



Cascade Environmental LLC

4346 NE 73rd Avenue
Portland, OR 97218

Phone 503 984 9737

www.cascadenviro.com

August 29, 2018

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

**Re: Radon Testing & Analysis Report
Mabel Rush Elementary
1441 Deborah Road
Newberg, Oregon 97132
Cascade Environmental Project No. 01222018-01**

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 – Short-term Testing

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 forty-three rooms were tested from January 22, 2018 through January 25, 2018, January 29, 2018 through February 1, 2018 (Room 4F, sample #32), and February 5, 2018 through February 8, 2018 (Room 1J, sample #44). 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, four duplicate samples, two blank samples and two spike samples 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 Liquid Scintillation 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 fifty-six canisters (including duplicates, blanks, spikes and additional samples collected in rooms larger than



2,000 square feet) 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 Bowser Morner in Dayton, Ohio 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 short-term radon gas samples collected from the facility:

Table 1 Short-term Sampling Results Mabel Rush Elementary 1441 Deborah Road Newberg, Oregon 97132 Radon Survey Results 2018			
Sampler Number	Location	Floor	Results (pCi/L)
01	Office	Main	2.4
02	Office (Duplicate)	Main	2.5
03	Health Room	Main	1.8
04	Work Room	Main	1.8
05	Work Room (Blank)	Main	<0.4
06	1C	Main	2.2
07	1B	Main	4.1
08	1A Custodial Office	Main	4.0
09	1A Custodial Office (Duplicate)	Main	3.6
10	Music Room/Stage	Main	3.4
11	Cafeteria	Main	2.8
12	Cafeteria	Main	2.0
13	Cafeteria	Main	2.9
14	Gym	Main	2.3
15	Gym	Main	2.6
16	Gym	Main	2.3
17	Gym	Main	2.1
18	Gym Office	Main	5.4
19	Gym Office (Duplicate)	Main	4.9
20	2F	Main	1.4
21	2E	Main	2.8
22	2D	Main	2.6

Table 1
Short-term Sampling Results
Mabel Rush Elementary
1441 Deborah Road
Newberg, Oregon 97132
Radon Survey Results 2018

Sampler Number	Location	Floor	Results (pCi/L)
23	2C	Main	3.0
24	2B	Main	2.3
25	2A	Main	1.9
26	3B Computer Room	Main	2.0
27	3C	Main	1.0
28	3D	Main	1.0
29	3E	Main	2.2
30	3F	Main	0.9
31	Staff Lounge	Main	3.8
32	4F	Main	1.2
33	4E	Main	4.3
34	4D	Main	1.0
35	4C	Main	1.0
36	4B	Main	1.3
37	Library	Main	1.0
38	Library	Main	1.1
39	Library (Duplicate)	Main	1.1
40	4A	Main	0.8
41	1M	Main	1.5
42	1L	Main	1.5
43	1K	Main	1.2
44	1J	Main	1.4
45	Speech Room	Main	1.9
46	Speech Room (Blank)	Main	<0.4
47	1H	Main	0.6
48	1G	Main	1.6

Table 1 Short-term Sampling Results Mabel Rush Elementary 1441 Deborah Road Newberg, Oregon 97132 Radon Survey Results 2018			
Sampler Number	Location	Floor	Results (pCi/L)
49	1F	Main	0.9
50	1E	Main	1.1
51	North Conference Room	Main	2.5
52	Principles Office	Main	2.7
53	South Conference Room	Main	2.2
54	3A	Main	2.1

Table 2 Mabel Rush Elementary 1441 Deborah Road Newberg, Oregon 97132 Spike Results		
Device Number	Spike Value (pCi/L) (Bowser Morner)	Results (pCi/L) (AccuStar Labs)
3674782	26.8	22.8
3674785	26.8	23.7

RESULTS OF SHORT-TERM TESTING

The short-term radon sample results for Mabel Rush Elementary School, located at 203 Foothills Drive in Newberg, Yamhill County, Oregon revealed concentrations of radon gas below the EPA's recommended action level of 4.0 pCi/L in 39 out of the 43 rooms tested. The short-term radon sampling results for rooms, 1B, 1A-Custodial Office, 4E and the Gym office revealed concentrations of radon above the EPA's recommended action level of 4.0 pCi/L. 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 results of the short-term radon testing additional, long-term, testing was conducted in Rooms 1B, 1A-Custodial Office, 4E and the Gym Office per the protocol.

