

# 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: 10/2024**

DAY	12 AM (NTU)	4 AM (NTU)	8 AM (NTU)	12PM (NTU)	4 PM (NTU)	8 PM (NTU)	Highest Reading (NTU)
1	0.48	0.49	0.49	0.49	0.48	0.48	<b>0.49</b>
2	0.49	0.50	0.52	0.51	0.51	0.53	<b>0.53</b>
3	0.55	0.54	0.50	0.50	0.50	0.53	<b>0.55</b>
4	0.52	0.52	0.54	0.52	0.52	0.53	<b>0.54</b>
5	0.54	0.53	0.54	0.53	0.53	0.54	<b>0.54</b>
6	0.53	0.53	0.52	0.50	0.53	0.54	<b>0.54</b>
7	0.54	0.54	0.54	0.52	0.53	0.55	<b>0.55</b>
8	0.55	0.56	0.55	0.67	0.58	0.55	<b>0.67</b>
9	0.54	0.55	0.55	0.55	0.55	0.56	<b>0.56</b>
10	0.56	0.54	0.53	0.49	0.49	0.48	<b>0.56</b>
11	0.49	0.48	0.49	0.49	0.49	0.49	<b>0.49</b>
12	0.50	0.50	0.50	0.49	0.53	0.53	<b>0.53</b>
13	0.54	0.52	0.52	0.51	0.50	0.50	<b>0.54</b>
14	0.53	0.51	0.51	0.54	0.53	0.52	<b>0.54</b>
15	0.53	0.54	0.52	0.53	0.53	0.53	<b>0.54</b>
16	0.54	0.54	0.54	0.52	0.51	0.51	<b>0.54</b>
17	0.51	0.51	0.53	0.51	0.50	0.48	<b>0.53</b>
18	0.49	0.50	0.50	0.49	0.48	0.49	<b>0.50</b>
19	0.48	0.49	0.50	0.50	0.48	0.49	<b>0.50</b>
20	0.50	0.51	0.50	0.48	0.48	0.50	<b>0.51</b>
21	0.53	0.54	0.54	0.51	0.50	0.50	<b>0.54</b>
22	0.49	0.49	0.50	0.49	0.48	0.48	<b>0.50</b>
23	0.48	0.49	0.52	0.52	0.47	0.47	<b>0.52</b>
24	0.50	0.50	0.55	0.51	0.51	0.53	<b>0.55</b>
25	0.50	0.54	0.58	0.60	0.60	0.62	<b>0.62</b>
26	0.64	0.64	0.64	0.62	0.61	0.62	<b>0.64</b>
27	0.64	0.65	0.66	0.65	0.62	0.64	<b>0.66</b>
28	0.64	0.64	0.61	0.59	0.59	0.61	<b>0.64</b>
29	0.61	0.65	0.64	0.62	0.65	0.64	<b>0.65</b>
30	0.62	0.59	0.64	0.58	0.58	0.61	<b>0.64</b>
31	0.62	0.64	0.60	0.59	0.58	0.56	<b>0.64</b>

Slow Sand/Membrane/DE Filtration/Unfiltered			Monthly summary	
95% of daily turbidity readings ≤ 1 NTU? <sup>1</sup>	<b>N/A</b>	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?	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>

<sup>1</sup>Filtered systems only

Signature: Anna Vosa  
Anna Vosa, P.E.

