



Amanda Fritz, Commissioner  
Gabriel Solmer, Director



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November 9, 2020

Carrie Gentry  
Oregon Health Authority  
Drinking Water Services  
PO Box 14450  
Portland, OR 97293-0450

Subject: Bilateral Compliance Agreement – Quarterly Status Report

Dear Carrie:

This letter and attachment constitutes the Portland Water Bureau's (PWB) submission of its quarterly status report for the Bilateral Compliance Agreement, Section IV.D.6 (Oregon Health Authority; December 18, 2017). This report covers the period of July – September 2020.

If you have any questions regarding this report, please feel free to contact me at (503) 823-7648 or [yone.akagi@portlandoregon.gov](mailto:yone.akagi@portlandoregon.gov).

Sincerely,

Yone Akagi, P.E.  
Water Quality Manager

Enclosure

Cc: Ann Levy, Chris Wanner, David Peters

# Status Report

Bilateral Compliance Agreement

November 9, 2020

*Reporting Period: July 1 – September 30, 2020*



As part of the Bilateral Compliance Agreement (BCA) Interim Measures, Section IV.D.6 requires that Portland Water Bureau (PWB) provide Oregon Health Authority – Drinking Water Services (OHA) a status report every quarter until *Cryptosporidium* treatment compliance is achieved. The report is intended to be a summary and must be submitted no later than 10 days after the end of the first month following the end of each calendar quarter. The following information must be included:

1. Intake monitoring results and genotyping results received the previous quarter;
2. Watershed activities conducted the previous quarter including inspections (security, sanitary facilities, landslides, diversion pool fence), significant events or changes, and tributary or scat monitoring results received the previous quarter; and
3. Status of progress towards construction of filtration facility and any milestones specific in Section III of the BCA

This status report covers the period of July – September 2020.

## 1. Intake Monitoring and Genotyping Results

Intake monitoring results for *Cryptosporidium* were submitted to OHA in monthly compliance reports on August 14, 2020, September 15, 2020, and October 15, 2020 and are provided in Appendix A.

No water samples were successfully genotyped during the reporting period. Analytical Services, Inc. (ASI) is continuing with validation experiments. The research lab at Oregon Health and Science University (OHSU) are continuing operations on a reduced staff schedule due to the COVID-19 response. Validation experiments conducted in July and August were not successful and further experiments will be on hold until PWB has its own in-house molecular laboratory functioning. PWB has continued to make progress in implementing its own laboratory capabilities for *Cryptosporidium* genotyping within the leased space adjacent to PWB's Water Quality Laboratory. PWB has completed a Chemical Hygiene Plan and is currently ordering PCR reagents and supplies, implementing and finalizing QA/QC checks on equipment and awaiting final equipment orders to be shipped.

There was one new *Cryptosporidium*-positive slide from intake samples that were collected between July and September 2020. A total of 61 positive intake slides from January 2019 through September 2020 are being held for genotyping until one of the labs is ready to accept samples.

## 2. Watershed Activities

The following subsections provide status updates on the inspections conducted and monitoring results received during the reporting period, as well as any significant watershed events or changes identified.

### Security

Watershed Rangers routinely conduct security inspections of the Bull Run Watershed Management Unit. On a weekly basis, rangers inspected multiple boundary access points and looked for evidence of illicit activity including trespass. During the reporting period, rangers submitted 39 security incidents or observations. Four of the reported incidents occurred inside the water supply drainage boundary.

## Sanitary Facilities

Sanitary facility condition inspections covering all project portable facilities within the watershed during the reporting period are summarized in Table 1. No deficiencies were observed.

A waste transport inspection of a portable facility at Bear Creek House was conducted on July 20, 2020. No deficiencies were observed.

Table 1. Sanitary Facility Condition Inspections

Date	Location	Deficiencies
8/31/2020	Powerhouse 1	None
9/2/2020	Bull Run Rd/Waterworks Rd	None
	Rd 10 MM 6	None
	Teardrop Area	None
	Powerhouse 2	None
9/22/2020	Headworks Portable	None
	Rd 10 MM 7	None
9/29/2020	Dam 1 Access Rd	None

## Landslides

The annual landslide inspection for the South Fork landslide was completed from the ground on September 25, 2020. Due to COVID-19 risks and physical distancing requirements, an aerial inspection of the watershed was not conducted. As a supplement, a site visit to the North Fork landslide was made on September 28.

## Diversion Pool Fence

Routine inspections of the Diversion Pool fence were completed daily by Water Treatment Operators. Comprehensive inspections were conducted monthly by Watershed Specialists on July 15, August 12, and September 29. Wildlife-specific inspections were conducted by Water Quality staff on July 16, August 13, and September 3. Routine maintenance of vegetation around the Diversion Pool fence occurred in June. There were no other vulnerabilities detected during the reporting period.