Sampling Methodology – Long-term Testing

Cascade Environmental conducted additional sampling in the rooms identified during the initial short-term radon sampling event with results greater than the EPA's recommended action level of 4.0 pCi/L. A total of four rooms (1B, 1A-Custodial Office, 4E and the Gym Office) were tested from April 4, 2018 through July 16, 2018. Sampling was conducted by Mr. Robert Burns, Industrial Hygienist with Cascade Environmental. In addition, one duplicate sample and one blank 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 Alpha Track canisters were left in place for no less than 90 days and no longer than 1



year, 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 six canisters (including duplicates and blanks) were collected, sealed, and forwarded for analysis to AccuStar Labs in Medway, Massachusetts and were analyzed using EPA Method 402-R-92-004. The laboratory analytical reports are included in Appendix A.

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

Table 3 Long-term Sampling Results Mabel Rush Elementary 1441 Deborah Road Newberg, Oregon 97132 Radon Survey Results 2018			
Device Number	Location	Initial Short-term Result (pCi/L)	Long-term Results (pCi/L)
3652799	1B	4.1	1.9
3652796	1A	4.0	2.8
3652794	1A (Duplicate)	Not Applicable	2.2
3652797	Gym Office	5.4	1.7
3652795	4E	4.3	0.8
3652798	Not Applicable (Blank)	Not Applicable	<0.4

RESULTS OF LONG-TERM TESTING

The long-term radon sample results 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 and blanks collected for quality control purposes were all within acceptable parameters per the protocol.

CONCLUSION

Based on the initial short-term and additional long-term radon sample results for Mabel Rush Elementary School, located at 203 Foothills Drive in 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 "Robert Burns".

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 101193 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 North East 73rd Avenue
Portland OR 97218

Mabel Rush Elementary
1441 Deborah Rpad
Newberg OR 97132

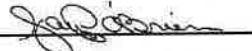
Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
2223000	3672301	01/22/2018 7:41 am 01/25/2018 7:24 am	Main Floor Cafeteria 4800	2.8
2223001	3672285	01/22/2018 7:43 am 01/25/2018 7:25 am	Main Floor Cafeteria	2.0
2223002	3672298	01/22/2018 7:45 am 01/25/2018 7:26 am	Main Floor Cafeteria	2.9
2223003	3672282	01/22/2018 7:46 am 01/25/2018 7:27 am	Main Floor Gym 7200	2.3
2223004	3672284	01/22/2018 7:47 am 01/25/2018 7:28 am	Main Floor Gym	2.6
2223005	3672290	01/22/2018 7:48 am 01/25/2018 7:29 am	Main Floor Gym	2.3
2223006	3672274	01/22/2018 7:49 am 01/25/2018 7:30 am	Main Floor Gym	2.1
2223007	3672300	01/22/2018 7:53 am 01/25/2018 7:31 am	Main Floor Gym Office	5.4
2223008	3672283	01/22/2018 7:53 am 01/25/2018 7:31 am	Main Floor Gym Office Duplicate	4.9
2223009	3672299	01/22/2018 7:55 am 01/25/2018 7:32 am	Main Floor 2F	1.4


Comment: Device 3672322 is invalid. Sample found upside down at retrieval. 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: 01/29/2018 Date Logged: 01/29/2018 Date Analyzed: 01/30/2018 Date Reported: 01/30/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

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.

