



Cascade Radon, Inc.  
Testing, Mitigation,  
Systems Design  
CCB 180537 / CASCARI927C1  
Fed ID 26-1809992

12839 NE Airport Way Bldg. 9  
Portland, Oregon 97230  
Phone: (503) 421-4813  
Fax: (503) 281-6170  
Office@CascadeRadon.com

# Ockley Green Middle School

(C-65290)

6031 N Montana Ave., Portland, OR 97217

March 19, 2018



Cascade Radon, Inc.  
Testing, Mitigation,  
Systems Design  
CCB 180537 / CASCARI927C1  
Fed ID 26-1809992

12839 NE Airport Way Bldg. 9  
Portland, Oregon 97230  
Phone: (503) 421-4813  
Fax: (503) 281-6170  
Office@CascadeRadon.com

## **Purpose**

**Initial short-term testing was performed by PBS Engineering and Environmental Inc. in 33 locations throughout the building beginning December 12, 2016 and ending December 16, 2016. Testing indicated 5.4 pCi/L in the Principal's Office, Dance room 7.3 pCi/L, Gym 11.5 pCi/L, Boy's P.E. Office 6.2 and Girls P.E. Office was 5.3 pCi/L.**

**In December of 2016 to May of 2017 a follow up long-term was performed in some of these rooms as a confirmation test, the result of those tests came back with a long-term radon average of 4.6 pCi/L in the Principal's Office, Dance room 3.3 pCi/L, Boy's P.E. Office 3.9 pCi/L and Girl's P.E. Office was 2.9 pCi/L.**

**Even though that some of these long-term test came back with an average below the action level of 4.0 pCi/L, it was decided to include these rooms in the scope of mitigation. Cascade Radon was initially hired in February of 2017 to diagnose the effected rooms and develop a mitigation strategy to temporarily reduce the radon levels as an emergency action.**

**As stated above, the long term test were placed before we installed a temporary mitigation system to quickly address the high short-term tests from December. It was believed that had this temporary system not been installed, the other long-term test would have proved high results.**

**The installation of two sub-slab depressurization systems was used to reduce the radon below the EPA action level of 4 pCi/L. See attached pages for a description of the system components and post-mitigation testing.**



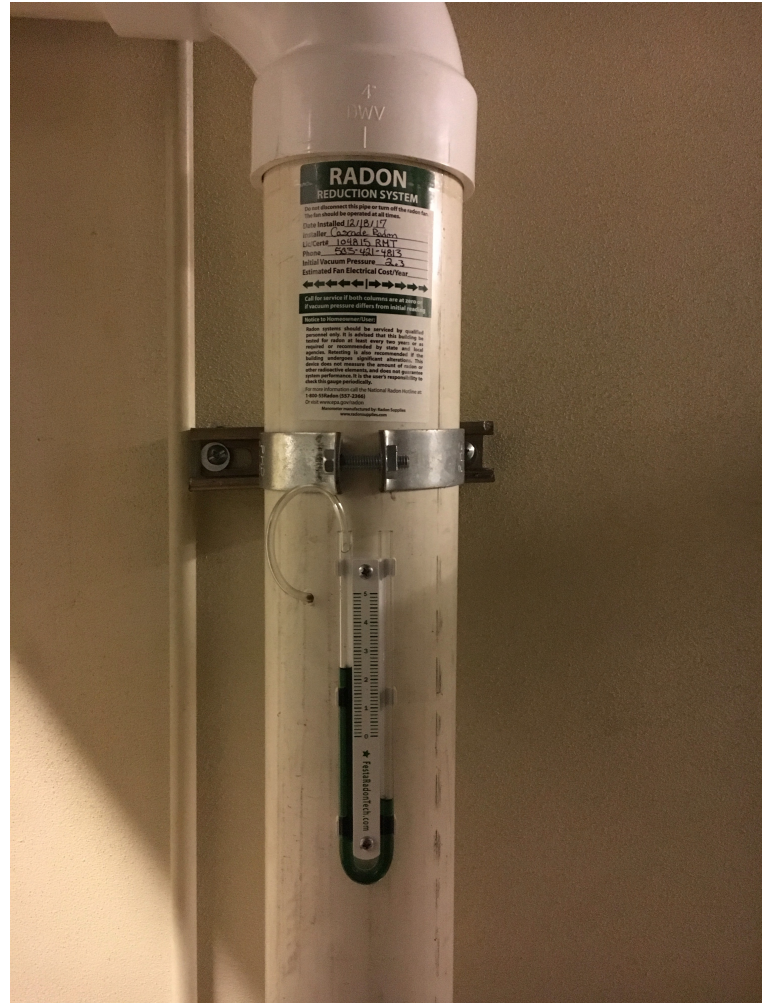
**System #1 mitigation fan is located in the attic above the storage room adjacent to the gym. This fan creates negative pressure beneath the concrete slab to mitigate the gym, room 305, room 307 and the Dance room.**



**System #2 mitigation fan is located on the western roof of the building above the Faculty room. Vent piping runs down the side of the building, into the basement and draws from two suction points.**



**Suction point location in a storage room adjacent to the main gym. Schedule 80 vent piping was used from the floor up to protect against accidental impacts.**



**Pressure Gauge**

**System #1, The suction point is located in a storage next to the main Gym . The vent piping continues to the fan location in the attic above. The system includes a manometer (pressure gauge), which is a simple means of seeing the system is working mechanically. A manometer also shows how much negative pressure (depressurization) the system is creating. It is understood such a pressure gauge DOES NOT monitor radon levels.**



**This portion of system #1 is the vent piping continuing from the suction point below in the storage room, into this attic space and up to the mitigation fan.**



**Vent location of system #1**



**System #2, the suction points are located in basement below the Faculty room 130. The vent piping continues to the fan located on the western roof. The system includes a manometer (pressure gauge), which is a simple means of seeing the system is working mechanically. A manometer also shows how much negative pressure (depressurization) the system is creating. It is understood such a pressure gauge DOES NOT monitor radon levels.**



**System #2 vent routing in the basement from the suction points and to the western exterior foundation wall. This system is designed to mitigate the Principals Office.**



