



Cascade Environmental LLC

4346 NE 73rd Avenue
Portland, OR 97218

Phone 503 984 9737

www.cascadenviro.com

March 18, 2021

Mr. Larry Hampton
Newberg School District 29J
703 South Blaine
Newberg, OR 97132

**Re: Radon Testing & Analysis Report
Newberg School District Maintenance Facility
703 South Blaine
Newberg, Oregon 97132
Cascade Environmental Project No. 05062020-02**

Dear Mr. Hampton:

Cascade Environmental is pleased to present this letter report which details the findings of radon sampling conducted at the above referenced facility located in Newberg, Yamhill County, Oregon. The purpose of this study was to determine if levels of radon within the select subgrade and ground floor rooms are above the Environmental Protection Agency's (EPA) recommended action level for radon. The sampling was conducted in compliance with Oregon Revised Statute (ORS) 332.166-167. Sampling was conducted per the protocols provided in "Testing for Elevated Radon Levels in Oregon, A Protocol and Plan" (The protocol) produced by the Oregon Health Authority.

Introduction

Radon is a naturally occurring colorless, odorless gas that is a by-product of the decay of radioactive materials potentially present in bedrock and soil. Radon gas may enter the lowest level of a building through floor cracks, structural joints, or plumbing conduits. The EPA's recommended action level for annual exposure to radon gas is 4.0 picoCuries per liter of air (pCi/L). This recommended action level is not a regulatory requirement, but is the level at which the EPA recommends that building owners take action to reduce the level.

Sampling Methodology

Cascade Environmental conducted a survey for radon gas in all frequently occupied rooms in contact with the soil, whether the contact was slab-on-grade, a basement, a room above a crawl space or any combination of the above. A total of six rooms were tested from May 06, 2020 through May 8, 2020. Sampling was conducted by Mr. Robert Burns, Industrial Hygienist with Cascade Environmental and Mr. Larry Hampton, District Risk Management Supervisor with Newberg School District. In addition, two duplicate samples, one blank sample and one spike sample were collected for quality control purposes per the protocol. The survey was performed to determine the potential presence of radon gas concentrations, and to develop recommendations for follow-up testing and/or potential mitigation systems as necessary. The canisters were left in place for no less than 48 hours and no longer than 96 hours, in accordance with the sampling protocol provided by the laboratory. The open canisters were placed at breathing air level under normal occupancy conditions. To ensure the canisters would be in place at the end of the sampling period, sample locations were identified in areas where the potential for disturbance was minimal. A total of twenty canisters (including duplicates, blanks and spikes) were collected, sealed, and forwarded for analysis to AccuStar Labs in Medway, Massachusetts and were analyzed using EPA

Method 402-R-92-004. The spike samples were submitted to the Kansas State University Radon Chamber, NRPP Certification ID Number SC-1006, to be “spiked” with a known amount of radon prior to submittal to AccuStar Labs for quality control purposes. The laboratory analytical reports are included in Appendix A.

The following tables summarize the results of the radon gas samples collected from the facility:

Table 1 Newberg School District Maintenance Facility 703 South Blaine Newberg, Oregon 97132 Radon Survey Results 2020			
Sampler Number	Location	Floor	Results (pCi/L)
01	Reception	Main	0.6
02	Director Office	Main	0.7
03	Other Office	Main	0.4
04	Other Office (Duplicate)	Main	0.5
05	Other Office (Blank)	Main	<0.4
06	Wood Shop	Main	0.5
07	Grounds Office	Main	0.8
08	Bike Shop	Main	0.7
09	Bike Shop (Duplicate)	Main	0.9
10	Bike Shop (Blank)	Main	<0.4

Table 2 Newberg School District Maintenance Facility 703 South Blaine Newberg, Oregon 97132 Spike Results		
Device Number	Spike Value (pCi/L) (Kansas State University)	Results (pCi/L) (AccuStar Labs)
4435679	23.9	23.9

CONCLUSION

The short-term radon sample results for the Newberg School District Maintenance Facility, 703 South Blaine, Newberg, Yamhill County, Oregon revealed concentrations of radon gas below the EPA’s recommended action level of 4.0 pCi/L in all of the rooms tested. In addition, the results from the duplicates, blanks and spikes collected for quality control purposes were all within acceptable parameters per the protocol.



