

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: 08/2022

| DAY | 12 AM (NTU) | 4 AM (NTU) | 8 AM (NTU) | NOON (NTU) | 4 PM (NTU) | 8 PM (NTU) | Highest Reading (NTU) |
|-----|----------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|
| 1 | 0.48 | 0.43 | 0.40 | 0.65 | 0.36 | 0.37 | 0.65 |
| 2 | 0.39 | 0.44 | 0.38 | 0.39 | 0.39 | 0.39 | 0.44 |
| 3 | 0.38 | 0.41 | 0.37 | 0.35 | 0.44 | 0.41 | 0.44 |
| 4 | 0.42 | 0.41 | 0.44 | 0.51 | 0.50 | 0.44 | 0.51 |
| 5 | 0.43 | 0.47 | 0.40 | 0.47 | 0.39 | 0.39 | 0.47 |
| 6 | 0.40 | 0.41 | 0.39 | 0.43 | 0.38 | 0.42 | 0.43 |
| 7 | 0.41 | 0.42 | 0.44 | 0.40 | 0.39 | 0.41 | 0.44 |
| 8 | 0.53 | 0.40 | 0.44 | 0.40 | 0.44 | 0.39 | 0.53 |
| 9 | 0.43 | 0.40 | 0.42 | 0.28 | 0.25 | 0.42 | 0.43 |
| 10 | 0.40 | 0.41 | 0.49 | 0.62 | 0.59 | 0.54 | 0.62 |
| 11 | 0.59 | 0.50 | 0.43 | 0.42 | 0.41 | 0.48 | 0.59 |
| 12 | 0.43 | 0.44 | 0.45 | 0.43 | 0.41 | 1.22 | 1.22 |
| 13 | 0.44 | 0.81 | 0.44 | 0.40 | 0.40 | 0.43 | 0.81 |
| 14 | 0.43 | 0.44 | 0.40 | 0.43 | 0.41 | 0.44 | 0.44 |
| 15 | 0.45 | 0.40 | 0.42 | 0.43 | 1.58 | 0.42 | 1.58 |
| 16 | 0.42 | 0.49 | 0.45 | 0.39 | 0.39 | 0.43 | 0.49 |
| 17 | 0.43 | 0.53 | 0.40 | 0.40 | 0.40 | 0.39 | 0.53 |
| 18 | 0.43 | 0.39 | 0.50 | 0.43 | 0.37 | 0.40 | 0.50 |
| 19 | 0.39 | 0.77 | 0.38 | 0.37 | 0.37 | 0.40 | 0.77 |
| 20 | 0.49 | 0.42 | 0.40 | 0.40 | 0.38 | 0.41 | 0.49 |
| 21 | 0.43 | 0.43 | 0.51 | 0.40 | 0.49 | 0.38 | 0.51 |
| 22 | 0.42 | 0.44 | 0.45 | 0.43 | 0.42 | 0.50 | 0.50 |
| 23 | 0.45 | 0.43 | 0.40 | 0.40 | 0.54 | 0.43 | 0.54 |
| 24 | 0.45 | 0.41 | 0.43 | 0.45 | 0.48 | 0.51 | 0.51 |
| 25 | 0.50 | 0.46 | 0.47 | 0.46 | 0.48 | 0.48 | 0.50 |
| 26 | 0.62 | 0.49 | 0.51 | 0.47 | 0.55 | 0.49 | 0.62 |
| 27 | 0.57 | 0.82 | 0.59 | 0.65 | 0.64 | 0.62 | 0.82 |
| 28 | 0.64 | 0.50 | 0.50 | 0.48 | 0.53 | 0.50 | 0.64 |
| 29 | 0.56 | 0.53 | 0.50 | 0.52 | 0.56 | 0.56 | 0.56 |
| 30 | 0.55 | 0.53 | 0.55 | 0.50 | 0.49 | 0.55 | 0.55 |
| 31 | 0.54 | 0.55 | 0.57 | 0.49 | 0.51 | 0.53 | 0.57 |

| 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, P.E.