## Tributary and other Non-Intake Water Monitoring Results

The results received during the reporting period for water samples collected at Bull Run Watershed locations other than the intake are presented in Table 2. A total of 12 samples were collected from the major tributaries during the reporting period. *Cryptosporidium* was detected once from Key Stations 15, 18, and 35. All three positive samples have been held for genotyping.

Table 2. Results of Non-Intake Water Samples Reported July 1, 2020 to September 30, 2020

Collection Date	Report Date	Location	<i>Cryptosporidium</i> (count)	<i>Giardia</i> (count)	Volume (L)	Method
6/30/2020	7/6/2020	Key Station 15 – North Fork	4	0	50	1623.1
6/30/2020	7/6/2020	Key Station 18 - Mainstem	0	0	50	1623.1
6/30/2020	7/6/2020	Key Station 35 – South Fork	0	0	50	1623.1
6/30/2020	7/6/2020	Key Station 44 – Fir Creek	0	0	50	1623.1
7/28/2020	7/31/2020	Key Station 15 – North Fork	0	0	50	1623.1

Table 2. Results of Non-Intake Water Samples Reported July 1, 2020 to September 30, 2020

Collection Date	Report Date	Location	<i>Cryptosporidium</i> (count)	<i>Giardia</i> (count)	Volume (L)	Method
7/28/2020	7/31/2020	Key Station 18 - Mainstem	0	1	50	1623.1
7/28/2020	7/31/2020	Key Station 35 – South Fork	1	1	50	1623.1
7/28/2020	7/31/2020	Key Station 44 – Fir Creek	0	0	50	1623.1
8/25/2020	8/28/2020	Key Station 15 – North Fork	0	0	50	1623.1
8/25/2020	9/1/2020	Key Station 18 - Mainstem	1	0	50	1623.1
8/25/2020	8/28/2020	Key Station 35 – South Fork	0	0	50	1623.1
8/25/2020	8/28/2020	Key Station 44 – Fir Creek	0	1	50	1623.1

No genotyping results from *Cryptosporidium*-positive samples were received this quarter. There are 25 *Cryptosporidium*-positive slides from tributary samples and 24 *Cryptosporidium*-positive slides from reservoir samples that were reported through September 2020. These samples are being held for genotyping until a laboratory is ready to accept samples.

### Scat Monitoring Results

The *Cryptosporidium* PCR and genotyping results received during the reporting period for wildlife scat samples are presented in Table 3. Out of a total of 44 samples, two were *Cryptosporidium*-positive.

Table 3. Wildlife Scat *Cryptosporidium* Results Reported July 1, 2020 to September 30, 2020

Sample ID	Wildlife	Collection Date	Report Date	PCR Result	Genotyping Result
200616-1103	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1105	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1106	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1107	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1108	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1109	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1110	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1112	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1113	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1114	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1115	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1116	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1117	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1118	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1119	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1120	Bat	6/16/2020	7/9/2020	Negative	N/A
200616-1121	Bat	6/16/2020	7/9/2020	Negative	N/A
200612-1127	Deer	6/12/2020	7/9/2020	Negative	N/A
200612-1133	Deer	6/12/2020	7/9/2020	Negative	N/A
200715-1150	Bear	7/15/2020	8/5/2020	Negative	N/A
200716-1133	Deer	7/16/2020	8/5/2020	Negative	N/A

Table 3. Wildlife Scat *Cryptosporidium* Results Reported July 1, 2020 to September 30, 2020

200716-1135	Deer	7/16/2020	8/5/2020	Negative	N/A
200714-1238	Goose	7/14/2020	8/5/2020	Negative	N/A
200714-1244	Goose	7/14/2020	8/5/2020	Negative	N/A
200714-1410	Goose	7/14/2020	8/5/2020	Negative	N/A
200714-1414	Goose	7/14/2020	8/5/2020	Negative	N/A
200714-1150	Hare	7/14/2020	8/5/2020	Negative	N/A
200811-1054	Bushy-tailed woodrat	8/11/2020	9/2/2020	Negative	N/A
200811-1230	Bushy-tailed woodrat	8/11/2020	9/2/2020	Negative	N/A
200813-1213	Deer	8/13/2020	9/2/2020	Negative	N/A
200812-1226	Deer mouse	8/12/2020	9/2/2020	Positive	PNW17a
200812-1234	Deer mouse	8/12/2020	9/2/2020	Negative	N/A
200813-1125	Deer mouse	8/13/2020	9/2/2020	Negative	N/A
200813-1230	Shrew	8/13/2020	9/2/2020	Negative	N/A
200831-1112	Bear	8/31/2020	9/30/2020	Negative	N/A
200901-1142	Bear	9/1/2020	9/30/2020	Negative	N/A
200901-1255	Bear	9/1/2020	9/30/2020	Negative	N/A
200901-1304	Bear	9/1/2020	9/30/2020	Negative	N/A
200902-1258	Bear	9/2/2020	9/30/2020	Negative	N/A
200903-1414	Bear	9/3/2020	9/30/2020	Negative	N/A
200831-1152	Bobcat	8/31/2020	9/30/2020	Negative	N/A
200902-1206	Bobcat	9/2/2020	9/30/2020	Negative	N/A
200902-1237	Unknown predator	9/2/2020	9/30/2020	Positive	<i>Cryptosporidium canis</i>
200831-1133	Coyote	8/31/2020	9/30/2020	Negative	N/A