Based on the sample results, Cascade Environmental does not recommend further investigation at this time.

LIMITATIONS

This report provides a summary of the evidence collected and observations made by Cascade Environmental during this assessment. Cascade Environmental performed short-term radon testing to evaluate impacts to selected areas at this single point in time. Actual radon concentrations can vary between sample points, site conditions and usage. This report is based upon the information developed by Cascade Environmental as a result of this one-time sampling and does not guarantee that the site is free of radon or potentially hazardous materials or conditions, or that latent or undiscovered conditions will not become evident in the future.

Thank you for this opportunity to be of service to Newberg School District 29J. If you have any questions, please feel free to contact us at 503-984-9737 or via email at bob@cascadenviro.com.

Sincerely,

Cascade Environmental

A handwritten signature in black ink, appearing to read "R Burns", with a horizontal line underneath.

Robert Burns
Principal

Attachments: Appendix A – Laboratory Results and Chain-of-Custody Documentation
Appendix B – Site Plan

APPENDIX A

LABORATORY RESULTS &
CHAIN OF CUSTODY DOCUMENTATION

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
NRSB Device Code 12193

Laboratory Report for:

Property Tested:

Cascade Environmental
4346 Northeast 73rd Avenue
Portland OR 97218

Newberg SD Maintenance Facility
703 South Blaine Street
Newberg OR 97132


Log Number	Device Number	Test Exposure	Duration:	Area Tested	Result pCi/L
2683546	4435673	05/06/2020 9:14 am	05/08/2020 10:23 am	Reception	0.6
2683547	4442793	05/06/2020 9:14 am	05/08/2020 10:24 am	Director Office	0.7
2683548	4435683	05/06/2020 9:15 am	05/08/2020 10:24 am	Other Office	0.4
2683549	4435670	05/06/2020 9:15 am	05/08/2020 10:24 am	Other Office Duplicate	0.5
2683550	4435684	05/06/2020 9:15 am	05/08/2020 10:24 am	Other Office Field Blank	< 0.4
2683551	4442794	05/06/2020 9:16 am	05/08/2020 10:26 am	Wood Shop	0.5
2683552	4435671	05/06/2020 9:17 am	05/08/2020 10:28 am	Ground Office	0.8
2683553	4442792	05/06/2020 9:18 am	05/08/2020 10:29 am	Bike Shop	0.7
2683554	4435685	05/06/2020 9:18 am	05/08/2020 10:29 am	Bike Shop Duplicate	0.9
2683555	4435682	05/06/2020 9:18 am	05/08/2020 10:29 am	Bike Shop Field Blank	< 0.4


Comment: Confidential: Release results to client only. Cascade Environmental was e-mailed a copy of this report.

Test Performed By: Robert Burns and Larry Hampton

Distributed by: Cascade Environmental

Date Received: 05/11/2020 Date Logged: 05/11/2020 Date Analyzed: 05/12/2020 Date Reported: 05/12/2020

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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.

Start test before expiration date on device or result will be invalid.

Radon in Air Test Data Sheet

Send Written Report To:

Robert Burns
4346 NE 73rd Ave
Portland Oregon

Project Number:

Site Name
 Address
 City State Zip

Mruberg SD Maintenance
403 S. Blaine St. Fairbury
Nebraska, OR 67228 67132
Robert Burns

Contact:

Tel:

Technician Name:

Technician Signature:

Robert Burns
RS 15 Years Tech Certification #: *N/A*
(if required) (if required)

(if required)

(if required)

(if required)

E-Mail Address: *bob@casalabnwind.com*
 Start Date: *5-6-20* Stop Date: *5-8-20*

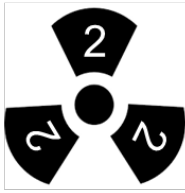
Lab Use Only	Device Number	Building #	Unit #	Floor	Name of Room	Average Temp.	Average Humidity	Start Time	Stop Time	Lab Use Only
					<i>See Attached</i>					

Start Date: 5.6.20 End Date: 5-8-20

Maintenance Facility
 703 S. Blaine Street
 Newberg, Oregon 97132
 Radon Testing 2020