Date: 9/8/22

OHA - Drinking Water Services

Surface Water Quality Data Conduit 2

Portland Water Bureau

ID#: OR 4100657


WTP-A

Month/Year: 08/2022

| 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 / 0 | 40.44 | 2.48 | 188.8 | 469.1 | 14.3 | 6.50 | 77.4 | Y | 2.51 |
| 2 / 7 | 33.52 | 2.49 | 227.7 | 567.0 | 13.5 | 6.51 | 83.7 | Y | 2.49 |
| 3 / 17 | 34.11 | 2.47 | 223.5 | 551.4 | 14.0 | 6.56 | 81.9 | Y | 2.48 |
| 4 / 15 | 34.66 | 2.46 | 219.7 | 540.9 | 14.2 | 6.58 | 80.5 | Y | 1.18 |
| 5 / 18 | 34.25 | 2.46 | 222.9 | 549.2 | 14.1 | 6.56 | 81.0 | Y | 2.47 |
| 6 / 8 | 34.15 | 1.85 | 223.6 | 414.4 | 13.9 | 6.56 | 77.3 | Y | 2.46 |
| 7 / 5 | 34.04 | 2.50 | 224.3 | 561.6 | 14.0 | 6.54 | 81.2 | Y | 2.48 |
| 8 / 11 | 34.59 | 2.46 | 220.8 | 543.6 | 14.1 | 6.55 | 80.3 | Y | 2.44 |
| 9 / 21 | 34.32 | 2.48 | 221.9 | 550.2 | 13.7 | 6.53 | 82.6 | Y | 2.45 |
| 10 / 3 | 34.34 | 2.41 | 222.7 | 536.0 | 13.8 | 6.50 | 81.0 | Y | 2.36 |
| 11 / 17 | 33.72 | 2.13 | 225.9 | 480.4 | 13.6 | 6.57 | 81.8 | Y | 1.99 |
| 12 / 6 | 33.42 | 2.47 | 228.3 | 563.3 | 14.0 | 6.54 | 80.8 | Y | 2.45 |
| 13 / 2 | 33.47 | 2.51 | 228.1 | 572.0 | 14.0 | 6.59 | 82.6 | Y | 2.49 |
| 14 / 23 | 36.05 | 2.48 | 211.8 | 524.9 | 14.1 | 6.60 | 82.0 | Y | 2.43 |
| 15 / 2 | 36.07 | 2.48 | 211.6 | 524.1 | 14.2 | 6.60 | 81.2 | Y | 2.48 |
| 16 / 3 | 36.11 | 2.50 | 211.6 | 529.0 | 14.1 | 6.60 | 82.1 | Y | 2.50 |
| 17 / 3 | 36.11 | 2.41 | 211.3 | 510.0 | 14.3 | 6.59 | 79.7 | Y | 2.39 |
| 18 / 0 | 32.88 | 2.19 | 235.9 | 516.4 | 14.6 | 6.60 | 75.9 | Y | 2.20 |
| 19 / 12 | 31.65 | 2.47 | 240.9 | 596.2 | 14.0 | 6.63 | 83.6 | Y | 2.42 |
| 20 / 10 | 31.62 | 2.52 | 241.3 | 607.6 | 14.0 | 6.64 | 84.3 | Y | 2.47 |
| 21 / 8 | 31.73 | 2.47 | 240.4 | 593.2 | 14.2 | 6.64 | 82.4 | Y | 2.42 |
| 22 / 21 | 32.39 | 2.38 | 235.4 | 560.2 | 14.2 | 6.61 | 80.8 | Y | 2.35 |
| 23 / 14 | 32.87 | 2.44 | 232.3 | 566.5 | 14.4 | 6.64 | 81.1 | Y | 2.42 |
| 24 / 22 | 34.64 | 2.46 | 220.4 | 541.7 | 14.3 | 6.59 | 80.5 | Y | 2.43 |
| 25 / 15 | 36.42 | 2.43 | 208.9 | 507.4 | 14.4 | 6.65 | 80.7 | Y | 2.41 |
| 26 / 8 | 36.66 | 2.50 | 208.3 | 520.4 | 14.3 | 6.62 | 81.7 | Y | 2.42 |
| 27 / 22 | 36.39 | 2.54 | 209.8 | 531.9 | 14.3 | 6.63 | 82.2 | Y | 2.45 |
| 28 / 9 | 36.72 | 2.51 | 207.7 | 521.2 | 14.3 | 6.64 | 81.9 | Y | 2.44 |
| 29 / 8 | 36.48 | 2.50 | 208.9 | 521.3 | 14.4 | 6.63 | 81.1 | Y | 2.43 |
| 30 / 23 | 37.90 | 2.43 | 201.2 | 489.2 | 14.5 | 6.62 | 79.4 | Y | 2.36 |
| 31 / 4 | 37.95 | 2.50 | 201.2 | 503.4 | 14.5 | 6.63 | 79.6 | Y | 2.41 |

