



Mingus Mapps, Commissioner  
Gabriel Solmer, Director

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Portland, Oregon 97204-1926  
Information: 503-823-7404  
www.portlandoregon.gov/water



**DATE:** December 15, 2021

WQ 0.10.14.4

**TO:** Oregon Health Authority, Drinking Water Services

**SUBJECT: Monthly Report for November 2021  
Bilateral Compliance Agreement  
Intake *Cryptosporidium* Results  
PWS # 4100657**

To Whom It May Concern:

Enclosed are results of laboratory analyses for *Cryptosporidium* from the Bull Run raw water intake for November. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the interim measures of the Bilateral Compliance Agreement (Oregon Health Authority, December 18, 2017).

Analyses for *Cryptosporidium* and *Giardia* were performed by the PWB Laboratory (see attached report). Also attached are copies of the monthly turbidity and raw coliform reports previously submitted to OHA in compliance with the SWTR. Results for the reporting month are summarized below:

***Cryptosporidium*, *Giardia*, Turbidity and Fecal Coliforms Data Summary for the Reporting Month**

<b><i>Cryptosporidium</i> and <i>Giardia</i> Field Samples</b>				<b><i>Cryptosporidium</i> Recoveries</b>		<b>Fecal Coliforms</b>	<b>Turbidity</b>
<b>No. of Samples</b>	<b>Total Volume (L)</b>	<b>Total No. <i>Cryptosporidium</i> Oocysts</b>	<b>Total No. <i>Giardia</i> Cysts</b>	<b>No. of Matrix Spikes</b>	<b>Average Matrix Spike Recovery (%)</b>	<b>Highest Count (CFU/100 mL)</b>	<b>Highest Reading (NTU)</b>
25	800	10	0	2	61.6	8	2.81

One hundred percent groundwater was served from November 15 at 16:00 to November 17 at 10:00. Samples BC65459 and BC65460 were collected on November 17 at 11:41 and 11:52, respectively, after Bull Run water resumed service.

If you have any questions regarding these results, please contact me at 503-823-6135.

Sincerely,

Ann Levy  
Environmental Manager

**Transmitted:** Four pages (including this transmittal memo) emailed to [dwp.dmce@state.or.us](mailto:dwp.dmce@state.or.us) on this date.



**Portland Water Bureau Laboratory**  
2010 N Interstate Ave, Portland, OR 97227

**Cryptosporidium and Giardia Laboratory Analysis Report**

Water System Information				Sample Information			
<b>PWS ID:</b>	OR4100657			<b>Collection Month &amp; Year:</b>	Nov. 2021		
<b>PWS Name:</b>	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227			<b>Report Date:</b>	December 8, 2021		
<b>County:</b>	Multnomah			<b>Monitoring Regime:</b>	Bilateral Compliance Agreement		
				<b>Source Water:</b>	Bull Run Intake - WTP-A		

PWB Sample ID	Loc ID	Sample Collection Date	Sample Type	Sample Volume Filtered (L)	Analysis Method	Cryptosporidium			Giardia		
						No. of Oocysts Spiked	No. of Oocysts Counted	Oocyst Matrix Spike Recovery (%)	No. of Cysts Spiked	No. of Cysts Counted	Cyst Matrix Spike Recovery (%)
BC64518	Intake 2PIS	11/1/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64519	Intake 2PIS	11/1/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64520	Intake 2PIS	11/1/2021	MS	25	DAMM PWBL-SOP-61 3	99	79	79.8	100	93	93
BC64521	Intake 2PIS	11/2/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64522	Intake 2PIS	11/2/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64523	Intake 2PIS	11/3/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64524	Intake 2PIS	11/3/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64936	Intake 2PIS	11/7/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64937	Intake 2PIS	11/7/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64938	Intake 2PIS	11/8/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64939	Intake 2PIS	11/8/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64940	Intake 2PIS	11/9/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64941	Intake 2PIS	11/9/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64942	Intake 2PIS	11/10/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC64943	Intake 2PIS	11/10/2021	Field	25	DAMM PWBL-SOP-61 3	0	0		0	0	
BC65190	Intake 2PIS	11/14/2021	Field	25	DAMM PWBL-SOP-61 3	0	1		0	0	
BC65191	Intake 2PIS	11/14/2021	Field	25	DAMM PWBL-SOP-61 3	0	1		0	0	
BC65459	Intake 2PIS	11/17/2021	Field	25	DAMM PWBL-SOP-61 3	0	1		0	0	
BC65460	Intake 2PIS	11/17/2021	Field	25	DAMM PWBL-SOP-61 3	0	3		0	0	
BC65544	Intake 2PIS	11/21/2021	Field	50	1623.1	0	0		0	0	
BC65545	Intake 2PIS	11/22/2021	Field	50	1623.1	0	0		0	0	
BC65546	Intake 2PIS	11/23/2021	Field	50	1623.1	0	0		0	0	
BC65547	Intake 2PIS	11/23/2021	MS	50.5	1623.1	99	43	43.4	100	74	74
BC65548	Intake 2PIS	11/24/2021	Field	50	1623.1	0	0		0	0	
BC65791	Intake 2PIS	11/28/2021	Field	50	1623.1	0	2		0	0	
BC65792	Intake 2PIS	11/29/2021	Field	50	1623.1	0	2		0	0	
BC65793	Intake 2PIS	11/30/2021	Field	50	1623.1	0	0		0	0	

Unless otherwise noted, all data were generated in accordance with EPA Method 1623-modified (PWBL-SOP-61 3)/1623.1 and 100% of the filtered volume was examined for each sample.