NELAC NY 11769
NRPP 101193 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 North East 73rd Avenue
Portland OR 97218

Mabel Rush Elementary
1441 Deborah Rpad
Newberg OR 97132


Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
2223010	3672294	01/22/2018 7:57 am 01/25/2018 7:33 am	Main Floor 2E	2.8
2223011	3672279	01/22/2018 7:59 am 01/25/2018 7:34 am	Main Floor 2D	2.6
2223012	3672317	01/22/2018 7:56 am 01/25/2018 7:35 am	Main Floor 2C	3.0
2223013	3672323	01/22/2018 7:55 am 01/25/2018 7:35 am	Main Floor 2B	2.3
2223014	3672321	01/22/2018 7:54 am 01/25/2018 7:34 am	Main Floor 2A	1.9
2223015	3672305	01/22/2018 7:45 am 01/25/2018 7:32 am	Main Floor 3B Computer Room	2.0
2223016	3672309	01/22/2018 7:44 am 01/25/2018 7:31 am	Main Floor 3C	1.0
2223017	3672328	01/22/2018 7:42 am 01/25/2018 7:30 am	Main Floor 3D	1.0
2223018	3672318	01/22/2018 7:41 am 01/25/2018 7:30 am	Main Floor 3E	2.2
2223019	3672303	01/22/2018 7:40 am 01/25/2018 7:29 am	Main Floor 3F	0.9

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Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
2223020	3672326	01/22/2018 7:39 am	01/25/2018 7:28 am	Main Floor Staff Lounge	3.8
2223021	3672307	01/22/2018 7:35 am	01/25/2018 7:23 am	Main Floor 4E	4.3
2223022	3672332	01/22/2018 7:34 am	01/25/2018 7:22 am	Main Floor 4D	1.0
2223023	3672330	01/22/2018 7:33 am	01/25/2018 7:21 am	Main Floor 4C	1.0
2223024	3672316	01/22/2018 7:32 am	01/25/2018 7:20 am	Main Floor 4B	1.3
2223025	3672306	01/22/2018 7:30 am	01/25/2018 7:16 am	Main Floor Library	1.0
2223026	3672325	01/22/2018 7:30 am	01/25/2018 7:16 am	Main Floor Library	1.1
2223027	3672308	01/22/2018 7:30 am	01/25/2018 7:16 am	Main Floor Library Duplicate	1.1
2223028	3672310	01/22/2018 7:28 am	01/25/2018 7:19 am	Main Floor 4A	0.8
2223029	3672329	01/22/2018 7:27 am	01/25/2018 7:15 am	Main Floor 1M	1.5


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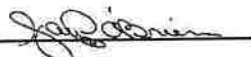
Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
2223030	3672311	01/22/2018 7:25 am 01/25/2018 7:14 am	Main Floor 1L	1.5
2223031	3672320	01/22/2018 7:24 am 01/25/2018 7:13 am	Main Floor 1K	1.2
2223032	3672322	01/22/2018 7:23 am 01/25/2018 7:12 am	Main Floor 1J	Invalid
2223033	3672312	01/22/2018 7:22 am 01/25/2018 7:11 am	Main Floor Speech Room	1.9
2223034	3672314	01/22/2018 7:22 am 01/25/2018 7:11 am	Main Floor Speech Room Blank	< 0.4
2223035	3672319	01/22/2018 7:20 am 01/25/2018 7:10 am	Main Floor 1H	0.6
2223036	3672304	01/22/2018 7:18 am 01/25/2018 7:09 am	Main Floor 1G	1.6
2223037	3672331	01/22/2018 7:17 am 01/25/2018 7:08 am	Main Floor 1F	0.9
2223038	3672313	01/22/2018 7:15 am 01/25/2018 7:07 am	Main Floor 1E	1.1
2223039	3672292	01/22/2018 7:25 am 01/25/2018 7:16 am	Main Floor North Conference	2.5

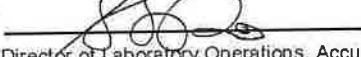
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Report Approved By: 

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Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
2223040	3672291	01/22/2018 7:27 am	01/25/2018 7:17 am	Main Floor Priniples Office	2.7
2223041	3672297	01/22/2018 7:28 am	01/25/2018 7:18 am	Main Floor South Confrence	2.2
2223042	3672327	01/22/2018 7:53 am	01/25/2018 7:33 am	Main Floor 3A	2.1

