L. Please note that one vial could not be submitted due to being disturbed/ tampered. Some areas were not tested due to lack of access or temperatures that were too high. These areas were:

• Storage 2 - (Vial # 3136078 – was found on floor)

• Boiler Room, upper and lower – too hot to test

• Transformer vault – no access

## Radon Gas

According to the National Research Council (NRC, 2009), “low levels of radon are present in all the air we breathe.” Radon is a naturally occurring, radioactive gas that is produced by the natural decay of uranium in the soil. The average outdoor radon level is about 0.4 pCi/L (US EPA, 2009). Once radon is formed, it migrates through various pathways in the soil and can enter a building through cracks, holes, and joints in a building’s foundation (US EPA, 2009). The EPA recommends mitigation for indoor radon levels at or above 4 pCi/L.

According to the US EPA (2009), radon gas “decays into radioactive particles that can get trapped in your lungs when you breathe. As they break down further, these particles release small bursts of energy.” This activity can damage your lung tissue and increase a person’s risk of developing lung cancer (US EPA, 2009). Radon is the leading cause of lung cancer in non-smokers. In 2005, the U.S. Surgeon General issued a health advisory stating that indoor radon is the second leading cause of lung cancer (US EPA, 2013).

# Recommendations

Based on the measurements and observations made during the visit, the following recommendations are made.

It would be prudent to re-test areas where vials were disturbed, as well as those areas that were not tested. These areas include:

Storage 2

Boiler Room, upper and lower

Transformer vault

Refer to resource manual and other related IAQ documents located on the MDPH’s website for further building-wide evaluations and advice on maintaining public buildings. These documents are available at: <http://mass.gov/dph/iaq> .

If you have any questions or concerns, please call the Massachusetts Department of Public Health Radon Assessment Unit at (413) 586-7525.

# References

National Research Council (MRC). 1999. *Risk Assessment of Radon in Drinking Water,* National Academy Press.

United States Environmental Protection Agency (US EPA). 2009. “A Citizen’s Guide to Radon. The Guide To Protecting Yourself and Your Family From Radon”. US Environmental Protection Agency. EPA402/K-09/001. January 2009.

United States Environmental Protection Agency (US EPA). 2013. “Home Buyers and Seller’s Guide to Radon”. US Environmental Protection Agency. EPA402/K-13/002. September 2013.

**Appendix A**

**Radon Survey Results**

NELAC NY 11769

NRPP 103216 AL NRSB ARL0017

Laboratory Report for: Property Tested:

EPA Method #402-R-92-004

Liquid Scintillation NRPP Device Code 8088 NRSB Device Code 12193

Peter Schafer c/o Abington Public Schools

Woodsdale School

1071 Washington Street 120 Chestnut Street

Abington MA 02351 Abington MA 02351

Log Number

Device Number

Test Exposure Duration:

Area Tested

Result

pCi/L

2408296 3136040

2408297 3136069

2408298 3136070

2408299 3136071

2408300 3136072

2408301 3136073

2408302 3136074

2408303 3136075

2408304 3136076

2408305 3136077

2408306 3136080

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

3:10 pm

3:10 pm

3:15 pm

3:20 pm

3:20 pm

3:25 pm

3:25 pm

3:30 pm

3:30 pm

3:35 pm

3:40 pm

12/12/2018 4:00 pm

12/12/2018 4:00 pm

12/12/2018 4:00 pm

12/12/2018 4:05 pm

12/12/2018 4:05 pm

12/12/2018 4:05 pm

12/12/2018 4:05 pm

12/12/2018 4:05 pm

12/12/2018 4:10 pm

12/12/2018 4:10 pm

12/12/2018 4:15 pm

Health - Office Area Health - Patient Area Office - Reception Office Storage Principal

Office - Dr. Fedorowicz Office - Mrs. Showsstack 5A

Copier Storage 1

Room 6

< 0.4

< 0.4

< 0.4

0.5

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

0.4

< 0.4

**Comment:**

A copy of this report was emailed to [lisa.hebert@state.ma.us.](mailto:lisa.hebert@state.ma.us)