**Exterior vent routing to the fan location on the western roof. The exterior vent piping was required to be shrouded to deter climbing.**



# Credentials

**Cascade Radon, Inc.**  
12839 NE Airport Way Bldg. 9  
Portland, OR 97230  
(503)421-4813  
office@cascaderadon.com  
CCB180537  
CASCARI977C1  
NEHA/NRPP# 104815RMT  
NRSB# 1G0008

**Snyder Roofing of Oregon LLC**  
12650 SW Hall Blvd.  
Tigard, OR 97223  
(503)620-5252  
Snyder-builds.com  
CCB135987

**Christensen Electric, Inc.**  
17201 NE Sacramento Street  
Portland, OR 97230  
(503)419-3300  
info@christenson.com  
CCB458

**Accurate Concrete Cutting**  
6816 NE 40th Ave.  
Vancouver, WA 98661  
lj@accurate-concrete-cut.com  
CCB191788  
W.A. Contr. License# ACCURCC153M2



**CASCADE RADON, INC.**

Testing, Mitigation,  
Systems Design  
CCB 180537 / CASCARI927C1

12839 NE Airport Way  
Portland, OR 97230  
Phone: (503) 421-4813  
Fax: (503) 281-6170  
[Office@CascadeRadon.com](mailto:Office@CascadeRadon.com)

March 19, 2018

C-65290

To: Portland Public Schools  
501 N. Dixon Street  
Portland, OR 97227

RE: Ockley Green Middle School  
6031 N Montana Ave.  
Portland, OR 97217

Effective: December 18, 2017

Cascade Radon, Inc. warrants that all work has been performed in a workmanlike manner and according to the best standard practices. All materials and equipment are new, unless otherwise specified, and of first quality.

Cascade Radon, Inc. guarantees that the installation will maintain average, long-term, indoor radon levels, based upon approved 9 month duration Alpha-Track testing at or below 4 pCi/L for a period of 10 years.

With the exception of the exhaust fan unit(s), Cascade Radon, Inc. warrants that all labor, work, materials and equipment will be free from faults in material or workmanship for period of ten (10) years from the date of substantial completion.

Includes 5-year manufactures replacement warranty on exhaust fan unit(s), beginning at time of initial activation, with any related work and materials provided at no cost to the Client.

All warranties and guarantees are transferable to future owners of the same property.

Warranty or service inquires, please call (503) 421-4813

Sincerely,  
Wade Gervais  
Division Manager  
Cascade Radon, Inc.



## TEST DETAILS:

Ockley Green Middle School  
 6031 N Montana Ave  
 Portland, OR 97217  
 Multnomah

Portland Public Schools

**Test Start Date/Time:** Tuesday, January 16, 2018 // 1:53 PM

**Test End Date/Time:** Friday, January 19, 2018 // 11:08 AM

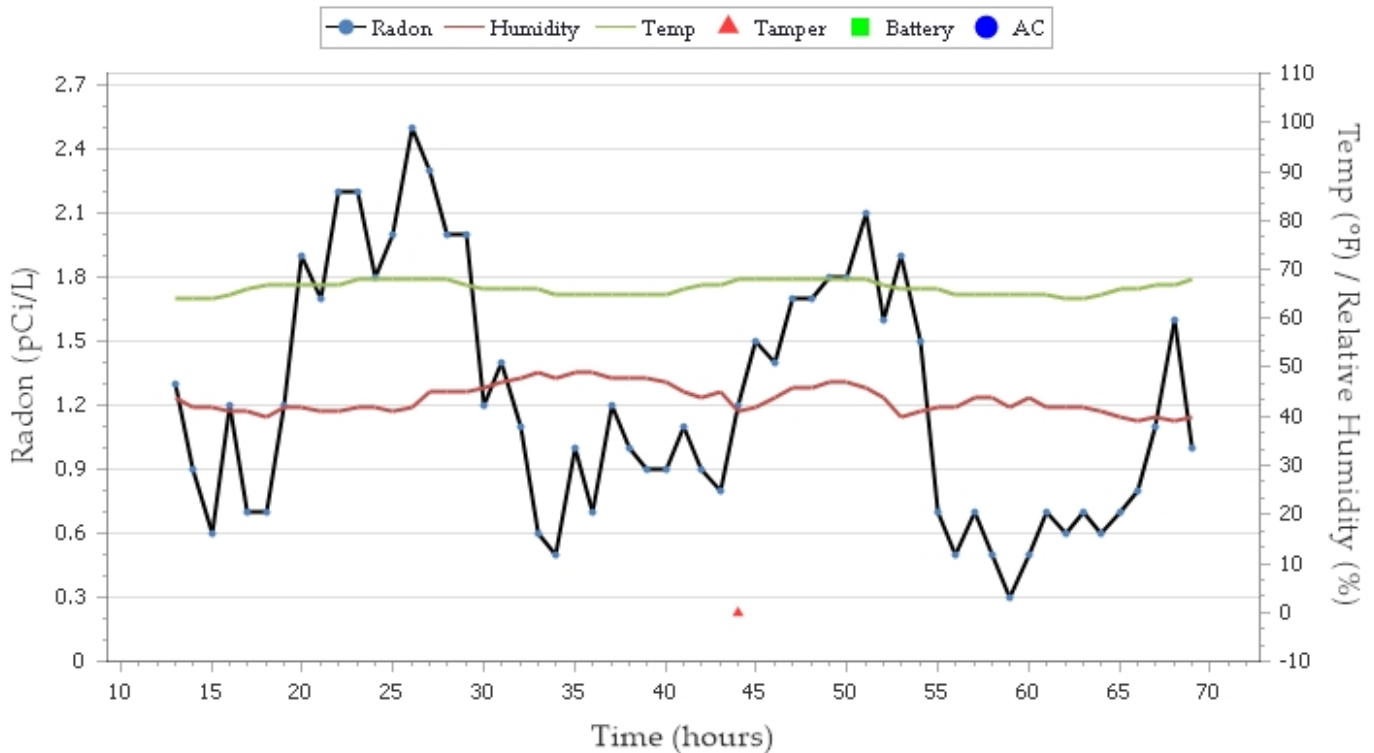
**Location of Instrument:** Boys PE Office West Wall