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Mabel Rush Elementary
 1441 Deborah Road
 Newberg, Oregon 97132
 Radon Testing 2018

see back page

Start Date: 1.22.18

Tester Name(s): Robert Brown / Larry Hampton

Stop Date: 1.25.18

Lab Use Only	Sample #	Device #	Floor	Room	Start Time	Stop Time	Comments	Lab Use
	1	3672 273	Main	Office	0711	0713		
	2	3672 280		Office	0711	0713	Duplicate	
	3	3672 286	Main	Health Room	0720	0715		
	4	3672 277	Main	Work Room	0730	0719		
	5	3672 275	Main	Work Room	-	-	Blank	
	6	3672 278	Main	1C	0732	0720	book shelf	
	7	3672 295	Main	1B	0734	0721	shelf	
	8	3672 288	Main	1A Custodial Office	0736	0722	shelf > desk	
	9	3672 281		1A Custodial Office	0736	0722	Duplicate	
	10	3672 302	Main	Music Room/Stage	0740	0723	Filing Cab	
	11	3672 301	Main	Cafeteria	0741	0739	Coat Rack	
	12	3672 285	Main	Cafeteria	0743	0725	ST SINKS - table cashier table	

can't record
to kitchen
at night

Mabel Rush Elementary
 1441 Deborah Road
 Newberg, Oregon 97132
 Radon Testing 2018

Lab Use Only	Sample #	Device #	Floor	Room	Start Time	Stop Time	Comments	Lab Use
	13	3672 290	Main	Cafeteria	0748	0726	Cabinet under clock sealed	
	14	3672 282	Main	Gym	0746	0727	7200	
	15	3672 284	Main	Gym	0747	0728		
	16	3672 290	Main	Gym	0748	0729		
	17	3672 274	Main	Gym	0749	0730		
	18	3672 300	Main	Gym Office	0753	0731		
	19	3672 283	Main	Gym Office	0753	0731	Duplicate	
	20	3672 299	Main	2F	0755	0732	Filing Cab	
	21	3672 294	Main	2E	0757	0733	sink counter	
	22	3672 299	Main	2D	0759	0734	sink counter	
	23	3672 317	Main	2C	0756	0735		
	24	3672 323	Main	2B	0755	0735		
	25	3672 321	Main	2A	0754	0734		
	26	3672 305	Main	3B Computer Room	0745	0732		
	27	3672 309	Main	3C	0744	0731		

Mabel Rush Elementary
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 Radon Testing 2018

A.M. A.M.

Lab Use Only	Sample #	Device #	Floor	Room	Start Time	Stop Time	Comments	Lab Use
	28	3672 328	Main	3D	7:42	7:30		
	29	3672 318	Main	3E	7:41	7:30		
	30	3672 303	Main	3F	7:40	7:29		
	31	3672 326	Main	Staff Lounge?	7:39	7:28	paper to use disp.	
	32	3672 315	Main	4F	7:36		can't find it sample missing	
	33	3672 307	Main	4E	7:35	7:23	2000 to 4000 SF	
	34	3672 332	Main	4D	7:34	7:22		
	35	3672 330	Main	4C	7:33	7:21		
	36	3672 316	Main	4B	7:32	7:20		
	37	3672 306	Main	Library	7:30	7:16	2000 to 4000 SF	
	38	3672 325	Main	Library	7:30	7:16		
	39	3672 308	Main	Library	7:30	7:16	Duplicate	
	40	3672 310	Main	4A	7:28	7:19		
	41	3672 329	Main	1M	7:27	7:15		
	42	3672 311	Main	1L	7:25	7:14		

Mabel Rush Elementary
 1441 Deborah Road
 Newberg, Oregon 97132
 Radon Testing 2018

Lab Use Only	Sample #	Device #	Floor	Room	Start Time	Stop Time	Comments	Lab Use
	43	3672 320	Main	1K	0724	0713		
	44	3672 322	Main	1J	0723	0712	was upside down at retrieval	
	45	3672 312	Main	Speech Room	0722	0711		
	46	3672 314	Main	Speech Room	0728	0711	Blank	
	47	3672 319	Main	1H	0700	0710		
	48	3672 304	Main	1G	0719	0709		
	49	3672 331	Main	1F	0717	0708		
	50	3672 313	Main	1E	0715	0707		