Test Performed By: Lisa Hebert

Distributed by: Dept of Public Health-Western Regional

Date Received: 12/14/2018

Date Logged:

12/14/2018

Date Analyzed: 12/15/2018

Date Reported:

12/17/2018

**Disclaimer:**

Report Reviewed By:

Report Approved By:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

NELAC NY 11769

NRPP 103216 AL NRSB ARL0017

Laboratory Report for: Property Tested:

EPA Method #402-R-92-004

Liquid Scintillation NRPP Device Code 8088 NRSB Device Code 12193

Peter Schafer c/o Abington Public Schools

Woodsdale School

1071 Washington Street 120 Chestnut Street

Abington MA 02351 Abington MA 02351

Log Number

Device Number

Test Exposure Duration:

Area Tested

Result

pCi/L

2408307 3136081

2408308 3136085

2408309 3136086

2408310 3136087

2408311 3136088

2408312 3136089

2408313 3136090

2408314 3136091

2408315 3136095

2408316 3136096

2408317 3136097

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

3:45 pm

3:50 pm

3:55 pm

4:00 pm

4:00 pm

3:15 pm

3:30 pm

3:30 pm

4:10 pm

4:15 pm

4:25 pm

12/12/2018 4:15 pm

12/12/2018 4:15 pm

12/12/2018 4:20 pm

12/12/2018 4:20 pm

12/12/2018 4:25 pm

12/12/2018 4:00 pm

12/12/2018 4:10 pm

12/12/2018 4:24 pm

12/12/2018 4:25 pm

12/12/2018 4:30 pm

12/12/2018 4:35 pm

Room 7

Room 8

Room 5

Room 4

Room 3 QA-1 QA-2 QA-3

Room 2

Room 1

Playroom - near storage

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

**Comment:**

A copy of this report was emailed to [lisa.hebert@state.ma.us.](mailto:lisa.hebert@state.ma.us)

Test Performed By: Lisa Hebert

Distributed by: Dept of Public Health-Western Regional

Date Received: 12/14/2018

Date Logged:

12/14/2018

Date Analyzed: 12/15/2018

Date Reported:

12/17/2018

**Disclaimer:**

Report Reviewed By:

Report Approved By:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

NELAC NY 11769

NRPP 103216 AL NRSB ARL0017

Laboratory Report for: Property Tested:

EPA Method #402-R-92-004

Liquid Scintillation NRPP Device Code 8088 NRSB Device Code 12193

Peter Schafer c/o Abington Public Schools

Woodsdale School

1071 Washington Street 120 Chestnut Street

Abington MA 02351 Abington MA 02351

Log Number

Device Number

Test Exposure Duration:

Area Tested

Result

pCi/L

2408318 3136098

2408319 3136099

2408320 3136100

2408321 3136092

2408322 3136093

2408323 3136094

2408324 3135809

2408325 3135823

2408326 3135824

2408327 3135825

2408328 3135826

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

4:25 pm

4:25 pm

4:30 pm

4:10 pm

4:15 pm

4:30 pm

4:35 pm

4:40 pm

4:45 pm

4:50 pm

4:55 pm

12/12/2018 4:35 pm

12/12/2018 4:35 pm

12/12/2018 4:40 pm

12/12/2018 4:25 pm

12/12/2018 4:30 pm

12/12/2018 4:40 pm

12/12/2018 4:45 pm

12/12/2018 4:50 pm

12/12/2018 4:50 pm

12/12/2018 4:55 pm

12/12/2018 5:00 pm

Playroom Playroom - Storage Receiving

QA-4 QA-5 QA-6

Receiving Storage Outer Storage Room Custodial Supplies Custodial Office Custodial Storage

< 0.4

0.5

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

0.8

< 0.4

0.4

< 0.4

**Comment:**

A copy of this report was emailed to [lisa.hebert@state.ma.us.](mailto:lisa.hebert@state.ma.us)

Test Performed By: Lisa Hebert

Distributed by: Dept of Public Health-Western Regional

Date Received: 12/14/2018

Date Logged:

12/14/2018

Date Analyzed: 12/15/2018

Date Reported:

12/17/2018

**Disclaimer:**

Report Reviewed By:

Report Approved By:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

NELAC NY 11769

NRPP 103216 AL NRSB ARL0017

Laboratory Report for: Property Tested:

EPA Method #402-R-92-004

Liquid Scintillation NRPP Device Code 8088 NRSB Device Code 12193

Peter Schafer c/o Abington Public Schools

Woodsdale School

1071 Washington Street 120 Chestnut Street

Abington MA 02351 Abington MA 02351

Log Number

Device Number

Test Exposure Duration:

Area Tested

Result

pCi/L

2408329 3135827

2408330 3135828

2408331 3135830

2408332 3135831

2408333 3135832

2408334 3135833

2408335 3135834

2408336 3135835

2408337 3135836

2408338 3135837

2408339 3135838

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

4:55 pm

5:00 pm

5:00 pm

5:05 pm

5:05 pm

5:10 pm

5:10 pm

5:15 pm

5:20 pm

5:25 pm

5:30 pm

12/12/2018 5:00 pm

12/12/2018 5:05 pm

12/12/2018 5:05 pm

12/12/2018 5:10 pm

12/12/2018 5:15 pm

12/12/2018 5:15 pm

12/12/2018 5:15 pm

12/12/2018 5:20 pm

12/12/2018 5:25 pm

12/12/2018 5:35 pm

12/12/2018 5:35 pm

Kitchen - Prep Area Kitchen Storage Kitchen Prep 2 Stage L

Stage R Cafeteria Storage Cafeteria 1

Cafeteria 2

Library

Teachers Lounge Room 15A

0.4

< 0.4

< 0.4

< 0.4

< 0.4

0.7

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

**Comment:**

A copy of this report was emailed to [lisa.hebert@state.ma.us.](mailto:lisa.hebert@state.ma.us)

Test Performed By: Lisa Hebert

Distributed by: Dept of Public Health-Western Regional

Date Received: 12/14/2018

Date Logged:

12/14/2018

Date Analyzed: 12/15/2018

Date Reported:

12/17/2018

**Disclaimer:**

Report Reviewed By:

Report Approved By:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

NELAC NY 11769

NRPP 103216 AL NRSB ARL0017

Laboratory Report for: Property Tested:

EPA Method #402-R-92-004

Liquid Scintillation NRPP Device Code 8088 NRSB Device Code 12193

Peter Schafer c/o Abington Public Schools

Woodsdale School

1071 Washington Street 120 Chestnut Street

Abington MA 02351 Abington MA 02351

Log Number

Device Number

Test Exposure Duration:

Area Tested

Result

pCi/L

2408340 3135839

2408341 3135840

2408342 3135841

2408343 3135842

2408344 3135843

2408345 3135845

2408346 3135844

2408347 3135846

2408348 3135847

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

12/10/2018

5:30 pm

4:50 pm

4:55 pm

4:55 pm

5:40 pm

5:45 pm

5:40 pm

5:45 pm

5:45 pm

12/12/2018 5:40 pm

12/12/2018 4:55 pm

12/12/2018 5:00 pm

12/12/2018 5:40 pm

12/12/2018 5:50 pm

12/12/2018 5:50 pm

12/12/2018 5:50 pm

12/12/2018 5:50 pm

12/12/2018 5:50 pm

Room 15B QA-7

QA-8 QA-9

Storage 1 - above library Storage 2 - above library QA-10

QA-11

QA-12

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

< 0.4

**Comment:**

A copy of this report was emailed to [lisa.hebert@state.ma.us.](mailto:lisa.hebert@state.ma.us)

Test Performed By: Lisa Hebert

Distributed by: Dept of Public Health-Western Regional

Date Received: 12/14/2018

Date Logged:

12/14/2018

Date Analyzed: 12/15/2018

Date Reported:

12/17/2018

**Disclaimer:**

Report Reviewed By:

Report Approved By:

Shawn Price, Director of Laboratory Operations, AccuStar Labs

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.