Date: 11/7/24

# OHA - Drinking Water Services

## Surface Water Quality Data Conduit 2

Portland Water Bureau

ID#: OR 4100657

WTP-A

Month/Year: 10/2024

Date / Time	Peak Hourly Flow	Minimum Hourly Average Free Chlorine (C)	Contact Time (T)	Actual CT	Temp	pH	Req'd CT	CT Met?	Min. Hourly Average Total Chlorine at First User
	MGD	ppm or mg/L	min.	C x T	°C		Tables	Y/N	ppm or mg/L
1 / 5	25.99	2.39	294.2	703.1	17.6	6.99	74.7	Y	2.37
2 / 11	27.83	2.50	289.6	723.2	17.5	7.02	76.8	Y	2.45
3 / 20	26.55	2.43	212.1	515.9	17.6	7.01	75.6	Y	2.43
4 / 12	26.56	2.48	212.0	526.4	17.2	7.00	77.3	Y	2.49
5 / 23	26.69	2.46	211.1	518.9	17.1	6.99	77.3	Y	2.49
6 / 0	26.68	2.49	211.1	525.7	17.1	6.99	77.3	Y	2.44
7 / 0	26.58	2.50	212.0	529.8	17.1	6.99	77.5	Y	2.54
8 / 12	28.29	2.36	199.0	469.7	17.0	7.03	78.5	Y	2.42
9 / 0	24.04	2.59	233.2	603.5	17.0	6.99	78.7	Y	2.60
10 / 6	22.38	2.57	250.1	642.6	16.8	7.01	80.3	Y	2.52
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									

**Conduit 2 Not in Service**

**Notes for Conduit 2 (C2):**

October 1 to 2, 2024: Conduit 2 in service from Headworks through Lusted and on to town.

October 3 to 10, 2024: Conduit 2 out of service from Headworks to Hudsons Intertie; Conduit 4 feeding Conduit 2 at Hudsons Intertie, Conduit 2 in service from Hudsons through Lusted and on to town.

October 11 to 31, 2024: Conduit 2 out of service from Headworks through Lusted and on to town.

Signature: Anna Vosa  
 Anna Vosa, P.E., Water Quality Engineer

Date: 11/7/24

# OHA - Drinking Water Services

## Surface Water Quality Data Conduit 3

Portland Water Bureau

ID#: OR 4100657

WTP-A

Month/Year: 10/2024

Date / Time	Peak Hourly Flow	Minimum Hourly Average Free Chlorine (C)	Contact Time (T)	Actual CT	Temp	pH	Req'd CT	CT Met?	Min. Hourly Average Total Chlorine at First User
	MGD	ppm or mg/L	min.	C x T	°C		Tables	Y/N	ppm or mg/L
1 / 5	22.32	2.41	439.3	1060.0	17.6	6.98	74.6	Y	2.53
2 / 10	22.28	2.51	439.7	1101.6	17.5	7.00	76.3	Y	2.58
3 / 23	26.80	2.48	366.1	908.9	17.6	7.00	75.7	Y	2.53
4 / 11	26.83	2.49	365.9	912.4	17.2	7.00	77.2	Y	2.59
5 / 21	26.91	2.44	364.8	888.4	17.1	7.00	77.5	Y	2.57
6 / 9	26.91	2.51	365.0	916.5	17.1	7.03	78.8	Y	2.57
7 / 2	26.83	2.51	366.1	919.5	17.1	7.00	77.9	Y	2.51
8 / 1	26.81	2.33	366.4	853.2	17.0	6.99	76.9	Y	2.34
9 / 23	22.19	2.56	442.1	1131.6	17.0	7.02	79.3	Y	2.50
10 / 1	22.21	2.46	441.9	1085.3	16.8	7.02	79.6	Y	2.42
11 / 0	19.53	2.46	503.6	1240.5	16.7	7.04	80.8	Y	2.40
12 / 10	19.48	2.47	504.1	1246.4	16.5	7.02	80.9	Y	2.37
13 / 0	19.48	2.46	504.5	1241.7	16.5	7.04	81.8	Y	2.37
14 / 0	19.41	2.41	506.3	1219.0	16.5	7.04	81.4	Y	2.32
15 / 4	19.33	2.48	508.4	1262.7	16.5	7.02	81.4	Y	2.38
16 / 1	19.33	2.49	508.4	1267.3	16.3	7.05	83.0	Y	2.42
17 / 22	19.28	2.49	509.8	1268.7	16.1	7.05	83.8	Y	2.48
18 / 0	19.28	2.54	510.0	1293.2	16.0	7.03	84.2	Y	2.53
19 / 5	19.23	2.53	511.0	1294.8	16.0	7.05	84.8	Y	2.53
20 / 8	19.23	2.54	511.2	1297.1	15.9	7.03	84.8	Y	2.53
21 / 22	20.44	2.53	481.1	1215.4	15.7	7.04	86.1	Y	2.49
22 / 3	20.56	2.54	478.4	1213.9	15.6	7.05	87.0	Y	2.53
23 / 7	20.54	2.48	479.0	1188.7	15.4	7.06	87.2	Y	2.34
24 / 23	15.67	2.50	628.2	1567.9	15.1	7.06	88.8	Y	2.55
25 / 0	15.67	2.53	628.0	1587.6	15.1	7.05	89.2	Y	2.56
26 / 22	15.70	2.52	625.9	1578.7	14.8	7.04	91.0	Y	2.54
27 / 23	15.80	2.50	623.4	1558.2	14.6	7.07	93.0	Y	2.56
28 / 22	15.86	2.50	619.7	1547.9	14.6	7.06	93.1	Y	2.54
29 / 20	15.92	2.46	618.2	1523.3	14.2	7.04	95.5	Y	2.50
30 / 23	15.90	2.45	619.3	1514.5	14.2	7.06	96.0	Y	2.47
31 / 22	15.99	2.47	615.8	1521.1	13.9	7.05	98.8	Y	2.43

