



DATE: April 15, 2019 WQ 0.10.14.4

TO: Oregon Health Authority, Drinking Water Services

**SUBJECT: Monthly Report for March 2019
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 March. 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).

All analyses for *Cryptosporidium* and *Giardia* were performed by the PWB Laboratory. 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**

<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	850	5	3	1	79.8	2	0.28

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

Sincerely,



Ann Levy
Senior Environmental Program 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

Water System Information		Sample Information	
PWS ID:	OR4100657	Collection Month & Year:	March 2019
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	April 10, 2019
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 (%)
BC19684	Intake 2PIS	3/3/2019	Field	50	1623.1	0	0		0.0	0	
BC19685	Intake 2PIS	3/4/2019	Field	50	1623.1	0	2		0.0	0	
BC19686	Intake 2PIS	3/5/2019	Field	50	1623.1	0	0		0.0	1	
BC19687	Intake 2PIS	3/6/2019	Field	50	1623.1	0	0		0.0	0	
BC20077	Intake 2PIS	3/10/2019	Field	50	1623.1	0	0		0.0	0	
BC20078	Intake 2PIS	3/11/2019	Field	50	1623.1	0	1		0.0	0	
BC20079	Intake 2PIS	3/11/2019	MS	51	1623.1	99	80	79.8	102	60	58.8
BC20080	Intake 2PIS	3/12/2019	Field	50	1623.1	0	1		0.0	0	
BC20081	Intake 2PIS	3/13/2019	Field	50	1623.1	0	0		0.0	0	
BC20482	Intake 2PIS	3/17/2019	Field	50	1623.1	0	0		0.0	0	
BC20483	Intake 2PIS	3/18/2019	Field	50	1623.1	0	0		0.0	0	
BC20484	Intake 2PIS	3/19/2019	Field	50	1623.1	0	0		0.0	0	
BC20485	Intake 2PIS	3/20/2019	Field	50	1623.1	0	0		0.0	1	
BC20751	Intake 2PIS	3/24/2019	Field	50	1623.1	0	1		0.0	1	
BC20752	Intake 2PIS	3/25/2019	Field	50	1623.1	0	0		0.0	0	
BC20753	Intake 2PIS	3/26/2019	Field	50	1623.1	0	0		0.0	0	
BC20754	Intake 2PIS	3/27/2019	Field	50	1623.1	0	0		0.0	0	
BC20932	Intake 2PIS	3/31/2019	Field	50	1623.1	0	0		0.0	0	

Unless otherwise noted, all data were generated in accordance with EPA Method 1623 and 100% of the filtered volume was examined for each sample.

Reviewed by *[Signature]*

Date Reviewed: 4/10/19

OHA - Drinking Water Services - Turbidity Monitoring Report Form

County: **Multnomah**

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

System Name: **Portland Water Bureau**

ID #: **OR 4100657**

WTP: **WTP- A**

Month/Year: **03/2019**

DAY	12 AM (NTU)	4 AM (NTU)	8 AM (NTU)	NOON (NTU)	4 PM (NTU)	8 PM (NTU)	Highest Reading (NTU)	Peak Hourly Flow (GPM)		
								Cond 2	Cond 3	Cond 4
1	0.24	0.24	0.24	0.24	0.23	0.24	0.24	17177	23253	19229
2	0.24	0.25	0.23	0.24	0.24	0.24	0.25	17122	19833	19161
3	0.24	0.23	0.24	0.27	0.25	0.24	0.27	17163	23208	19229
4	0.24	0.25	0.24	0.26	0.25	0.26	0.26	19052	25403	21099
5	0.25	0.26	0.25	0.26	0.24	0.25	0.26	17937	24135	20135
6	0.25	0.25	0.25	0.28	0.25	0.27	0.28	17201	23240	19318
7	0.27	0.27	0.27	0.28	0.27	0.27	0.28	17253	19941	19385
8	0.24	0.24	0.25	0.24	0.24	0.24	0.25	17049	19788	19307
9	0.24	0.24	0.24	0.24	0.24	0.24	0.24	17021	19764	19016
10	0.24	0.24	0.25	0.23	0.23	0.24	0.25	15250	19816	17344
11	0.23	0.23	0.23	0.23	0.23	0.24	0.24	15260	19778	17490
12	0.24	0.24	0.23	0.24	0.23	0.22	0.24	17983	19795	19995
13	0.22	0.22	0.22	0.22	0.22	0.23	0.23	17010	19760	19234
14	0.22	0.22	0.23	0.20	0.22	0.22	0.23	19622	19743	22026
15	0.22	0.23	0.22	0.22	0.22	0.23	0.23	18608	23215	20604
16	0.22	0.22	0.22	0.22	0.22	0.23	0.23	20649	26792	22406
17	0.23	0.23	0.22	0.22	0.22	0.22	0.23	19097	27333	21083
18	0.22	0.22	0.22	0.22	0.22	0.22	0.22	19104	27292	21255
19	0.22	0.22	0.22	0.23	0.22	0.22	0.23	17191	21646	19266
20	0.23	0.22	0.22	0.23	0.23	0.23	0.23	17646	21799	19563
21	0.23	0.24	0.23	0.22	0.22	0.22	0.24	18257	22392	20089
22	0.22	0.22	0.22	0.22	0.22	0.23	0.23	17590	21747	19818
23	0.22	0.23	0.22	0.23	0.23	0.22	0.23	18299	22451	20323
24	0.22	0.22	0.22	0.23	0.22	0.22	0.23	18253	22483	20359
25	0.24	0.23	0.22	0.23	0.22	0.20	0.24	18184	18823	20094
26	0.22	0.22	0.23	0.20	0.22	0.20	0.23	18222	18844	20359
27	0.22	0.23	0.22	0.22	0.22	0.23	0.23	18587	19063	20307
28	0.23	0.22	0.22	0.22	0.22	0.21	0.23	18403	19028	20240
29	0.20	0.19	0.20	0.20	0.20	0.19	0.20	16122	22712	18318
30	0.20	0.20	0.20	0.20	0.20	0.20	0.20	16087	22365	18203
31	0.22	0.20	0.23	0.20	0.20	0.20	0.23	18340	25979	20448

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

¹Filtered systems only

Printed Name: Anna Vosa, P.E.

Phone: (503) 823-7598

Signature: 

Date: 4/5/19

OHA Drinking Water Services - Raw Coliform Data (Unfiltered)

PWS Name: Portland Water Bureau

PWS ID#: OR 4100657

Month/Year: 3/2019

Date	Fecal Coliform (CFU/100mL)	Comments
3/1/2019	1	
3/2/2019	<1	
3/3/2019	<1	
3/4/2019	<1	
3/5/2019	<1	
3/6/2019	<1	
3/7/2019	1	
3/8/2019	<1	
3/9/2019	<1	
3/10/2019	<1	
3/11/2019	1	
3/12/2019	1	
3/13/2019	<1	
3/14/2019	<1	
3/15/2019	1	
3/16/2019	<1	
3/17/2019	<1	
3/18/2019	<1	
3/19/2019	1	
3/20/2019	1	
3/21/2019	<1	
3/22/2019	<1	
3/23/2019	<1	
3/24/2019	<1	
3/25/2019	<1	
3/26/2019	1	
3/27/2019	<1	
3/28/2019	1	
3/29/2019	1	
3/30/2019	1	
3/31/2019	2	

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

Six Month Summary:

# of Samples For Fecal Coliform:	179
# of Samples > 20 CFU/100mL:	0
Percent:	0.0%