Notes for Conduit 2 (C2):

August 1 to 31, 2022: Conduit 2 in service from Headworks to Lusted and on to town.

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

Date: 9/8/22

OHA - Drinking Water Services

Surface Water Quality Data Conduit 3

Portland Water Bureau

ID#: OR 4100657

WTP-A

Month/Year: 08/2022

| 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 / 1 | 44.23 | 2.50 | 221.5 | 554.8 | 14.3 | 6.43 | 75.7 | Y | 2.47 |
| 2 / 7 | 39.78 | 2.43 | 246.2 | 598.3 | 13.5 | 6.49 | 82.5 | Y | 2.43 |
| 3 / 22 | 36.71 | 2.45 | 266.6 | 653.8 | 14.0 | 6.46 | 78.6 | Y | 2.41 |
| 4 / 15 | 37.27 | 2.41 | 261.9 | 630.6 | 14.2 | 6.57 | 79.9 | Y | 1.61 |
| 5 / 18 | 36.93 | 2.47 | 265.0 | 654.1 | 14.1 | 6.55 | 80.7 | Y | 2.08 |
| 6 / 8 | 36.82 | 1.68 | 266.1 | 446.1 | 13.9 | 6.56 | 76.0 | Y | 2.49 |
| 7 / 8 | 36.74 | 2.50 | 266.7 | 667.4 | 14.0 | 6.55 | 81.4 | Y | 2.48 |
| 8 / 11 | 37.27 | 2.51 | 262.9 | 660.6 | 14.1 | 6.58 | 81.4 | Y | 2.48 |
| 9 / 6 | 36.61 | 2.51 | 267.7 | 670.8 | 13.7 | 6.54 | 83.2 | Y | 2.46 |
| 10 / 1 | 36.34 | 2.43 | 269.6 | 654.4 | 13.8 | 6.50 | 81.0 | Y | 2.35 |
| 11 / 17 | 31.12 | 2.25 | 313.8 | 704.7 | 14.4 | 6.59 | 77.5 | Y | 2.24 |
| 12 / 8 | 35.69 | 2.48 | 274.3 | 679.3 | 14.5 | 6.55 | 77.5 | Y | 2.47 |
| 13 / 3 | 35.73 | 2.44 | 274.0 | 667.3 | 14.6 | 6.55 | 76.5 | Y | 2.42 |
| 14 / 23 | 29.10 | 2.39 | 336.5 | 805.5 | 14.7 | 6.52 | 74.6 | Y | 2.40 |
| 15 / 21 | 33.46 | 2.48 | 292.6 | 724.9 | 14.5 | 6.53 | 76.9 | Y | 2.45 |
| 16 / 3 | 38.23 | 2.47 | 256.2 | 632.9 | 14.8 | 6.53 | 74.7 | Y | 2.46 |
| 17 / 4 | 28.11 | 2.40 | 348.5 | 837.9 | 14.8 | 6.54 | 74.5 | Y | 2.35 |
| 18 / 20 | 29.13 | 2.41 | 335.9 | 810.3 | 15.0 | 6.58 | 74.3 | Y | 2.38 |
| 19 / 8 | 29.38 | 2.42 | 333.1 | 805.1 | 15.1 | 6.56 | 73.4 | Y | 2.38 |
| 20 / 12 | 29.39 | 2.51 | 333.4 | 836.6 | 14.9 | 6.61 | 76.5 | Y | 2.47 |
| 21 / 10 | 29.52 | 2.46 | 331.9 | 817.6 | 15.0 | 6.61 | 75.4 | Y | 2.43 |
| 22 / 23 | 30.57 | 2.34 | 320.0 | 748.8 | 14.2 | 6.55 | 78.7 | Y | 2.30 |
| 23 / 14 | 31.39 | 2.41 | 311.9 | 752.7 | 14.4 | 6.63 | 80.4 | Y | 2.37 |
| 24 / 20 | 34.67 | 2.43 | 282.2 | 685.5 | 14.3 | 6.58 | 80.0 | Y | 2.38 |
| 25 / 16 | 36.81 | 2.43 | 265.8 | 644.9 | 14.4 | 6.63 | 80.2 | Y | 2.39 |
| 26 / 8 | 36.30 | 2.47 | 270.0 | 668.1 | 14.3 | 6.59 | 80.6 | Y | 2.43 |
| 27 / 7 | 36.07 | 2.50 | 271.8 | 680.8 | 14.3 | 6.60 | 81.0 | Y | 2.46 |
| 28 / 9 | 36.37 | 2.43 | 269.6 | 656.4 | 14.3 | 6.61 | 80.4 | Y | 2.42 |
| 29 / 15 | 31.43 | 2.44 | 311.3 | 760.1 | 14.4 | 6.66 | 81.4 | Y | 2.42 |
| 30 / 23 | 32.40 | 2.45 | 302.3 | 741.5 | 14.5 | 6.57 | 77.9 | Y | 2.43 |
| 31 / 13 | 36.97 | 2.45 | 263.7 | 646.6 | 14.5 | 6.65 | 80.2 | Y | 2.44 |