**Notes:**

## TEST RESULTS:

**Average:** 1.2 pCi/L

**Test ID#** 80194



*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



## INTERVAL REPORT:

Hour	T	B	AC	pCi/L	Temp	Humd	Alpha
13				1.3	64	44	42
14				0.9	64	42	30
15				0.6	64	42	21
16				1.2	65	41	40
17				0.7	66	41	23
18				0.7	67	40	25
19				1.2	67	42	40
20				1.9	67	42	61
21				1.7	67	41	57
22				2.2	67	41	73
23				2.2	68	42	72
24				1.8	68	42	59
25				2.0	68	41	67
26				2.5	68	42	82
27				2.3	68	45	76
28				2.0	68	45	67
29				2.0	67	45	67
30				1.2	66	46	40
31				1.4	66	47	45
32				1.1	66	48	37
33				0.6	66	49	22
34				0.5	65	48	19
35				1.0	65	49	33
36				0.7	65	49	25
37				1.2	65	48	41
38				1.0	65	48	34
39				0.9	65	48	31
40				0.9	65	47	31
41				1.1	66	45	37
42				0.9	67	44	32
43				0.8	67	45	26
44	*			1.2	68	41	40
45				1.5	68	42	49
46				1.4	68	44	47
47				1.7	68	46	55
48				1.7	68	46	57
49				1.8	68	47	58
50				1.8	68	47	60
51				2.1	68	46	69
52				1.6	67	44	53
53				1.9	66	40	63
54				1.5	66	41	51
55				0.7	66	42	25
56				0.5	65	42	17
57				0.7	65	44	25
58				0.5	65	44	18
59				0.3	65	42	12
60				0.5	65	44	18
61				0.7	65	42	25
62				0.6	64	42	20
63				0.7	64	42	23
64				0.6	65	41	22
65				0.7	66	40	23
66				0.8	66	39	26
67				1.1	67	40	38
68				1.6	67	39	53
69				1.0	68	40	35

Tamara Linde  
Cascade Radon  
12839 NE Airport Way  
Portland, OR 97230  
Phone: 503-421-4813  
office@cascaderadon.com

Fax: 503-281-6170



---

**Minimum:** 0.3 pCi/L      **Maximum:** 2.5 pCi/L      **Average:** 1.2 pCi/L

*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



**CERTIFICATE OF CALIBRATION  
RadStar RS800 Continuous Monitor**

This instrument has been calibrated in accordance with the procedures set forth by the manufacturer.  
Please retain this certificate for your records

Cal Date: 2-2-17 Last Cal Date: 02/02/16 Next Cal Date: 2-2-18  
Device Serial Number: 1979 Device Type: RS800  
Device Status: Passed  Failed  Radon Chamber: TC 103 A

NRPP Chamber#TC103	Radon Gas Concentration: <u>21.5 pCi/l</u>
CRM Serial Numbers: <u>0356 0352</u>	
Chamber Temperature: <u>68.9 °F</u>	Chamber Humidity: <u>54.7 %RH</u>
Start Chamber Exposure: <u>10/21/16 11:00</u>	Stop Chamber Exposure: <u>10/24/16 08:00</u>

Calibration Number (as found, if applicable) 304 Calib#=(10240/(Hourly Counts/pCi/l))  
Calibration Number (Final) 319 Calibrated By: [Signature]

**RadonAway 3 Saber Way Ward Hill, Massachusetts 01835 978-521-3703**

This RadStar Continuous Radon Monitor has been calibrated by the Manufacturer using a standard operating procedure for the calibration of the RS800, TP010 Rev E. This procedure provides for the following performance checks:

- System Functional Checks
- Battery Check
- Back Ground Check in Nitrogen 0.1 pCi/l 15 cph
- Chamber Exposure in known Radon Gas Concentration
- Adjustment to Calibration Number, if necessary
- Adjustment to Background, if necessary
- Verification Chamber Exposure, if necessary

*(As Tested Background is Integrated into Instrument Calculation Program. Do Not Adjust Readings by Background)*

The manufacturer, RadonAway performs quarterly inter-comparisons with a Secondary Chamber

NRPP Device Code 476 Device group 18 USEPA Verified

Radon Measurement Specialist:

NRSB #6SS0002, NRPP #100842RT

**The RadStar RS800 is distributed by Accustar Labs 888-580-9596**



## TEST DETAILS:

Ockley Green Middle School  
 6031 N Montana Ave  
 Portland, OR 97217  
 Multnomah