51 3672292 main North Conference 0725 0716
 52 3672291 Principles office 0727 0717
 53 3672297 South Conference 0728 0718
 54 3672327 3A 0753 0739
 B7 Lion

NELAC NY 11769
NRPP 101193 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 North East 73rd Avenue
Portland OR 97218

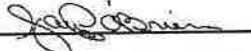
Mabel Rush Room 4F
1441 Deborah Road
Newberg OR 97132

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
2227122	3672296	01/29/2018 8:10 am 02/01/2018 7:45 am	Main Floor Room 4F	1.2

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

Distributed by: Cascade Environmental

Date Received: 02/06/2018 Date Logged: 02/06/2018 Date Analyzed: 02/07/2018 Date Reported: 02/07/2018

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.

NELAC NY 11769
NRPP 101193 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
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Laboratory Report for:

Property Tested:

Cascade Environmental
4346 North East 73rd Avenue
Portland OR 97218

Mabel Rush 1J
1441 Deborah Road
Newberg OR 97132


Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
2229714	3674731	02/05/2018 8:05 am 02/08/2018 7:47 am	Main Bldg. Unit R15 Main Floor Room 1J	1.4

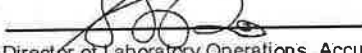
Comment: Confidential: Release results to client only. Cascade Environmental was e-mailed a copy of this report.

Test Performed By: Robert Burns

Distributed by: Cascade Environmental

Date Received: 02/12/2018 Date Logged: 02/12/2018 Date Analyzed: 02/13/2018 Date Reported: 02/13/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is $\pm 10\%$. 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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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Cascade Environmental Job Number 183576

NOMINAL Conditions: Radon Conc 26.8 pCi/L Rel. Hum 59.8 % Temp. 70.0 F

Date Start: 2/23/18 Date Stop: 2/26/18 Date Start: _____ Date Stop: _____

Time Start: 0807 Time Stop: 0807 Time Start: _____ Time Stop: _____

Device No.'s: (6) LS Vials - Device No.'s: _____

3674785, 3674734, 3674771,

3674781, 3674782, 3674776

24

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

NELAC NY 11769
NRPP 101193 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 North East 73rd Avenue
Portland OR 97218

Mabel Rush Elementary School
1441 Deborah Rd
Newberg OR 97132


Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
2237624	3674782	02/23/2018 8:07 am 02/26/2018 8:07 am	Custodial Office	22.8
2237625	3674785	02/23/2018 8:08 am 02/26/2018 8:08 am	Music	23.7


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

Test Performed By: Bob Burns

Distributed by: Cascade Environmental

Date Received: 02/28/2018 Date Logged: 02/28/2018 Date Analyzed: 02/28/2018 Date Reported: 03/01/2018

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.

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NELAC NY 11769
NRPP 101193 AL
NRSB ARL0017

EPA Method #402-R-92-004
Alpha Track
NRPP Device Code 8205
NRSB Device Code 12001

Laboratory Report for:

Property Tested:

Cascade Environmental
4346 North East 73rd Avenue
Portland OR 97218

Mabel Rush Elementary
1441 Deborah Road
Newberg OR 97132


Log Number	Device Number	Test Exposure Duration:	Area Tested	Result pCi/L
2328372	3652799	04/04/2018 07/16/2018	Room 1B	1.9
2328373	3652796	04/04/2018 07/16/2018	Room 1A	2.8
2328374	3652794	04/04/2018 07/16/2018	Room 1A	2.2
2328375	3652797	04/04/2018 07/16/2018	Gym	1.7
2328376	3652795	04/04/2018 07/16/2018	Room 4E	0.8
2328377	3652798	04/04/2018 07/16/2018	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

Distributed by: Cascade Environmental

Date Received: 07/17/2018 Date Logged: 07/18/2018 Date Analyzed: 07/24/2018 Date Reported: 08/02/2018

Report Reviewed By: 

Report Approved By: 

Shawn Price, Director of Laboratory Operations, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is +/- 15 %. 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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APPENDIX B

SITE PLAN



Mabel Rush Elementary