Reviewed by *Marsha Farooqui*

Date Reviewed: 12/09/2021

# OHA - Drinking Water Services - Turbidity Monitoring Report Form

**County: Multnomah**

Slow Sand, Membrane, Diatomaceous Earth Filtration, or Unfiltered Systems

**Portland Water Bureau**

**ID #: OR 4100657**


**WTP-A**

**Month/Year: 11/2021**

DAY	12 AM (NTU)	4 AM (NTU)	8 AM (NTU)	NOON (NTU)	4 PM (NTU)	8 PM (NTU)	Highest Reading (NTU)
1	0.65	0.66	0.67	0.71	0.69	0.69	<b>0.71</b>
2	0.70	0.70	0.68	0.69	0.69	0.69	<b>0.70</b>
3	0.67	0.69	0.65	0.71	0.77	0.79	<b>0.79</b>
4	1.57	0.91	0.85	0.97	0.84	0.86	<b>1.57</b>
5	0.80	0.73	0.72	0.71	0.70	0.71	<b>0.80</b>
6	0.70	0.71	0.71	0.71	0.71	0.74	<b>0.74</b>
7	0.72	0.74	0.72	0.71	0.70	0.70	<b>0.74</b>
8	0.69	0.70	0.67	0.69	0.67	0.66	<b>0.70</b>
9	0.66	0.64	0.66	0.58	0.57	0.57	<b>0.66</b>
10	0.68	0.61	0.59	0.58	0.80	0.56	<b>0.80</b>
11	0.55	0.59	0.59	0.55	0.55	0.54	<b>0.59</b>
12	0.53	0.70	0.79	0.86	1.02	1.06	<b>1.06</b>
13	1.31	1.70	1.89	2.07	2.22	2.20	<b>2.07</b>
14	2.10	2.07	2.15	2.12	2.13	2.81	<b>2.81</b>
15	2.05	2.01	2.00	2.01			<b>2.05</b>
16	<b>100% Groundwater from 11/15 16:00 to 11/17 10:00</b>						
17				1.87	1.79	1.69	<b>1.87</b>
18	1.68	1.63	1.59	1.58	1.59	1.55	<b>1.68</b>
19	1.54	1.52	1.52	1.56	1.52	1.50	<b>1.56</b>
20	1.49	1.47	1.45	1.43	1.39	1.37	<b>1.49</b>
21	1.37	1.35	1.30	1.28	1.23	1.20	<b>1.37</b>
22	1.17	1.17	1.17	1.15	1.12	1.11	<b>1.17</b>
23	1.14	1.07	1.06	1.01	1.04	1.04	<b>1.14</b>
24	1.03	1.04	1.02	1.02	1.29	1.06	<b>1.29</b>
25	1.04	1.15	1.00	0.98	0.97	0.93	<b>1.15</b>
26	0.92	0.91	0.92	0.92	0.90	0.91	<b>0.92</b>
27	0.87	0.85	0.84	0.81	0.82	0.86	<b>0.87</b>
28	0.85	1.23	0.92	0.86	0.85	0.82	<b>1.23</b>
29	0.81	0.93	0.85	0.81	0.79	0.79	<b>0.93</b>
30	0.79	0.77	0.77	0.77	0.75	0.76	<b>0.79</b>

Slow Sand/Membrane/DE Filtration/Unfiltered			Monthly summary	
95% of daily turbidity readings ≤ 1 NTU? <sup>1</sup>	<b>N/A</b>	CT's met everyday?	Chlorine residual at entry point always ≥ 0.2 mg/L?	Chlorine residual measured in 95% of distribution samples?
All daily turbidity readings ≤ 5 NTU?	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>

<sup>1</sup>Filtered systems only

Signature:   
 Anna Vosa, P.E.

Date: 12/9/21

## OHA Drinking Water Services - Raw Coliform Data (Unfiltered)

Portland Water Bureau

ID#: OR 4100657

Month/Year: 11/2021

Date	Fecal Coliform (CFU/100mL)	Comments
11/1/2021	1	
11/2/2021	2	
11/3/2021	1	
11/4/2021	1	
11/5/2021	1	
11/6/2021	<1	
11/7/2021	1	
11/8/2021	2	
11/9/2021	3	
11/10/2021	2	
11/11/2021	4	
11/12/2021	2	
11/13/2021	6	
11/14/2021	7	
11/15/2021	8	
11/17/2021	4	
11/18/2021	3	
11/19/2021	2	
11/20/2021	7	
11/21/2021	2	
11/22/2021	4	
11/23/2021	1	
11/24/2021	1	
11/25/2021	1	
11/26/2021	2	
11/27/2021	1	
11/28/2021	1	
11/29/2021	1	
11/30/2021	1	

Note: Fecal Coliform sampled at active Headworks Raw Water Intake (either 2P or 2PIS)

**Six Month Summary:**

# of Samples For Fecal Coliform:	181
# of Samples > 20 CFU/100mL:	0
Percent:	0.0%