Portland Public Schools

**Test Start Date/Time:** Tuesday, January 16, 2018 // 1:50 PM

**Test End Date/Time:** Friday, January 19, 2018 // 11:06 AM

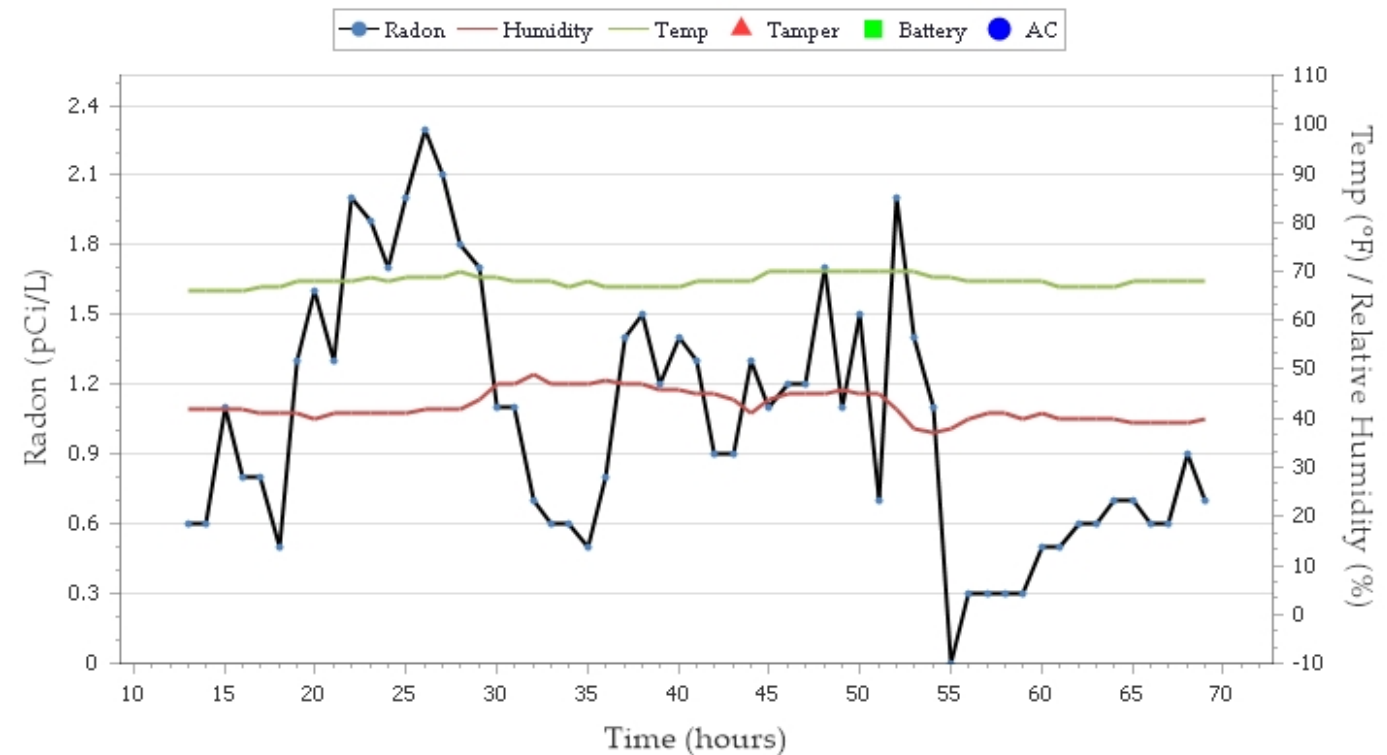
**Location of Instrument:** Girls PE Office West Wall

**Notes:**

## TEST RESULTS:

**Average:** 1.0 pCi/L

**Test ID#** 80264



*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



## INTERVAL REPORT:

Hour	T	B	AC	pCi/L	Temp	Humd	Alpha
13				0.6	66	42	21
14				0.6	66	42	20
15				1.1	66	42	37
16				0.8	66	42	28
17				0.8	67	41	29
18				0.5	67	41	17
19				1.3	68	41	43
20				1.6	68	40	53
21				1.3	68	41	45
22				2.0	68	41	67
23				1.9	69	41	62
24				1.7	68	41	58
25				2.0	69	41	67
26				2.3	69	42	77
27				2.1	69	42	71
28				1.8	70	42	59
29				1.7	69	44	56
30				1.1	69	47	39
31				1.1	68	47	38
32				0.7	68	49	26
33				0.6	68	47	22
34				0.6	67	47	20
35				0.5	68	47	19
36				0.8	67	48	27
37				1.4	67	47	47
38				1.5	67	47	49
39				1.2	67	46	42
40				1.4	67	46	46
41				1.3	68	45	43
42				0.9	68	45	30
43				0.9	68	44	32
44				1.3	68	41	45
45				1.1	70	44	38
46				1.2	70	45	41
47				1.2	70	45	42
48				1.7	70	45	56
49				1.1	70	46	39
50				1.5	70	45	49
51				0.7	70	45	24
52				2.0	70	42	67
53				1.4	70	38	46
54				1.1	69	37	37
55				0.0	69	38	3
56				0.3	68	40	11
57				0.3	68	41	10
58				0.3	68	41	11
59				0.3	68	40	12
60				0.5	68	41	17
61				0.5	67	40	17
62				0.6	67	40	21
63				0.6	67	40	20
64				0.7	67	40	24
65				0.7	68	39	23
66				0.6	68	39	20
67				0.6	68	39	20
68				0.9	68	39	31
69				0.7	68	40	26



Tamara Linde  
Cascade Radon  
12839 NE Airport Way  
Portland, OR 97230  
Phone: 503-421-4813  
office@cascaderadon.com

Fax: 503-281-6170



---

**Minimum:** 0.0 pCi/L      **Maximum:** 2.3 pCi/L      **Average:** 1.0 pCi/L

*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



**CERTIFICATE OF CALIBRATION  
RadStar RS800 Continuous Monitor**

This instrument has been calibrated in accordance with the procedures set forth by the manufacturer.  
Please retain this certificate for your records

Cal Date: 2-2-17 Last Cal Date: 10/12/15 Next Cal Date: 2-2-18  
Device Serial Number: 1981 Device Type: RS800  
Device Status: Passed  Failed  Radon Chamber: TC 103 A

NRPP Chamber#TC103	Radon Gas Concentration: <u>22.1 pCi/l</u>
CRM Serial Numbers: <u>0356 0352</u>	
Chamber Temperature: <u>72.5 °F</u>	Chamber Humidity: <u>47.9 %RH</u>
Start Chamber Exposure: <u>10/19/16 11:30</u>	Stop Chamber Exposure: <u>10/21/16 08:30</u>

Calibration Number (as found, if applicable) 315 Calib#=(10240/(Hourly Counts/pCi/l))  
Calibration Number (Final) 315 Calibrated By: *Ken Smith*

**RadonAway 3 Saber Way Ward Hill, Massachusetts 01835 978-521-3703**

This RadStar Continuous Radon Monitor has been calibrated by the Manufacturer using a standard operating procedure for the calibration of the RS800, TP010 Rev E. This procedure provides for the following performance checks:

- System Functional Checks
- Battery Check
- Back Ground Check in Nitrogen 0.1 pCi/l 15 cph
- Chamber Exposure in known Radon Gas Concentration
- Adjustment to Calibration Number, if necessary
- Adjustment to Background, if necessary
- Verification Chamber Exposure, if necessary

*(As Tested Background is Integrated into Instrument Calculation Program. Do Not Adjust Readings by Background)*

The manufacturer, RadonAway performs quarterly inter-comparisons with a Secondary Chamber

NRPP Device Code 476 Device group 18 USEPA Verified

Radon Measurement Specialist:

NRSB #6SS0002, NRPP #100842RT

*The RadStar RS800 is distributed by Accustar Labs 888-580-9596*



## TEST DETAILS:

Ockley Green Middle School  
 6031 N. Montana Ave.  
 Portland, OR 97217  
 Multnomah

Portland Public Schools

**Test Start Date/Time:** Tuesday, January 16, 2018 // 1:44 PM

**Test End Date/Time:** Friday, January 19, 2018 // 11:03 AM

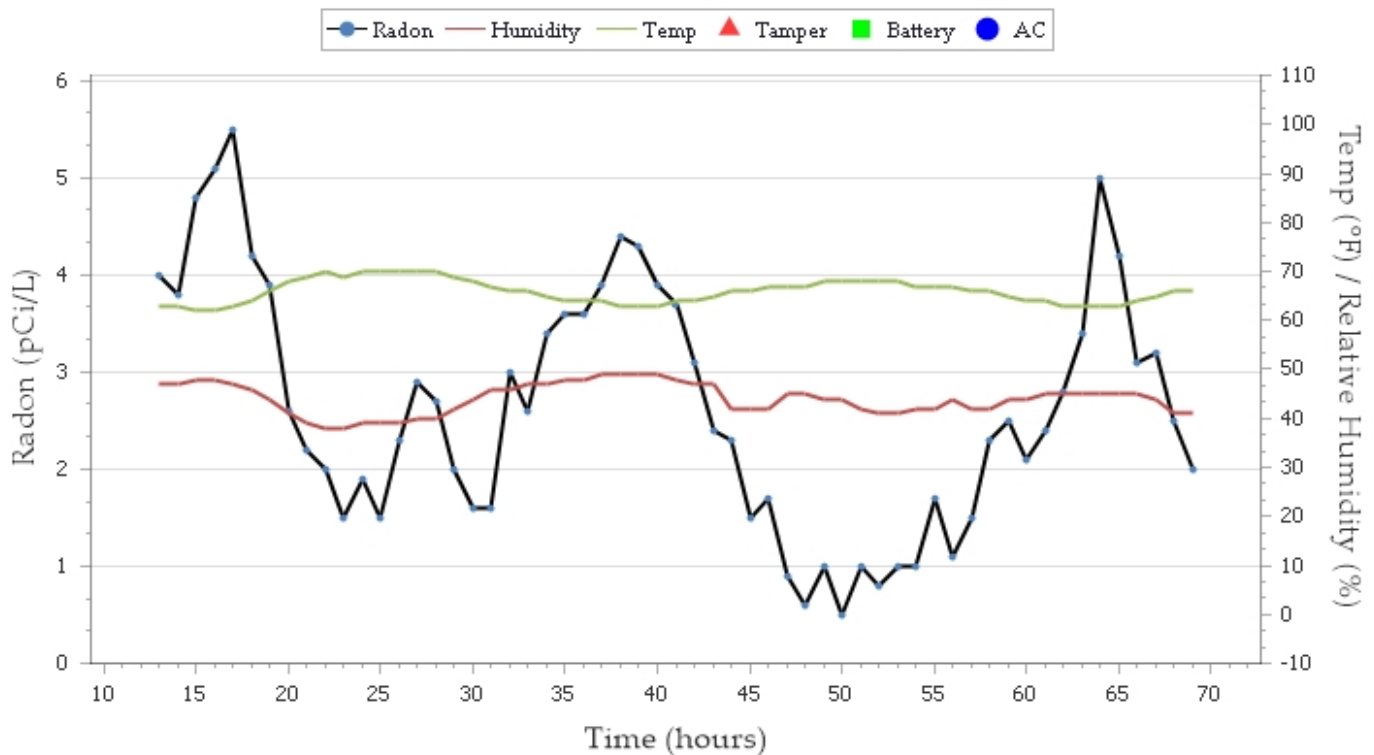
**Location of Instrument:** Principals Office N Wall

**Notes:**

## TEST RESULTS:

**Average:** 2.6 pCi/L

**Test ID#** 80634



*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



## INTERVAL REPORT:

Hour	T	B	AC	pCi/L	Temp	Humd	Alpha
13				4.0	63	47	128
14				3.8	63	47	122
15				4.8	62	48	156
16				5.1	62	48	163
17				5.5	63	47	177
18				4.2	64	46	137
19				3.9	66	44	127
20				2.6	68	41	84
21				2.2	69	39	73
22				2.0	70	38	65
23				1.5	69	38	50
24				1.9	70	39	63
25				1.5	70	39	50
26				2.3	70	39	75
27				2.9	70	40	94
28				2.7	70	40	87
29				2.0	69	42	64
30				1.6	68	44	52
31				1.6	67	46	53
32				3.0	66	46	96
33				2.6	66	47	83
34				3.4	65	47	111
35				3.6	64	48	117
36				3.6	64	48	117
37				3.9	64	49	126
38				4.4	63	49	143
39				4.3	63	49	139
40				3.9	63	49	126
41				3.7	64	48	119
42				3.1	64	47	100
43				2.4	65	47	79
44				2.3	66	42	75
45				1.5	66	42	51
46				1.7	67	42	57
47				0.9	67	45	29
48				0.6	67	45	21
49				1.0	68	44	35
50				0.5	68	44	16
51				1.0	68	42	33
52				0.8	68	41	28
53				1.0	68	41	35
54				1.0	67	42	32
55				1.7	67	42	56
56				1.1	67	44	37
57				1.5	66	42	50
58				2.3	66	42	75
59				2.5	65	44	80
60				2.1	64	44	69
61				2.4	64	45	77
62				2.8	63	45	92
63				3.4	63	45	109
64				5.0	63	45	160
65				4.2	63	45	134
66				3.1	64	45	100
67				3.2	65	44	104
68				2.5	66	41	80
69				2.0	66	41	64

Tamara Linde  
Cascade Radon  
12839 NE Airport Way  
Portland, OR 97230  
Phone: 503-421-4813 Fax: 503-281-6170  
office@cascaderadon.com