Notes for Conduit 3 (C3):

August 1 to 31, 2022: Conduit 3 in service from Headworks through Lusted and on to town

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

Date: 9/8/22

OHA - Drinking Water Services

Surface Water Quality Data Conduit 4

Portland Water Bureau

ID#: OR 4100657

WTP-A

Month/Year: 08/2022

| 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 / 4 | 57.16 | 2.49 | 222.1 | 552.9 | 14.3 | 6.52 | 77.9 | Y | 2.43 |
| 2 / 7 | 51.94 | 2.51 | 244.4 | 612.6 | 13.5 | 6.53 | 84.5 | Y | 2.42 |
| 3 / 17 | 49.80 | 2.46 | 255.0 | 627.2 | 14.0 | 6.54 | 81.2 | Y | 2.40 |
| 4 / 15 | 50.46 | 2.44 | 250.7 | 611.7 | 14.2 | 6.56 | 79.9 | Y | 2.20 |
| 5 / 18 | 49.80 | 2.49 | 254.7 | 633.3 | 14.1 | 6.56 | 81.2 | Y | 2.44 |
| 6 / 7 | 49.62 | 1.35 | 255.6 | 344.5 | 13.9 | 6.57 | 73.9 | Y | 2.40 |
| 7 / 8 | 49.64 | 2.54 | 256.0 | 650.3 | 14.0 | 6.49 | 79.8 | Y | 2.41 |
| 8 / 9 | 49.99 | 2.53 | 252.7 | 639.5 | 14.1 | 6.51 | 79.4 | Y | 2.41 |
| 9 / 6 | 49.32 | 2.53 | 257.1 | 650.3 | 13.7 | 6.51 | 82.2 | Y | 2.38 |
| 10 / 4 | 49.01 | 2.40 | 258.9 | 621.5 | 13.8 | 6.48 | 80.1 | Y | 1.91 |
| 11 / 21 | 43.19 | 1.99 | 293.7 | 584.5 | 13.5 | 6.50 | 79.4 | Y | 1.79 |
| 12 / 7 | 49.77 | 2.46 | 255.2 | 626.6 | 14.0 | 6.49 | 79.2 | Y | 2.39 |
| 13 / 4 | 49.71 | 2.52 | 255.2 | 643.8 | 14.1 | 6.55 | 80.7 | Y | 2.47 |
| 14 / 20 | 50.07 | 2.41 | 253.3 | 610.9 | 14.1 | 6.57 | 80.5 | Y | 2.38 |
| 15 / 5 | 50.19 | 2.47 | 253.0 | 624.9 | 14.3 | 6.57 | 79.5 | Y | 2.45 |
| 16 / 4 | 55.31 | 2.50 | 229.2 | 573.9 | 14.1 | 6.55 | 80.6 | Y | 2.48 |
| 17 / 5 | 49.82 | 2.46 | 254.6 | 625.3 | 14.3 | 6.56 | 79.1 | Y | 2.45 |
| 18 / 17 | 51.80 | 2.43 | 245.1 | 595.6 | 14.5 | 6.58 | 78.1 | Y | 2.35 |
| 19 / 9 | 52.35 | 2.44 | 242.9 | 591.9 | 14.0 | 6.57 | 81.5 | Y | 2.35 |
| 20 / 7 | 52.25 | 2.53 | 243.4 | 615.8 | 14.1 | 6.58 | 81.7 | Y | 2.43 |
| 21 / 9 | 52.39 | 2.48 | 242.4 | 601.8 | 14.3 | 6.60 | 80.5 | Y | 2.38 |
| 22 / 9 | 52.26 | 2.49 | 242.8 | 604.3 | 14.2 | 6.60 | 81.5 | Y | 2.37 |
| 23 / 3 | 51.54 | 2.45 | 243.9 | 597.7 | 14.4 | 6.59 | 79.4 | Y | 2.33 |
| 24 / 20 | 48.83 | 2.49 | 260.0 | 646.8 | 14.3 | 6.61 | 81.1 | Y | 2.36 |
| 25 / 21 | 50.22 | 2.51 | 251.9 | 631.7 | 14.4 | 6.61 | 79.8 | Y | 2.39 |
| 26 / 9 | 50.85 | 2.50 | 249.9 | 624.1 | 14.3 | 6.61 | 81.3 | Y | 2.40 |
| 27 / 7 | 50.56 | 2.53 | 251.7 | 637.6 | 14.3 | 6.62 | 81.9 | Y | 2.42 |
| 28 / 10 | 50.91 | 2.51 | 249.5 | 625.2 | 14.3 | 6.63 | 81.8 | Y | 2.43 |
| 29 / 15 | 50.39 | 2.51 | 251.8 | 633.2 | 14.4 | 6.66 | 81.9 | Y | 2.42 |
| 30 / 18 | 52.32 | 2.45 | 242.4 | 593.6 | 14.5 | 6.65 | 80.5 | Y | 2.38 |
| 31 / 5 | 52.43 | 2.57 | 242.2 | 621.5 | 14.5 | 6.62 | 79.9 | Y | 2.46 |