**Notes for Conduit 3 (C3):**

October 1 to 31, 2024: Conduit 3 in service from Headworks through Lusted and on to town.

Signature: Anna Vosa  
 Anna Vosa, P.E., Water Quality Engineer

Date: 11/7/24

# OHA - Drinking Water Services

## Surface Water Quality Data Conduit 4

Portland Water Bureau

ID#: OR 4100657

WTP-A

Month/Year: 10/2024

Date / Time	Peak Hourly Flow	Minimum Hourly Average Free Chlorine (C)	Contact Time (T)	Actual CT	Temp	pH	Req'd CT	CT Met?	Min. Hourly Average Total Chlorine at First User
	MGD	ppm or mg/L	min.	C x T	°C		Tables	Y/N	ppm or mg/L
1 / 23	45.25	2.49	281.9	700.9	17.6	6.93	74.0	Y	2.47
2 / 7	45.82	2.52	206.7	520.0	17.5	6.93	74.9	Y	2.53
3 / 22	43.45	2.45	212.5	520.9	17.6	6.97	75.0	Y	2.45
4 / 12	43.45	2.51	212.5	532.8	17.2	6.98	76.7	Y	2.49
5 / 23	43.59	2.48	211.7	525.6	17.1	6.97	76.8	Y	2.49
6 / 9	43.58	2.52	211.6	533.3	17.1	6.98	77.3	Y	2.49
7 / 8	43.42	2.52	212.5	535.8	17.1	6.97	77.3	Y	2.45
8 / 12	46.07	2.35	199.8	470.3	17.0	6.99	77.3	Y	2.29
9 / 0	39.69	2.58	233.0	601.2	17.0	6.96	78.0	Y	2.48
10 / 7	37.23	2.38	249.0	593.1	16.8	6.97	77.9	Y	2.22
11 / 0	34.83	2.45	365.5	894.8	16.7	7.00	79.5	Y	2.23
12 / 20	34.77	2.49	366.0	910.3	16.5	6.98	79.8	Y	2.30
13 / 5	34.79	2.48	366.5	907.7	16.5	7.00	80.4	Y	2.27
14 / 0	34.65	2.47	367.8	910.1	16.5	7.01	80.9	Y	2.24
15 / 7	34.53	2.45	369.2	903.5	16.5	6.95	79.1	Y	2.25
16 / 14	34.55	2.50	369.1	923.1	16.3	6.99	81.1	Y	2.50
17 / 22	34.46	2.51	370.1	927.6	16.1	7.01	82.9	Y	2.41
18 / 5	34.38	2.56	370.5	947.2	16.0	7.01	83.6	Y	2.54
19 / 5	34.32	2.57	371.2	954.6	16.0	7.00	83.7	Y	2.52
20 / 7	34.34	2.57	371.3	953.6	15.9	7.00	84.2	Y	2.51
21 / 6	34.23	2.51	372.0	933.7	15.7	7.00	84.4	Y	2.42
22 / 8	26.83	2.55	474.9	1208.6	15.6	6.99	85.0	Y	2.28
23 / 13	32.61	2.51	391.5	983.4	15.4	7.00	85.4	Y	2.10
24 / 5	32.38	2.52	393.8	992.7	15.1	7.01	87.3	Y	2.36
25 / 5	32.36	2.50	394.0	986.4	15.1	7.03	88.0	Y	2.27
26 / 22	32.47	2.50	392.3	980.4	14.8	7.03	90.5	Y	2.24
27 / 23	32.62	2.48	390.8	969.6	14.6	7.05	92.2	Y	2.13
28 / 23	32.85	2.47	388.2	960.6	14.6	7.05	92.6	Y	2.21
29 / 21	32.98	2.45	387.1	947.2	14.2	7.03	95.1	Y	2.44
30 / 23	32.91	2.42	387.6	938.4	14.2	7.04	95.3	Y	2.48
31 / 23	33.12	2.45	385.3	943.7	13.9	7.04	98.4	Y	2.58