---

**Minimum:** 0.5 pCi/L      **Maximum:** 5.5 pCi/L      **Average:** 2.6 pCi/L

*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



**CERTIFICATE OF CALIBRATION  
RadStar RS800 Continuous Monitor**

This instrument has been calibrated in accordance with the procedures set forth by the manufacturer.  
Please retain this certificate for your records

Cal Date: 4-10-17 Last Cal Date: 03/24/16 Next Cal Date: 4-10-18  
Device Serial Number: 1631 Device Type: RS800  
Device Status: Passed  Failed  Radon Chamber: TC 103 B

NRPP Chamber#TC103	Radon Gas Concentration: <u>19.7 pCi/l</u>
CRM Serial Numbers: <u>4183 2173 2178</u>	
Chamber Temperature: <u>69.9 °F</u>	Chamber Humidity: <u>39.3 %RH</u>
Start Chamber Exposure: <u>04/04/17 10:00</u>	Stop Chamber Exposure: <u>04/06/17 08:00</u>

Calibration Number (as found, if applicable) 299 Calib#=(10240/(Hourly Counts/pCi/l))  
Calibration Number (Final) 321 Calibrated By: [Signature]

**RadonAway 3 Saber Way Ward Hill, Massachusetts 01835 978-521-3703**

This RadStar Continuous Radon Monitor has been calibrated by the Manufacturer using a standard operating procedure for the calibration of the RS800, TP010 Rev E. This procedure provides for the following performance checks:

- System Functional Checks
- Battery Check
- Back Ground Check in Nitrogen 0.2 pCi/l 14 cph
- Chamber Exposure in known Radon Gas Concentration
- Adjustment to Calibration Number, if necessary
- Adjustment to Background, if necessary
- Verification Chamber Exposure, if necessary

*(As Tested Background is Integrated into Instrument Calculation Program, Do Not Adjust Readings by Background)*

The manufacturer, RadonAway performs quarterly inter-comparisons with a Secondary Chamber

NRPP Device Code 476 Device group 18 USEPA Verified

Radon Measurement Specialist:

NRSB #6SS0002, NRPP #100842RT

*The RadStar RS800 is distributed by Accustar Labs 888-580-9596*



## TEST DETAILS:

Ockley Green Middle School  
 6031 N Montana Ave  
 Portland, OR 97217  
 Multnomah

