



Mingus Mapps, Commissioner
Gabriel Solmer, Director



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

DATE: January 11, 2024

WQ 0.10.14.4

TO: Oregon Health Authority, Drinking Water Services

**SUBJECT: Monthly Report for December 2023
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 December. Monitoring for *Cryptosporidium* at the Bull Run intake is done to comply with the interim measures of the Bilateral Compliance Agreement (Oregon Health Authority, November 17, 2023).

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**

| <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 | 19 | 2 | 1 | 63.3 | 11 | 2.50 |

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@odhsoha.oregon.gov 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: | Dec. 2023 | | |
| PWS Name: | Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227 | | | Report Date: | January 5, 2024 | | |
| 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 (%) |
| BD06108 | Intake 2PIS | 12/3/2023 | Field | 50 | 1623.1 | 0 | 0 | | 0 | 0 | |
| BD06109 | Intake 2PIS | 12/4/2023 | Field | 50 | 1623.1 | 0 | 0 | | 0 | 0 | |
| BD06110 | Intake 2PIS | 12/5/2023 | Field | 50 | 1623.1 | 0 | 1 | | 0 | 0 | |
| BD06111 | Intake 2PIS | 12/5/2023 | MS | 50 | 1623.1 | 98 | 63 | 63.3 | 99 | 56 | 56.6 |
| BD06112 | Intake 2PIS | 12/6/2023 | Field | 50 | 1623.1 | 0 | 0 | | 0 | 0 | |
| BD06391 | Intake 2PIS | 12/10/2023 | Field | 50 | 1623.1 | 0 | 3 | | 0 | 1 | |
| BD06392 | Intake 2PIS | 12/11/2023 | Field | 50 | 1623.1 | 0 | 1 | | 0 | 0 | |
| BD06393 | Intake 2PIS | 12/12/2023 | Field | 50 | 1623.1 | 0 | 4 | | 0 | 0 | |
| BD06394 | Intake 2PIS | 12/13/2023 | Field | 50 | 1623.1 | 0 | 0 | | 0 | 0 | |
| BD06698 | Intake 2PIS | 12/17/2023 | Field | 50 | 1623.1 | 0 | 1 | | 0 | 1 | |
| BD06699 | Intake 2PIS | 12/18/2023 | Field | 50 | 1623.1 | 0 | 5 | | 0 | 0 | |
| BD06700 | Intake 2PIS | 12/19/2023 | Field | 50 | 1623.1 | 0 | 2 | | 0 | 0 | |
| BD06701 | Intake 2PIS | 12/20/2023 | Field | 50 | 1623.1 | 0 | 1 | | 0 | 0 | |
| BD06864 | Intake 2PIS | 12/24/2023 | Field | 50 | 1623.1 | 0 | 0 | | 0 | 0 | |
| BD06865 | Intake 2PIS | 12/25/2023 | Field | 50 | 1623.1 | 0 | 0 | | 0 | 0 | |
| BD06866 | Intake 2PIS | 12/26/2023 | Field | 50 | 1623.1 | 0 | 0 | | 0 | 0 | |
| BD06867 | Intake 2PIS | 12/27/2023 | Field | 50 | 1623.1 | 0 | 0 | | 0 | 0 | |
| BD07227 | Intake 2PIS | 12/31/2023 | Field | 50 | 1623.1 | 0 | 1 | | 0 | 0 | |