### Significant Watershed Events or Changes

Examples of events or changes in the watershed that may be included in this report include wildfire, flooding or other extreme weather event, a landslide and/or major turbidity event, major changes in operations, or a significant wildlife or domestic animal incident or incursion related to *Cryptosporidium* risk.

While no significant events or changes in the watershed related to *Cryptosporidium* risk were identified during the reporting period, the major regional wildfires in September following the Labor Day wind event resulted in a Level 1 (“get ready”) evacuation alert for the southern portion of the Bull Run Watershed within Clackamas County, including all PWB Headworks facilities. PWB partially activated its Emergency Operation Center (EOC) on September 12 for the purposes of coordination and preparation in case of a Headworks evacuation and shutdown of the Bull Run Supply. The Riverside wildfire in the Clackamas River Ranger District of the Mt. Hood National Forest came within 12 miles of the Bull Run Closure area perimeter, however conditions began moderating the week of September 14 and the EOC was deactivated on September 21.

### 3. Filtration Facility Construction Update

Per State and City guidelines, the project team continues to work from home due to the COVID-19 pandemic. Work that continues in the field is done in accordance with health guidelines. The project team has continued project activities to the best extent possible. There are no known significant impacts to the project schedule resulting from the pandemic at this time.

In the past quarter, the project team completed pilot plant data collection that contributed to the pilot study report to Oregon Health Authority (OHA). The pilot plant operated at a reduced capacity during the summer to allow the team to prepare the pilot study report as well as assess data and prepare for the next treatment tests. In September, pilot plant operations resumed to continue evaluating treatment processes including corrosion control.

After the March release of the Filtration Facility Overview (FFO), the project team continued preliminary design work with the filtration facility designer (Stantec) facilitating the preliminary design virtual workshops used to discuss and record design input and stakeholder recommendations. The outcomes of the virtual workshops will be used to develop the Filtration Facility's Basis of Design Report being prepared for January 2021. The project team also continued to work on refining the pipeline project including evaluating pipeline routes. This work included virtual workshops, selection of a pipeline designer (Jacobs), and developing a pipeline project definition report. The FFO and pipeline project definition report will be combined to create a complete Project Definition Report being prepared for November 2020.

Contract negotiations continued with MWH Constructors for the filtration facility's selected Construction Manager/General Contractor (CM/GC).

The project team continues working towards reaching a loan agreement with the Environmental Protection Agency under the Water Infrastructure Finance and Innovation Act (WIFIA) program, which is estimated to save millions in borrowing costs. PWB meets regularly with the WIFIA team and anticipates closing the loan during the 4<sup>th</sup> quarter of 2020.

The team continues to work with various county and community groups, including land use and permitting staff with both Multnomah and Clackamas Counties. The team continues to collaborate with neighbors. A Site Advisory Group composed of property owners near the future filtration facility site and other stakeholders, continue ongoing engagement with project staff through email, surveys, and teleconferencing. Monthly updates with information presented and feedback from the group are posted on the Site Advisory Group webpage with resources to provide additional public feedback.

