



Amanda Fritz, Commissioner
Michael Stuhr, P.E., Administrator



1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water

DATE: June 16, 2020 WQ 0.10.14.4

TO: Oregon Health Authority, Drinking Water Services

**SUBJECT: Monthly Report for May 2020
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 May. 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 and Analytical Services, Inc. (see attached reports). 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**

| <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) |
| 15 | 750 | 0 | 0 | 2 | 71.9 | 2 | 0.51 |

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

Sincerely,

Ann Levy
Senior Environmental Program Manager

Transmitted: Five 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: | May 2020 | | |
| PWS Name: | Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227 | | | Report Date: | June 6, 2020 | | |
| 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 | <u>Cryptosporidium</u> | | | <u>Giardia</u> | | |
|---------------|-------------|------------------------|-------------|----------------------------|-----------------|------------------------|------------------------|----------------------------------|---------------------|----------------------|--------------------------------|
| | | | | | | No. of Oocysts Spiked | No. of Oocysts Counted | Oocyst Matrix Spike Recovery (%) | No. of Cysts Spiked | No. of Cysts Counted | Cyst Matrix Spike Recovery (%) |
| BC37242 | Intake 2PIS | 5/3/2020 | Field | 50 | 1623.1 | 0 | 0 | | 0.0 | 0 | |
| BC37243 | Intake 2PIS | 5/4/2020 | Field | 50 | 1623.1 | 0 | 0 | | 0.0 | 0 | |
| BC37245 | Intake 2PIS | 5/5/2020 | Field | 50 | 1623.1 | 0 | 0 | | 0.0 | 0 | |
| BC37244 | Intake 2PIS | 5/5/2020 | MS | 50.25 | 1623.1 | 98 | 75 | 76.5 | 99 | 85 | 85.8 |
| BC37246 | Intake 2PIS | 5/6/2020 | Field | 50 | 1623.1 | 0 | 0 | | 0.0 | 0 | |
| BC38893 | Intake 2PIS | 5/24/2020 | Field | 50 | 1623.1 | 0 | 0 | | 0.0 | 0 | |
| BC38895 | Intake 2PIS | 5/26/2020 | Field | 50 | 1623.1 | 0 | 0 | | 0.0 | 0 | |
| BC39128 | Intake 2PIS | 5/31/2020 | Field | 50 | 1623.1 | 0 | 0 | | 0.0 | 0 | |
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Unless otherwise noted, all data were generated in accordance with EPA Method 1623/1623.1 and 100% of the filtered volume was examined for each sample.

Reviewed by Mal Long

Date Reviewed: 06/11/20



Microbiological Testing, Research & Consulting
130 Allen Brook Ln., Williston VT 05495

Cryptosporidium and Giardia Laboratory Analysis Report

| Water System Information | | | Sample Information | | |
|--------------------------|--------------------------|--|-------------------------------------|--------------------------------|--|
| PWS ID: | OR4100657 | | Collection Month & Year: | May 2020 | |
| PWS Name: | Portland Water Bureau | | Report Date: | June 8, 2020 | |
| | 1900 N Interstate Avenue | | Monitoring Regime: | Bilateral Compliance Agreement | |
| | Portland, Oregon 97227 | | Source Water: | Bull Run Intake - WTP-A | |
| County: | Multnomah | | | | |

| 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 (%) |
| BC38240 | BRRE2PIS | 5/10/2020 | Field | 50.0 | EPA 1623.1 | | 0 | | | 0 | |
| BC38241 | BRRE2PIS | 5/11/2020 | Field | 50.0 | EPA 1623.1 | | 0 | | | 0 | |
| BC38242 | BRRE2PIS | 5/12/2020 | Field | 50.0 | EPA 1623.1 | | 0 | | | 0 | |
| BC38243 | BRRE2PIS | 5/13/2020 | Field | 50.0 | EPA 1623.1 | | 0 | | | 0 | |
| BC38244 | BRRE2PIS | 5/17/2020 | Field | 50.0 | EPA 1623.1 | | 0 | | | 0 | |
| BC38245 | BRRE2PIS | 5/18/2020 | Field | 50.0 | EPA 1623.1 | | 0 | | | 0 | |
| BC38723 | BRRE2PIS | 5/18/2020 | MS | 50.3 | EPA 1623.1 | 98 | 66 | 67.35 | 99 | 45 | 45.45 |
| BC38246 | BRRE2PIS | 5/19/2020 | Field | 50.0 | EPA 1623.1 | | 0 | | | 0 | |
| BC38247 | BRRE2PIS | 5/20/2020 | Field | 50.0 | EPA 1623.1 | | 0 | | | 0 | |

Unless otherwise noted, all data were generated in accordance with EPA Method 1623.1 and 100% of the filtered volume was examined for each sample.