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 Marsha Farooqui

Date Reviewed: 01/05/2024

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: 12/2023

| DAY | 12 AM (NTU) | 4 AM (NTU) | 8 AM (NTU) | NOON (NTU) | 4 PM (NTU) | 8 PM (NTU) | Highest Reading (NTU) |
|-----|----------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|
| 1 | 0.39 | 0.38 | 0.38 | 0.39 | 0.39 | 0.38 | 0.39 |
| 2 | 0.41 | 0.43 | 0.47 | 0.41 | 0.39 | 0.39 | 0.47 |
| 3 | 0.40 | 0.40 | 0.39 | 0.40 | 0.40 | 0.43 | 0.43 |
| 4 | 0.98 | 2.17 | 2.02 | 1.97 | 1.92 | 1.77 | 2.17 |
| 5 | 1.52 | 1.48 | 1.67 | 1.74 | 1.82 | 2.05 | 2.05 |
| 6 | 2.24 | 2.29 | 2.29 | 2.43 | 2.50 | 2.42 | 2.50 |
| 7 | 2.39 | 2.50 | 2.47 | 2.47 | 2.43 | 2.29 | 2.50 |
| 8 | 2.33 | 2.31 | 2.31 | 2.27 | 2.26 | 2.21 | 2.33 |
| 9 | 2.19 | 2.16 | 2.16 | 2.16 | 2.16 | 2.12 | 2.19 |
| 10 | 2.08 | 2.07 | 2.02 | 2.06 | 2.01 | 1.97 | 2.08 |
| 11 | 2.12 | 2.16 | 2.18 | 2.17 | 2.12 | 1.94 | 2.18 |
| 12 | 1.94 | 1.90 | 1.89 | 1.77 | 1.82 | 1.84 | 1.94 |
| 13 | 1.72 | 1.74 | 1.69 | 1.67 | 1.66 | 1.65 | 1.74 |
| 14 | 1.63 | 1.63 | 1.63 | 1.59 | 1.63 | 1.59 | 1.63 |
| 15 | 1.59 | 1.52 | 1.52 | 1.52 | 1.50 | 1.48 | 1.59 |
| 16 | 1.49 | 1.48 | 1.44 | 1.44 | 1.45 | 1.45 | 1.49 |
| 17 | 1.43 | 1.40 | 1.38 | 1.39 | 1.65 | 1.50 | 1.65 |
| 18 | 1.37 | 1.35 | 1.34 | 1.33 | 1.32 | 1.30 | 1.37 |
| 19 | 1.30 | 1.30 | 1.28 | 1.27 | 1.28 | 1.26 | 1.30 |
| 20 | 1.26 | 1.24 | 1.24 | 1.22 | 1.22 | 1.22 | 1.26 |
| 21 | 1.22 | 1.21 | 1.19 | 1.19 | 1.18 | 1.17 | 1.22 |
| 22 | 1.18 | 1.18 | 1.17 | 1.16 | 1.17 | 1.15 | 1.18 |
| 23 | 1.13 | 1.14 | 1.12 | 1.11 | 1.11 | 1.11 | 1.14 |
| 24 | 1.07 | 1.07 | 1.06 | 1.03 | 1.03 | 1.02 | 1.07 |
| 25 | 1.01 | 1.00 | 1.00 | 1.00 | 1.00 | 1.01 | 1.01 |
| 26 | 0.99 | 1.02 | 0.99 | 0.97 | 0.98 | 0.96 | 1.02 |
| 27 | 0.97 | 0.98 | 0.95 | 0.96 | 0.96 | 0.97 | 0.98 |
| 28 | 0.97 | 0.96 | 0.95 | 0.95 | 0.91 | 0.89 | 0.97 |
| 29 | 0.90 | 0.87 | 0.86 | 0.86 | 0.85 | 0.84 | 0.90 |
| 30 | 0.84 | 0.84 | 0.83 | 0.82 | 0.82 | 0.82 | 0.84 |
| 31 | 0.82 | 0.84 | 0.82 | 0.80 | 0.80 | 0.80 | 0.84 |

| 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: 1/5/24

OHA Drinking Water Services - Raw Coliform Data (Unfiltered)

Portland Water Bureau

ID#: OR 4100657

Month/Year: 12/2023

| Date | Fecal Coliform (CFU/100mL) | Total Coliform (MPN/100mL) | Comments |
|------------|----------------------------|----------------------------|--|
| 12/1/2023 | 1 | | |
| 12/2/2023 | 1 | | |
| 12/3/2023 | 1 | | |
| 12/4/2023 | 6 | | |
| 12/5/2023 | 7* | 387.3 | *FC sample failed Laboratory QC; TC data substituted |
| 12/6/2023 | 6 | | |
| 12/7/2023 | 11 | | |
| 12/8/2023 | 7 | | |
| 12/9/2023 | 6 | | |
| 12/10/2023 | 2 | | |
| 12/11/2023 | 4 | | |
| 12/12/2023 | 6 | | |
| 12/13/2023 | 5 | | |
| 12/14/2023 | 3 | | |
| 12/15/2023 | 2 | | |
| 12/16/2023 | 2 | | |
| 12/17/2023 | 2* | 79.8 | *FC sample failed Laboratory QC; TC data substituted |
| 12/18/2023 | 1 | | |
| 12/19/2023 | 1 | | |
| 12/20/2023 | 1 | | |
| 12/21/2023 | 1 | | |
| 12/22/2023 | 2 | | |
| 12/23/2023 | 1 | | |
| 12/24/2023 | <1 | | |
| 12/25/2023 | 2 | | |
| 12/26/2023 | 1 | | |
| 12/27/2023 | <1 | | |
| 12/28/2023 | <1 | | |
| 12/29/2023 | 1 | | |
| 12/30/2023 | 1 | | |
| 12/31/2023 | 1 | | |

Note: Sampled at active Headworks Raw Water Intake (either 2P or 2PIS)

| Six Month Summary: | Fecal Coliform | Total Coliform | Total |
|--|----------------|----------------|-------|
| # of Samples Reported: | 182 | 2 | 184 |
| # of Samples > 20 CFU/100mL or > 100 MPN/100mL: | 0 | 1 | 1 |
| Percent: | | | 0.5% |

Note: *Total coliform reported in addition to fecal coliform on December 5 and 17, 2023 due to invalid fecal coliform results and requirement to report daily raw water coliform results when turbidity is greater than 1 NTU.