# Appendix A: Intake Monitoring Results

A-1



**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>	July 2020		
<b>PWS Name:</b>	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227			<b>Report Date:</b>	August 4, 2020		
<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 (%)
BC41146	Intake 2PIS	7/26/2020	Field	50	1623.1	0	0		0.0	0	
BC41147	Intake 2PIS	7/27/2020	Field	50	1623.1	0	0		0.0	0	
BC41148	Intake 2PIS	7/27/2020	MS	50.75	1623.1	99	62	62.6	99	39	39.4
BC41149	Intake 2PIS	7/28/2020	Field	50	1623.1	0	0		0.0	0	
BC41150	Intake 2PIS	7/29/2020	Field	50	1623.1	0	0		0.0	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 Mark Long

Date Reviewed: 08/06/20

# Appendix A: Intake Monitoring Results



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

## Cryptosporidium and Giardia Laboratory Analysis Report

Water System Information				Sample Information			
<b>PWS ID:</b>	OR4100657			<b>Collection Month &amp; Year:</b>	July 2020		
<b>PWS Name:</b>	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227			<b>Report Date:</b>	August 6, 2020		
<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 (%)
BC40490	Intake 2PIS	7/5/2020	Field	50	1623.1		1			0	
BC40491	Intake 2PIS	7/7/2020	Field	50	1623.1		0			0	
BC40492	Intake 2PIS	7/7/2020	MS	50.25	1623.1	99	84	84.85	99	63	63.64
BC40769	Intake 2PIS	7/12/2020	Field	50	1623.1		0			0	
BC40770	Intake 2PIS	7/13/2020	Field	50	1623.1		0			0	
BC40771	Intake 2PIS	7/14/2020	Field	50	1623.1		0			0	
BC40772	Intake 2PIS	7/15/2020	Field	50	1623.1		0			0	
BC40969	Intake 2PIS	7/19/2020	Field	50	1623.1		0			0	
BC40970	Intake 2PIS	7/20/2020	Field	50	1623.1		0			0	
BC40971	Intake 2PIS	7/21/2020	Field	50	1623.1		0			0	
BC40972	Intake 2PIS	7/22/2020	Field	50	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 PSWarden

Date Reviewed: August 6, 2020

# Appendix A: Intake Monitoring Results

A-3



**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>	Aug. 2020		
<b>PWS Name:</b>	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227			<b>Report Date:</b>	September 10, 2020		
<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 (%)
BC41479	Intake 2PIS	8/2/2020	Field	50	1623.1	0	0		0	0	
BC41480	Intake 2PIS	8/3/2020	Field	50	1623.1	0	0		0	0	
BC41721	Intake 2PIS	8/9/2020	Field	50	1623.1	0	0		0	0	
BC41722	Intake 2PIS	8/10/2020	Field	50	1623.1	0	0		0	0	
BC41723	Intake 2PIS	8/10/2020	MS	50.25	1623.1	99	9	9.1	99	6	6.1
BC41977	Intake 2PIS	8/16/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC41978	Intake 2PIS	8/16/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC41979	Intake 2PIS	8/17/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC41980	Intake 2PIS	8/17/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC41981	Intake 2PIS	8/17/2020	MS	25	PWBL-SOP-61 3	99	89	89.9	99	68	68.7
BC42621	Intake 2PIS	8/23/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC42622	Intake 2PIS	8/23/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC42623	Intake 2PIS	8/24/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC42624	Intake 2PIS	8/24/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC42896	Intake 2PIS	8/30/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC42897	Intake 2PIS	8/30/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC42898	Intake 2PIS	8/31/2020	Field	25	PWBL-SOP-61 3	0	0		0	0	
BC42899	Intake 2PIS	8/31/2020	Field	25	PWBL-SOP-61 3	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 Mohd Sanj

Date Reviewed: 09/10/20

# Appendix A: Intake Monitoring Results



**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>			
<b>PWS ID:</b>	OR4100657				<b>Collection Month &amp; Year:</b>	Sep. 2020		
<b>PWS Name:</b>	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227				<b>Report Date:</b>	October 9, 2020		
<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	<i>Cryptosporidium</i>			<i>Giardia</i>		
						No. of Oocysts Spiked	No. of Oocysts Counted	Oocyst Matrix Spike Recovery (%)	No. of Cysts Spiked	No. of Cysts Counted	Cyst Matrix Spike Recovery (%)
BC43264	Intake 2PIS	9/6/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43265	Intake 2PIS	9/6/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43266	Intake 2PIS	9/8/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43267	Intake 2PIS	9/8/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43268	Intake 2PIS	9/8/2020	MS	25	1623 DAMM	99	87	87.9	99	84	84.8
BC43410	Intake 2PIS	9/13/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43411	Intake 2PIS	9/13/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43412	Intake 2PIS	9/15/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43413	Intake 2PIS	9/15/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43531	Intake 2PIS	9/20/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43532	Intake 2PIS	9/20/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43533	Intake 2PIS	9/22/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43534	Intake 2PIS	9/22/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43967	Intake 2PIS	9/27/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43968	Intake 2PIS	9/27/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43969	Intake 2PIS	9/29/2020	Field	25	1623 DAMM	0	0		0.0	0	
BC43970	Intake 2PIS	9/29/2020	Field	25	1623 DAMM	0	0		0.0	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: 10/12/2020