



Amanda Fritz, Commissioner
Gabriel Solmer, Director



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August 6, 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 April – June 2020.

If you have any questions regarding this report, please feel free to contact me at (503) 823-7648 or 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

August 6, 2020

Reporting Period: April 1 – June 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 April – June 2020.

1. Intake Monitoring and Genotyping Results

Intake monitoring results for *Cryptosporidium* were submitted to OHA in monthly compliance reports on May 14, 2020, June 16, 2020, and July 15, 2020 and are provided in Appendix A.

No water samples were successfully genotyped during the reporting period. Analytical Services, Inc. (ASI) resolved method quality control issues and continued validation experiments. The research lab at Oregon Health and Science University (OHSU) resumed limited operations on a reduced staff schedule due to the COVID-19 response. A planning meeting with the OHSU research staff was held in June but no lab work could be performed during this time period. PWB made progress in implementing its own laboratory capabilities for *Cryptosporidium* genotyping. The leased space adjacent to PWB's Water Quality Laboratory was approved by Portland City Council on May 6, 2020, and PWB has obtained access, painted the walls, moved furniture and equipment, and begun drafting its safety and chemical hygiene plan to meet OSHA requirements while waiting for final equipment orders to be shipped.

There was one new *Cryptosporidium*-positive slide from intake samples that were collected between April and June 2020. A total of 60 positive intake slides from January 2019 through June 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 36 security incidents or observations. Seven of the reported incidents occurred inside the water supply drainage boundary.

Sanitary Facilities

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

A waste transport inspection of the holding tank at Bear Creek House was conducted on June 3, 2020. No deficiencies were observed.

Table 1. Sanitary Facility Condition Inspections

Date	Location	Deficiencies
6/3/2020	Main Gate	None
	Bear Creek House – ADA	None
	Bear Creek House – Unit #1 of 2	None
	Bear Creek House – Unit #2 of 2	None
	Bear Creek House – Permanent Tank	None
	Headworks Parking Lot	None
	Road 10/Road 14 Junction	None
	Road 10/Road 1027 Junction	None
6/15/2020	Bull Run Lake	None

Landslides

The last annual inspection for landslide areas was completed in June 2019. It has become necessary to cancel the 2020 aerial inspection due to COVID-19 risks and physical distancing requirements. As an alternative to the aerial inspection, PWB is planning a site visit to the South Fork landslide in late summer if conditions allow.

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 April 10, May 20, and June 24. Wildlife-specific inspections were conducted by Water Quality staff on April 14, May 11, and June 12. A section of the Diversion Pool fence along the northside was damaged by tree fall on May 12. The fence chain-link was repaired on May 13. Material for replacing the damaged rodent barrier was ordered and installed on June 8. 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. Due to COVID-19 responses and precautions, PWB suspended tributary and other non-intake water monitoring in mid-March 2020 through May. Consequently, sample results were reported from the four main tributaries once during the reporting period. *Cryptosporidium* was detected once from Key Station 18. The positive sample has been held for genotyping.

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

Collection Date	Report Date	Location	<i>Cryptosporidium</i> (count)	<i>Giardia</i> (count)	Volume (L)	Method
6/2/2020	6/9/2020	Key Station 15 - North Fork	0	0	50	1623.1
6/2/2020	6/9/2020	Key Station 18 - Mainstem	1	0	50	1623.1
6/2/2020	6/9/2020	Key Station 35 - South Fork	0	0	50	1623.1
6/2/2020	6/9/2020	Key Station 44 - Fir Creek	0	0	50	1623.1

No genotyping results from *Cryptosporidium*-positive samples were received this quarter. There are 22 *Cryptosporidium*-positive slides from tributary samples and 24 *Cryptosporidium*-positive slides from reservoir samples that were reported through June 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 25 samples, none were *Cryptosporidium*-positive.

Table 3. Wildlife Scat *Cryptosporidium* Results Reported April 1, 2020 to June 30, 2020

Sample ID	Wildlife	Collection Date	Report Date	PCR Result	Genotyping Result
200414-1119	Deer	4/14/2020	4/20/2020	Negative	N/A
200414-1141	Deer	4/14/2020	4/20/2020	Negative	N/A
200414-1328	Bobcat	4/14/2020	4/20/2020	Negative	N/A
200415-1053	Bear	4/15/2020	4/20/2020	Negative	N/A
200415-1118	Coyote	4/15/2020	4/20/2020	Negative	N/A
200415-1132	Coyote	4/15/2020	4/20/2020	Negative	N/A
200415-1158	Bear	4/15/2020	4/20/2020	Negative	N/A
200512-1029	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1048	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1056	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1103	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1114	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1133	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1141	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1149	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1200	Deer Mouse	5/12/2020	6/1/2020	Negative	N/A
200512-1211	Townsend Chipmunk	5/12/2020	6/1/2020	Negative	N/A
200512-1232	Bushy Tailed Woodrat	5/12/2020	6/1/2020	Negative	N/A
200512-1251	Deer	5/12/2020	6/1/2020	Negative	N/A
200513-1040	Deer Mouse	5/13/2020	6/1/2020	Negative	N/A
200513-1047	Deer Mouse	5/13/2020	6/1/2020	Negative	N/A
200513-1123	Deer	5/13/2020	6/1/2020	Negative	N/A

Table 3. Wildlife Scat *Cryptosporidium* Results Reported April 1, 2020 to June 30, 2020

200513-1136	Goose	5/13/2020	6/1/2020	Negative	N/A
200513-1148	Deer	5/13/2020	6/1/2020	Negative	N/A
200513-1207	Goose	5/13/2020	6/1/2020	Negative	N/A

Significant Watershed Events or Changes

No significant events or changes in the watershed were identified during the reporting period. 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.