Notes for Conduit 4 (C4):

August 1 to 31, 2022: Conduit 4 in service from Headworks through Lusted and on to town.

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

Date: 9/8/22

OHA Drinking Water Services - Raw Coliform Data (Unfiltered)

Portland Water Bureau

ID#: OR 4100657

Month/Year: 08/2022

| Date | Fecal Coliform (CFU/100mL) | Comments |
|-----------|-------------------------------|----------|
| 8/1/2022 | 1 | |
| 8/2/2022 | <1 | |
| 8/3/2022 | <1 | |
| 8/4/2022 | <1 | |
| 8/5/2022 | <1 | |
| 8/6/2022 | <1 | |
| 8/7/2022 | <1 | |
| 8/8/2022 | <1 | |
| 8/9/2022 | <1 | |
| 8/10/2022 | <1 | |
| 8/11/2022 | 1 | |
| 8/12/2022 | <1 | |
| 8/13/2022 | 2 | |
| 8/14/2022 | <1 | |
| 8/15/2022 | <1 | |
| 8/16/2022 | <1 | |
| 8/17/2022 | <1 | |
| 8/18/2022 | <1 | |
| 8/19/2022 | <1 | |
| 8/20/2022 | <1 | |
| 8/21/2022 | <1 | |
| 8/22/2022 | <1 | |
| 8/23/2022 | <1 | |
| 8/24/2022 | <1 | |
| 8/25/2022 | <1 | |
| 8/26/2022 | 1 | |
| 8/27/2022 | <1 | |
| 8/28/2022 | <1 | |
| 8/29/2022 | <1 | |
| 8/30/2022 | <1 | |
| 8/31/2022 | <1 | |

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

Six Month Summary:

| | |
|----------------------------------|------|
| # of Samples For Fecal Coliform: | 184 |
| # of Samples > 20 CFU/100mL: | 0 |
| Percent: | 0.0% |