



DATE: December 15, 2022

WQ 0.10.14.4

TO: Oregon Health Authority, Drinking Water Services

SUBJECT: **Monthly Report for November 2022**
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. Please note that 100% groundwater was served from November 5 until November 21 due to a turbidity event in the Bull Run Watershed. During the shutdown of the Bull Run source, *Cryptosporidium* monitoring occurred at a frequency of 50 liters per week. A *Cryptosporidium* detection occurred during the shutdown, triggering increased monitoring. Increased monitoring began on November 18, while Conduit 4 was being reactivated in preparation for Bull Run start-up on November 21.

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

<i>Cryptosporidium</i> and <i>Giardia</i> Field Samples				<i>Cryptosporidium</i> Recoveries		Fecal Coliforms	Turbidity
No. of Samples	Total Volume (L)	Total No. <i>Cryptosporidium</i> Oocysts	Total No. <i>Giardia</i> Cysts	No. of Matrix Spikes	Average Matrix Spike Recovery (%)	Highest Count (CFU/100 mL)	Highest Reading (NTU)
17	650.25	23	4	1	64.6	21	4.74

If you have any questions regarding these results, please contact me at 503-545-8190.

Sincerely,



Ann Levy
Environmental Manager

Transmitted: Four pages (including this transmittal memo) emailed to 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

<u>Water System Information</u>				<u>Sample Information</u>			
PWS ID:	OR4100657			Collection Month & Year:	Nov. 2022		
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227			Report Date:	December 7, 2022		
County:	Multnomah			Monitoring Regime:	Bilateral Compliance Agreement		
				Source Water:	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 (%)
BC90132	Intake 2PIS	11/1/2022	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC90133	Intake 2PIS	11/1/2022	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC90487	Intake 2PIS	11/6/2022	Field	25	PWBL-SOP-61 3	0	2		0	0	
BC90488	Intake 2PIS	11/6/2022	Field	15	PWBL-SOP-61 3	0	0		0	0	
BC90489	Intake 2PIS	11/8/2022	Field	10	PWBL-SOP-61 3	0	0		0	0	
BC90758	Intake 2PIS	11/13/2022	Field	25	PWBL-SOP-61 3	0	0		0	2	
BC90759	Intake 2PIS	11/13/2022	Field	25	PWBL-SOP-61 3	0	0		0	1	
BC90970	Intake 2PIS	11/18/2022	Field	50	1623.1	0	4		0	1	
BC90971	Intake 2PIS	11/18/2022	MS	50	1623.1	99	68	64.6	98	67	67.3
BC90973	Intake 2PIS	11/19/2022	Field	50.25	1623.1	0	0		0	0	
BC90974	Intake 2PIS	11/21/2022	Field	50	1623.1	0	0		0	0	
BC90975	Intake 2PIS	11/22/2022	Field	50	1623.1	0	1		0	0	
BC90976	Intake 2PIS	11/25/2022	Field	50	1623.1	0	1		0	0	
BC90977	Intake 2PIS	11/26/2022	Field	50	1623.1	0	1		0	0	
BC91224	Intake 2PIS	11/27/2022	Field	50	1623.1	0	2		0	0	
BC91225	Intake 2PIS	11/28/2022	Field	50	1623.1	0	4		0	0	
BC91226	Intake 2PIS	11/29/2022	Field	50	1623.1	0	4		0	0	
BC91227	Intake 2PIS	11/30/2022	Field	50	1623.1	0	4		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: 12/07/2022

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: 11/2022

DAY	12 AM (NTU)	4 AM (NTU)	8 AM (NTU)	NOON (NTU)	4 PM (NTU)	8 PM (NTU)	Highest Reading (NTU)
1	0.81	0.80	0.81	0.80	0.79	0.80	0.81
2	0.81	0.81	0.81	0.80	0.82	0.82	0.82
3	0.80	0.79	0.79	4.74	1.05	0.97	4.74
4	0.91	0.90	0.95	0.96	0.96	1.28	1.28
5	1.47	1.64					1.64
6							
7							
8							
9							
10							
11	Supply 100% Groundwater						
12							
13							
14							
15							
16							
17							
18							
19							
20							
21			3.32	3.48	3.41	3.39	3.48
22	3.35	3.31	3.29	3.26	3.31	3.32	3.35
23	3.30	3.20	3.12	3.21	3.17	3.11	3.30
24	3.02	2.99	2.98	2.91	2.88	2.88	3.02
25	2.89	2.87	2.88	2.81	2.88	2.89	2.89
26	2.87	2.84	2.81	2.75	2.70	2.62	2.87
27	2.57	2.54	2.48	2.57	2.58	2.58	2.58
28	2.55	2.47	2.44	2.48	2.41	2.39	2.55
29	2.37	2.38	2.37	2.34	2.29	2.25	2.38
30	2.22	2.20	2.25	2.29	2.20	2.16	2.29

Slow Sand/Membrane/DE Filtration/Unfiltered			Monthly summary	
95% of daily turbidity readings ≤ 1 NTU? ¹	N/A	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?	Yes	Yes	Yes	Yes

¹Filtered systems only

Signature: Anna Vosa
 Anna Vosa, P.E.

Date: 12/8/22

OHA Drinking Water Services - Raw Coliform Data (Unfiltered)

Portland Water Bureau

ID#: OR 4100657

Month/Year: 11/2022

Date	Fecal Coliform (CFU/100mL)	Comments
11/1/2022	8	
11/2/2022	4	
11/3/2022	10	
11/4/2022	16	
11/5/2022	21	
11/6/2022		
11/7/2022		
11/8/2022		
11/9/2022		
11/10/2022		Supply 100% Groundwater
11/11/2022		from November 6 to 20, 2022
11/12/2022		
11/13/2022		
11/14/2022		
11/15/2022		
11/16/2022		
11/17/2022		
11/18/2022		
11/19/2022		
11/20/2022		
11/21/2022	1	
11/22/2022	1	
11/23/2022	3	
11/24/2022	2	
11/25/2022	1	
11/26/2022	2	
11/27/2022	1	
11/28/2022	2	
11/29/2022	1	
11/30/2022	1	

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

Six Month Summary:

# of Samples For Fecal Coliform:	168
# of Samples > 20 CFU/100mL:	1
Percent:	0.6%