Portland Public Schools

**Test Start Date/Time:** Tuesday, January 16, 2018 // 2:06 PM

**Test End Date/Time:** Friday, January 19, 2018 // 11:17 AM

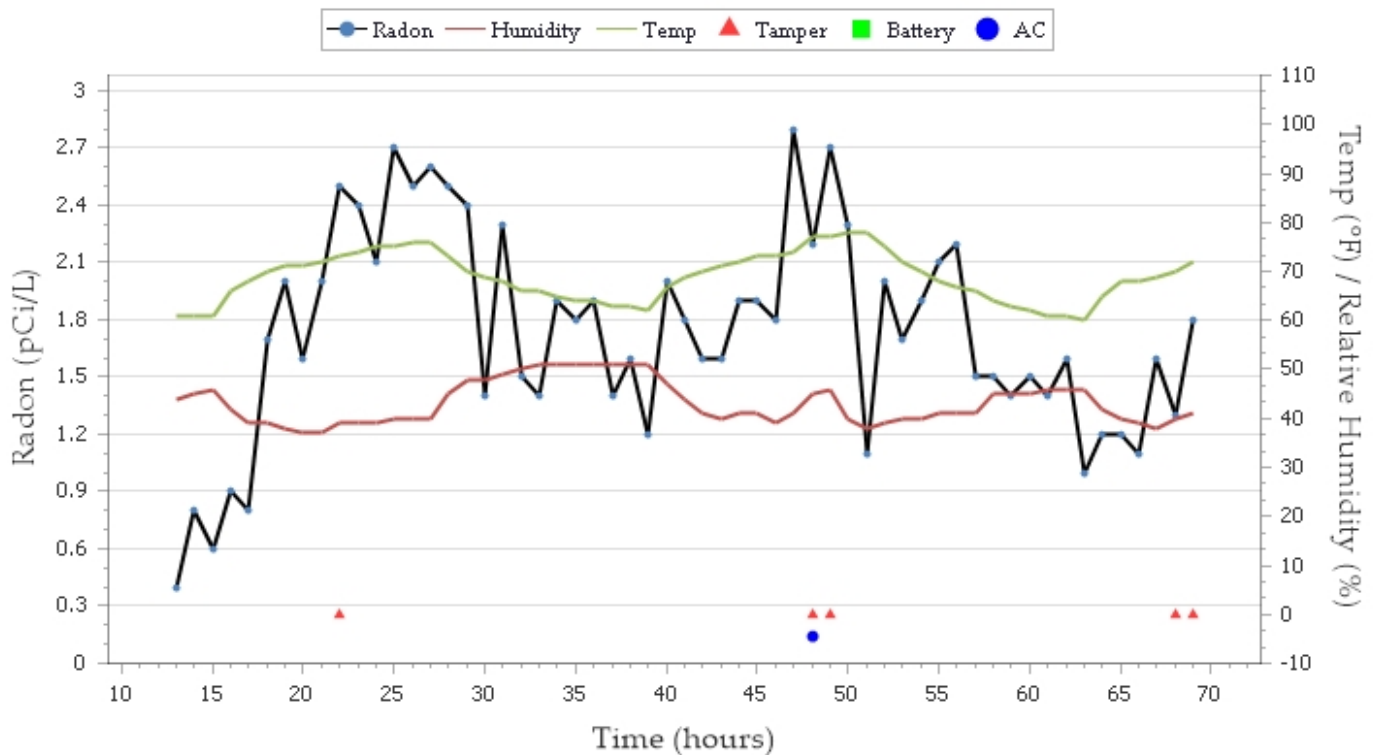
**Location of Instrument:** West Wall

**Notes:**

## TEST RESULTS:

**Average:** 1.7 pCi/L

**Test ID#** 80147



*Tamara C. Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



## INTERVAL REPORT:

Hour	T	B	AC	pCi/L	Temp	Humd	Alpha
13				0.4	61	44	13
14				0.8	61	45	26
15				0.6	61	46	21
16				0.9	66	42	28
17				0.8	68	39	25
18				1.7	70	39	53
19				2.0	71	38	62
20				1.6	71	37	50
21				2.0	72	37	63
22	*			2.5	73	39	79
23				2.4	74	39	75
24				2.1	75	39	66
25				2.7	75	40	84
26				2.5	76	40	80
27				2.6	76	40	83
28				2.5	73	45	80
29				2.4	70	48	77
30				1.4	69	48	46
31				2.3	68	49	74
32				1.5	66	50	47
33				1.4	66	51	45
34				1.9	65	51	60
35				1.8	64	51	57
36				1.9	64	51	61
37				1.4	63	51	45
38				1.6	63	51	51
39				1.2	62	51	40
40				2.0	67	47	64
41				1.8	69	44	57
42				1.6	70	41	51
43				1.6	71	40	50
44				1.9	72	41	60
45				1.9	73	41	60
46				1.8	73	39	57
47				2.8	74	41	87
48	*		*	2.2	77	45	70
49	*			2.7	77	46	84
50				2.3	78	40	74
51				1.1	78	38	36
52				2.0	75	39	64
53				1.7	72	40	53
54				1.9	70	40	59
55				2.1	68	41	68
56				2.2	67	41	71
57				1.5	66	41	49
58				1.5	64	45	49
59				1.4	63	45	45
60				1.5	62	45	48
61				1.4	61	46	44
62				1.6	61	46	52
63				1.0	60	46	31
64				1.2	65	42	40
65				1.2	68	40	39
66				1.1	68	39	37
67				1.6	69	38	51
68	*			1.3	70	40	43
69	*			1.8	72	41	58



Tamara Linde  
Cascade Radon  
12839 NE Airport Way  
Portland, OR 97230  
Phone: 503-421-4813  
office@cascaderadon.com

Fax: 503-281-6170



---

**Minimum:** 0.4 pCi/L      **Maximum:** 2.8 pCi/L      **Average:** 1.7 pCi/L

*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



**CERTIFICATE OF CALIBRATION  
RadStar RS800 Continuous Monitor**

This instrument has been calibrated in accordance with the procedures set forth by the manufacturer.  
Please retain this certificate for your records

Cal Date: 3-7-17 Last Cal Date: 02/05/16 Next Cal Date: 3-7-18  
Device Serial Number: 2106 Device Type: RS800  
Device Status: Passed  Failed  Radon Chamber: TC 103 B

NRPP Chamber#TC103	Radon Gas Concentration: <u>16.9 pCi/l</u>
CRM Serial Numbers: <u>4183 2173 2178</u>	
Chamber Temperature: <u>71.0 °F</u>	Chamber Humidity: <u>37.8 %RH</u>
Start Chamber Exposure: <u>02/27/17 10:00</u>	Stop Chamber Exposure: <u>03/01/17 09:00</u>

Calibration Number (as found, if applicable) 315 Calib#=(10240/(Hourly Counts/pCi/l))

Calibration Number (Final) 331 Calibrated By: [Signature]

**RadonAway 3 Saber Way Ward Hill, Massachusetts 01835 978-521-3703**

This RadStar Continuous Radon Monitor has been calibrated by the Manufacturer using a standard operating procedure for the calibration of the RS800, TP010 Rev E. This procedure provides for the following performance checks:

- System Functional Checks
- Battery Check
- Back Ground Check in Nitrogen 0.1 pCi/l 11 cph
- Chamber Exposure in known Radon Gas Concentration
- Adjustment to Calibration Number, if necessary
- Adjustment to Background, if necessary
- Verification Chamber Exposure, if necessary

*(As Tested Background is Integrated into Instrument Calculation Program. Do Not Adjust Readings by Background)*

The manufacturer, RadonAway performs quarterly inter-comparisons with a Secondary Chamber

NRPP Device Code 476 Device group 18 USEPA Verified

Radon Measurement Specialist:

NRSB #6SS0002, NRPP #100842RT

*The RadStar RS800 is distributed by Accustar Labs 888-580-9596*



## TEST DETAILS:

Okley Green Middle School  
 6031 N Montana Ave  
 Portland, OR 97217  
 Multnomah

Portland Public Schools

**Test Start Date/Time:** Tuesday, January 16, 2018 // 1:59 PM

**Test End Date/Time:** Friday, January 19, 2018 // 11:13 AM

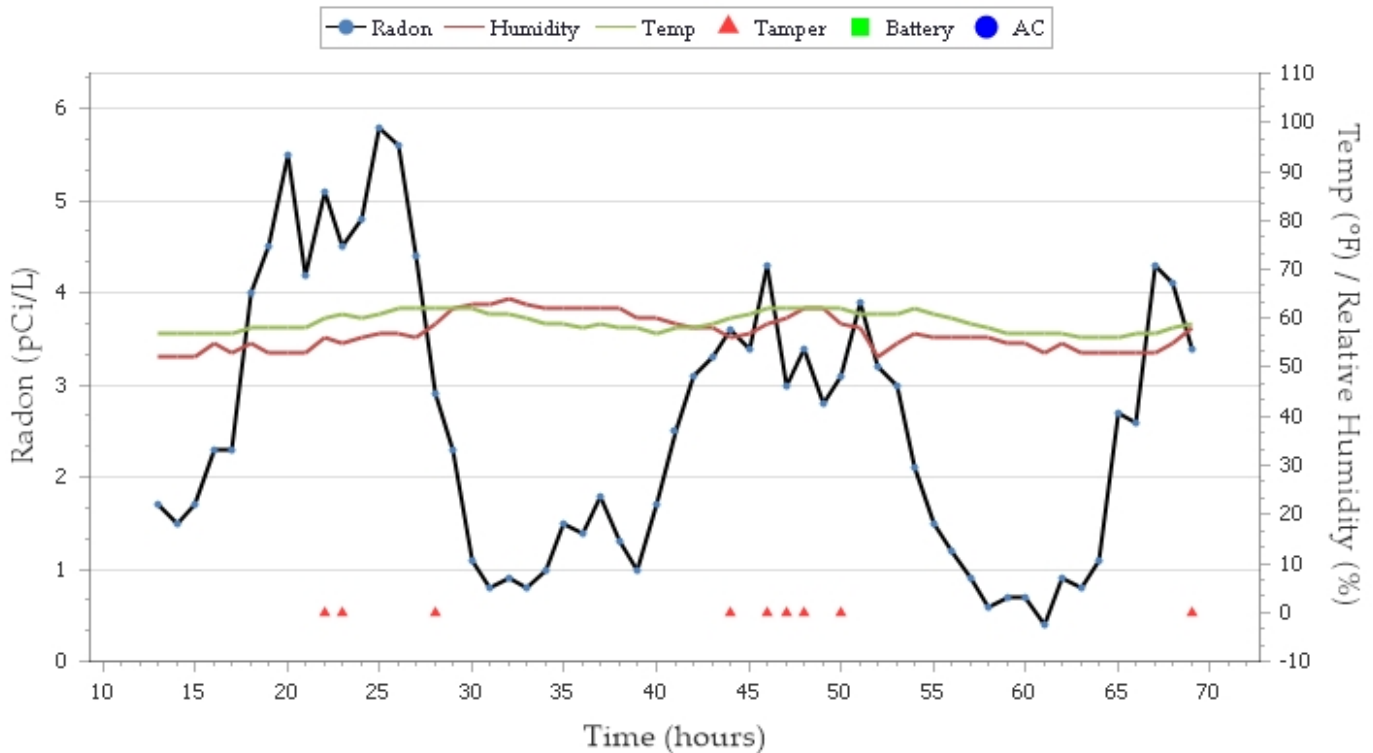
**Location of Instrument:** Gym (East Wall)