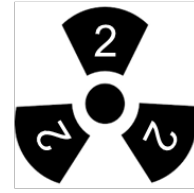
Tester Name(s): Carr-Henry / Robert

Lab Use	Sample #	Sample Order #	Device #	Room	Start Time	Stop Time	Comments	Lab Use
	1		44 35673	Reception	0914	1023		
	2		44 42793	Director Office	0914	1024		
	3		44 35683	Other Office	0915	1024		
	4		44 35670	Other Office	0915	1024	Duplicate	
	5		44 35684	Other Office	—	—	Blank	
	6		44 42794	Wood Shop	0916	1026		
	7		44 35671	Grounds Office	0917	1028		
	8		44 42792	Bike Shop	0918	1029		
	9		44 35685	Bike Shop	0918	1029	Duplicate	
	10		44 35682	Bike Shop	—	—	Blank	



Radon Chamber

Kansas State University



KSU Radon Chamber

NRPP Certification ID Number SC-1006



Date: 4/22/2020

Robert Burns
 Cascade Environmental LLC
 4346 NE 73rd Ave
 Portland OR 97218
bob@cascadenviro.com
 503.984.9737

These are the results of the spiking that we performed on the device(s) listed below:

Device Serial #	Start Date	Start Time	Stop Date	Stop Time	Chamber Value *
4435675	4/20/2020	0915	4/22/2020	10:15	23.9
4435679	4/20/2020	0915	4/22/2020	10:15	23.9
4435678	4/20/2020	0915	4/22/2020	10:15	23.9
4435674	4/20/2020	0915	4/22/2020	10:15	23.9
4435676	4/20/2020	0915	4/22/2020	10:15	23.9
4435677	4/20/2020	0915	4/22/2020	10:15	23.9
4435680	4/20/2020	0915	4/22/2020	10:15	23.9

These devices were spiked in our chamber at an average relative humidity of avg/rh 32.0 %.
These devices were spiked in our chamber at a chamber temperature of 73.5 ° f.
This chamber is at an elevation of approximately 1020 feet.

The additional information below is provided as a service for our customers who have furnished KSU Radon Chamber with the customer's measured values for the above devices. This equation calculates the difference between our chamber value and the customer's measured value and is called the percent error. It is calculated as follows:

$$\% \text{ Error} = \frac{\text{Measured Value} - \text{Chamber Value}}{\text{Chamber Value}} * 100$$

Measured Value: pCi/L

Chamber Value: pCi/L

Error:

Thank you for your patronage. If we can be of further help, please email us at radonchamber@ksu.edu or call us at (785-532-4992).

Sincerely,

Bruce Snead

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
NRSB Device Code 12193

Laboratory Report for:

Property Tested: Project # Maintenance Re-test

Robert Burns
4346 Northeast 73rd Avenue
Portland OR 97218

Newberg Maintenance Facility
703 South Blaine Street
Newberg OR 97132


Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2673305	4435679	04/20/2020 10:55 am 04/22/2020 11:55 am	First Floor Larrys Office	23.9

Comment: Confidential: Release results to client only. Cascade Environmental was e-mailed a copy of this report.

Test Performed By: Robert Burns

Distributed by: Cascade Environmental

Date Received: 04/24/2020 Date Logged: 04/24/2020 Date Analyzed: 04/25/2020 Date Reported: 04/27/2020

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is $\sim\pm 10\%$. 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.

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Start test before expiration date on device or result will be invalid.

Radon in Air Test Data Sheet

Send Written Report To:

Robert Burns
 4346 NE 73rd Ave
 Portland, OR 97218
 Contact: Same Tel: 503.984.9737
 E-Mail Address: bob@cascadenw.no.com
 Start Date: 4-20-20 Stop Date: 4-22-20

Project Number:

Maintenance & Rates + 4-20-20

Site Name

Webberg Maintenance Facility

Address

7033 S. Blaine St.

City State Zip

Newberg, OR 97152

Technician Name:

Robert Burns

Technician Signature:

[Signature] Tech Certification #: MA
(if required) (if required)

Lab Use Only	Device Number	Building #	Unit #	Floor	Name of Room	Average Temp.	Average Humidity	Start Time	Stop Time	Lab Use Only
	4435679	—	—	1 st	Lang's office			1055	1155	