**Notes for Conduit 4 (C4):**

October 1 to 2, 2024: Conduit 4 in service from Headworks through Lusted and on to town.

October 3 to 10, 2024: Conduit 4 in service from Headworks through Lusted and on to town; Conduit 4 feeding Conduit 2 at Hudsons Interite.

October 11 to 31, 2024: Conduit 4 in service from Headworks through Lusted and on to town.

Signature: Anna Vosa  
 Anna Vosa, P.E., Water Quality Engineer

Date: 11/7/24

## OHA Drinking Water Services - Raw Coliform Data (Unfiltered)

Portland Water Bureau

ID#: OR 4100657

Month/Year: 10/2024

Date	Fecal Coliform (CFU/100mL)	Comments
10/1/2024	3	
10/2/2024	6	
10/3/2024	2	
10/4/2024	2	
10/5/2024	2	
10/6/2024	2	
10/7/2024	2	
10/8/2024	2	
10/9/2024	2	
10/10/2024	4	
10/11/2024	2	
10/12/2024	3	
10/13/2024	4	
10/14/2024	8	
10/15/2024	4	
10/16/2024	8	
10/17/2024		Not Reportable, High Count (NRHC): Results greater than 60 CFU/100mL, maximum allowed by the method.
10/18/2024	26	
10/19/2024	8	
10/20/2024	7	
10/21/2024	6	
10/22/2024	3	
10/23/2024	4	
10/24/2024	6	
10/25/2024	4	
10/26/2024	2	
10/27/2024	4	
10/28/2024	4	
10/29/2024	4	
10/30/2024	4	
10/31/2024	1	

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

**Six Month Summary:**

# of Samples For Fecal Coliform:	182
# of Samples > 20 CFU/100mL:	1
Percent:	0.6%



WQ 0.10.1.1

**DATE:** November 7, 2024

**TO:** Oregon Health Authority  
Drinking Water Services

**FROM:** Anna Vosa, P.E.  
Water Quality Engineer

**SUBJECT: Monthly Report for October 2024  
Surface Water Treatment Rule  
PWS # OR 4100657**

This monthly report includes the following information:

Description	Number of Pages
Transmittal Memorandum	1 page
Raw water turbidity data (OHA form)	1 page
Raw water coliform data (OHA form)	1 page
CT reports for conduits 2, 3, and 4 (OHA form)	3 pages
Transmitted	Total of 6 pages, including this transmittal memo

**Remarks:**

Portland Water Bureau (PWB) initially disinfects using free chlorine added to three individual conduits. There are two active conduit interties (Larsons and Hudsons) between chlorination at Headworks and the secondary treatment plant (chloramination, pH and alkalinity adjustment) at Lusted Hill. This potentially divides the conduits into three segments since water can be diverted between conduits at the interties.

Per OHA request, to calculate CT for each of the three individual conduits PWB uses the daily maximum hourly average individual conduit flow rates for each conduit segment and the daily minimum hourly average free chlorine concentrations from the Lusted Inlet free chlorine analyzers.

On October 17, 2024, the fecal coliform sample result was invalidated due to the observed, estimated colony count (83 CFU/100 mL) exceeding the maximum of 60 CFU/100 mL that the method (SM9222D) supports. Upon consultation with OHA, it was agreed that since the results were invalid per the method, they should not be reported. During the week of October 14, 2024, there were six valid raw fecal coliform samples.

Please contact me at 503-312-7043 if additional information is required.