3. Filtration Facility Construction Update

Per State and City guidelines, the project team has generally transitioned to working from home due to the COVID-19 pandemic. Work that continues in the field is done in accordance with health guidelines. This adjustment period may have minor impacts, but the project team has continued project activities to the best possible extent. There are no known significant impacts to the project schedule resulting from this transition at this time.

In the past quarter, the project team continued pilot plant operations, preliminary design work and held virtual workshops. The project team also continued to improve and build on existing project controls and standards, and the Program Management Information System (PMIS).

In March the project team released the Project Definition Report (PDR) for the Filtration Facility, titled the Filtration Facility Overview, which is being used to develop a preliminary design and provide a design baseline for workshop discussions. The team has continued to work on the PDR for the pipelines, which is anticipated to be finalized this summer.

The filtration facility designer (Stantec) has been onboarded and has been working with the project team to identify design input needed during the preliminary design phase. Stantec has facilitated the resulting virtual workshops meant to discuss and record input and stakeholder recommendations. The preliminary design shaped by this input will establish a Basis of Design by early 2021.

Proposals for the filtration facility's Construction Manager/General Contractor (CM/GC) RFP were evaluated with interviews held in June. MWH Constructors was selected as the filtration facility CM/GC and contract negotiations are underway. Proposals for the pipeline design RFP were evaluated in March with interviews held in mid-April. Jacobs Engineering Group was selected as the project designer for the pipelines and contract negotiations are underway.

The pilot plant continued testing various treatment processes including coagulants and ozone through the end the 2nd quarter. The pilot plant will operate at a reduced capacity during the summer to allow the team to prepare the pilot study report to the Oregon Health Authority as well as assess data and prepare for the next treatment tests.

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. PWB meets regularly with the WIFIA team to proactively meet program compliance requirements and work towards loan closure in October.

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 will be 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			
PWS ID:	OR4100657	Collection Month & Year:	April 2020				
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227	Report Date:	May 5, 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	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 (%)
BC36509	Intake 2PIS	4/1/2020	Field	50.0	1623.1	0	0		0	2	
BC36755	Intake 2PIS	4/5/2020	Field	50.0	1623.1	0	0		0	0	
BC36756	Intake 2PIS	4/6/2020	Field	50.0	1623.1	0	0		0	0	
BC36757	Intake 2PIS	4/7/2020	Field	50.0	1623.1	0	0		0	0	
BC36758	Intake 2PIS	4/8/2020	Field	50.0	1623.1	0	0		0	0	
BC37013	Intake 2PIS	4/12/2020	Field	50.0	1623.1	0	0		0	0	
BC37014	Intake 2PIS	4/13/2020	Field	50.0	1623.1	0	0		0	0	
BC37015	Intake 2PIS	4/13/2020	MS	50.5	1623.1	99	73	73.7	99	83	83.8
BC37016	Intake 2PIS	4/14/2020	Field	50.0	1623.1	0	0		0	0	
BC37017	Intake 2PIS	4/15/2020	Field	50.0	1623.1	0	0		0	0	
BC37018	Intake 2PIS	4/19/2020	Field	50.0	1623.1	0	0		0	0	
BC37019	Intake 2PIS	4/20/2020	Field	50.0	1623.1	0	0		0	0	
BC37020	Intake 2PIS	4/21/2020	Field	50.0	1623.1	0	0		0	0	
BC37021	Intake 2PIS	4/22/2020	Field	50.0	1623.1	0	0		0	0	
BC37238	Intake 2PIS	4/26/2020	Field	50.0	1623.1	0	0		0	0	
BC37240	Intake 2PIS	4/28/2020	Field	50.0	1623.1	0	2		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: 05/06/20

Appendix A: Intake Monitoring Results

A-G



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	<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 (%)
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	

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 Fay

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 1900 N Interstate Avenue Portland, Oregon 97227			Report Date:	June 8, 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	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

Appendix A: Intake Monitoring Results

A-4



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:	June 2020		
PWS Name:	Portland Water Bureau 1900 N Interstate Avenue Portland, Oregon 97227			Report Date:	July 8, 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	<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 (%)
BC39129	Intake 2PIS	6/1/2020	Field	50	1623.1	0	0		0	0	
BC39130	Intake 2PIS	6/1/2020	MS	50.25	1623.1	98	86	87.8	99	80	80.8
BC39365	Intake 2PIS	6/7/2020	Field	50	1623.1	0	0		0	1	
BC39366	Intake 2PIS	6/9/2020	Field	50	1623.1	0	0		0	0	
BC39576	Intake 2PIS	6/14/2020	Field	50	1623.1	0	0		0	1	
BC39577	Intake 2PIS	6/16/2020	Field	50	1623.1	0	0		0	1	
BC39947	Intake 2PIS	6/21/2020	Field	50	1623.1	0	0		0	2	
BC39948	Intake 2PIS	6/23/2020	Field	50	1623.1	0	0		0	2	
BC40186	Intake 2PIS	6/28/2020	Field	50	1623.1	0	0		0	0	
BC40187	Intake 2PIS	6/30/2020	Field	50	1623.1	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 Sany

Date Reviewed: 07/08/20