**Notes:**

## TEST RESULTS:

**Average:** 2.5 pCi/L

**Test ID#** 80034



*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



## INTERVAL REPORT:

Hour	T	B	AC	pCi/L	Temp	Humd	Alpha
13				1.7	57	52	56
14				1.5	57	52	47
15				1.7	57	52	56
16				2.3	57	55	73
17				2.3	57	53	74
18				4.0	58	55	127
19				4.5	58	53	143
20				5.5	58	53	173
21				4.2	58	53	134
22	*			5.1	60	56	161
23	*			4.5	61	55	144
24				4.8	60	56	152
25				5.8	61	57	182
26				5.6	62	57	176
27				4.4	62	56	138
28	*			2.9	62	59	92
29				2.3	62	62	74
30				1.1	62	63	35
31				0.8	61	63	27
32				0.9	61	64	30
33				0.8	60	63	28
34				1.0	59	62	34
35				1.5	59	62	48
36				1.4	58	62	46
37				1.8	59	62	58
38				1.3	58	62	43
39				1.0	58	60	33
40				1.7	57	60	54
41				2.5	58	59	79
42				3.1	58	58	100
43				3.3	59	58	106
44	*			3.6	60	56	114
45				3.4	61	57	109
46	*			4.3	62	59	135
47	*			3.0	62	60	95
48	*			3.4	62	62	107
49				2.8	62	62	90
50	*			3.1	62	59	100
51				3.9	61	58	123
52				3.2	61	52	103
53				3.0	61	55	97
54				2.1	62	57	68
55				1.5	61	56	48
56				1.2	60	56	40
57				0.9	59	56	30
58				0.6	58	56	20
59				0.7	57	55	23
60				0.7	57	55	23
61				0.4	57	53	15
62				0.9	57	55	31
63				0.8	56	53	26
64				1.1	56	53	37
65				2.7	56	53	85
66				2.6	57	53	82
67				4.3	57	53	135
68				4.1	58	55	131
69	*			3.4	59	58	107

Tamara Linde  
Cascade Radon  
12839 NE Airport Way  
Portland, OR 97230  
Phone: 503-421-4813 Fax: 503-281-6170  
office@cascaderadon.com



---

**Minimum:** 0.4 pCi/L      **Maximum:** 5.8 pCi/L      **Average:** 2.5 pCi/L

*Tamara C Linde*

1/26/18

Tamara Linde

Date

Certification #:

License 1:

CCB 180537/ CASCARI927C1

License 2:

NRPP 108946RT, 108953RT



**CERTIFICATE OF CALIBRATION  
RadStar RS800 Continuous Monitor**

This instrument has been calibrated in accordance with the procedures set forth by the manufacturer.  
Please retain this certificate for your records

Cal Date: 5-5-17 Last Cal Date: \_\_\_\_\_ Next Cal Date: 5-5-18  
 Device Serial Number: 2371 Device Type: RS800  
 Device Status: Passed  Failed

NRPP Chamber#TC103	Radon Gas Concentration: <u>20.1 pCi/l</u>
Rad7 Serial Numbers: <u>0356 0352</u>	
Chamber Temperature: <u>70.6 °F</u>	Chamber Humidity: <u>48.1 %RH</u>
Start Chamber Exposure: <u>08/15/16 09:00</u>	Stop Chamber Exposure: <u>08/17/16 09:00</u>

Calibration Number (as found, if applicable) \_\_\_\_\_ *Calib#=(10240/(Hourly Counts/pCi/l))*  
 Calibration Number (Final) 327 Calibrated By: *[Signature]*

**RadonAway 3 Saber Way Ward Hill, Massachusetts 01835 978-521-3703**

This RadStar Continuous Radon Monitor has been calibrated by the Manufacturer using a standard operating procedure for the calibration of the RS800, TP010 Rev E. This procedure provides for the following performance checks:

- System Functional Checks
- Battery Check
- Back Ground Check in Nitrogen 0.0 pCi/l 9 cph
- Chamber Exposure in known Radon Gas Concentration
- Adjustment to Calibration Number, if necessary
- Adjustment to Background, if necessary
- Verification Chamber Exposure, if necessary

*(As Tested Background is Integrated into Instrument Calculation Program, Do Not Adjust Readings by Background)*

The manufacturer, RadonAway performs quarterly inter-comparisons with a Secondary Chamber

NRPP Device Code 476 Device group 18 USEPA Verified

Radon Measurement Specialist:

NRSB #6SS0002, NRPP #100842RT

*[Signature]*

*The RadStar RS800 is distributed by Accustar Labs 888-580-9596*