Reviewed by PSwaiden

Date Reviewed: June 8, 2020

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: 05/2020

| DAY | 12 AM (NTU) | 4 AM (NTU) | 8 AM (NTU) | NOON (NTU) | 4 PM (NTU) | 8 PM (NTU) | Highest Reading (NTU) |
|-----|----------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|
| 1 | 0.25 | 0.24 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| 2 | 0.24 | 0.25 | 0.25 | 0.25 | 0.24 | 0.24 | 0.25 |
| 3 | 0.24 | 0.25 | 0.25 | 0.24 | 0.24 | 0.25 | 0.25 |
| 4 | 0.25 | 0.25 | 0.25 | 0.25 | 0.26 | 0.26 | 0.26 |
| 5 | 0.24 | 0.29 | 0.24 | 0.24 | 0.27 | 0.27 | 0.29 |
| 6 | 0.27 | 0.28 | 0.28 | 0.27 | 0.27 | 0.28 | 0.28 |
| 7 | 0.28 | 0.27 | 0.27 | 0.27 | 0.26 | 0.28 | 0.28 |
| 8 | 0.29 | 0.28 | 0.26 | 0.27 | 0.27 | 0.28 | 0.29 |
| 9 | 0.28 | 0.28 | 0.28 | 0.27 | 0.28 | 0.28 | 0.28 |
| 10 | 0.28 | 0.30 | 0.27 | 0.28 | 0.28 | 0.27 | 0.30 |
| 11 | 0.27 | 0.27 | 0.27 | 0.28 | 0.27 | 0.28 | 0.28 |
| 12 | 0.28 | 0.27 | 0.27 | 0.27 | 0.29 | 0.28 | 0.29 |
| 13 | 0.30 | 0.27 | 0.27 | 0.27 | 0.29 | 0.27 | 0.30 |
| 14 | 0.27 | 0.27 | 0.25 | 0.27 | 0.27 | 0.27 | 0.27 |
| 15 | 0.28 | 0.27 | 0.27 | 0.28 | 0.27 | 0.27 | 0.28 |
| 16 | 0.27 | 0.26 | 0.25 | 0.27 | 0.25 | 0.28 | 0.28 |
| 17 | 0.27 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.27 |
| 18 | 0.26 | 0.26 | 0.26 | 0.26 | 0.25 | 0.25 | 0.26 |
| 19 | 0.25 | 0.25 | 0.26 | 0.24 | 0.25 | 0.25 | 0.26 |
| 20 | 0.25 | 0.24 | 0.25 | 0.24 | 0.24 | 0.24 | 0.25 |
| 21 | 0.24 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| 22 | 0.25 | 0.25 | 0.24 | 0.27 | 0.32 | 0.32 | 0.32 |
| 23 | 0.34 | 0.33 | 0.32 | 0.33 | 0.34 | 0.34 | 0.34 |
| 24 | 0.33 | 0.34 | 0.32 | 0.32 | 0.32 | 0.30 | 0.34 |
| 25 | 0.30 | 0.29 | 0.30 | 0.29 | 0.28 | 0.29 | 0.30 |
| 26 | 0.28 | 0.29 | 0.28 | 0.29 | 0.29 | 0.28 | 0.29 |
| 27 | 0.29 | 0.28 | 0.27 | 0.29 | 0.27 | 0.27 | 0.29 |
| 28 | 0.27 | 0.28 | 0.27 | 0.29 | 0.27 | 0.27 | 0.29 |
| 29 | 0.27 | 0.27 | 0.27 | 0.25 | 0.25 | 0.27 | 0.27 |
| 30 | 0.27 | 0.25 | 0.51 | 0.27 | 0.28 | 0.25 | 0.51 |
| 31 | 0.26 | 0.25 | 0.25 | 0.25 | 0.25 | 0.28 | 0.28 |

| 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? |
| All daily turbidity readings ≤ 5 NTU? | Yes | Yes | Yes |

¹Filtered systems only

Signature: 
 Anna Vosa, P.E.

Date: 6/9/20

OHA Drinking Water Services - Raw Coliform Data (Unfiltered)

Portland Water Bureau

ID#: OR 4100657

Month/Year: 05/2020

| Date | Fecal Coliform (CFU/100mL) | Comments |
|-----------|----------------------------|----------|
| 5/1/2020 | <1 | |
| 5/2/2020 | <1 | |
| 5/3/2020 | <1 | |
| 5/4/2020 | <1 | |
| 5/5/2020 | 1 | |
| 5/6/2020 | <1 | |
| 5/7/2020 | <1 | |
| 5/8/2020 | 1 | |
| 5/9/2020 | 1 | |
| 5/10/2020 | <1 | |
| 5/11/2020 | <1 | |
| 5/12/2020 | <1 | |
| 5/13/2020 | 1 | |
| 5/14/2020 | <1 | |
| 5/15/2020 | 1 | |
| 5/16/2020 | <1 | |
| 5/17/2020 | <1 | |
| 5/18/2020 | <1 | |
| 5/19/2020 | <1 | |
| 5/20/2020 | 1 | |
| 5/21/2020 | 1 | |
| 5/22/2020 | 1 | |
| 5/23/2020 | 1 | |
| 5/24/2020 | 1 | |
| 5/25/2020 | 2 | |
| 5/26/2020 | 1 | |
| 5/27/2020 | <1 | |
| 5/28/2020 | 1 | |
| 5/29/2020 | 1 | |
| 5/30/2020 | <1 | |
| 5/31/2020 | <1 | |

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

Six Month Summary:

| | |
|----------------------------------|------|
| # of Samples For Fecal Coliform: | 175 |
| # of Samples > 20 CFU/100mL: | 0 |
| Percent: | 0.0% |