# SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER

*Summary Page*

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID No.: 20831

Report for the Month of: June 2020

I certify that I am familiar with the information contained in this report and that, to the best of my knowledge, the information is true, complete, and accurate.

Operator's Signature: Jesse V.

Certificate No. & Grade: WS0014085, B

Date: July 10, 2020

## TREATMENT PLANT PERFORMANCE

| | | | |
|---|---|---|---|
| Total number of turbidity readings: | 94 | Number of 4-hour periods when plant was off-line: | 86 |
| Number of readings above 0.10 NTU: | 0 | Number of 4-hour periods when plant was on-line but turbidity data was not collected: | 0 |
| Number of readings above 0.3 NTU: | 0 | | |
| Number of readings above 0.5 NTU: | 0 | Number of days when plant was on-line but individual filter turbidity data was not collected: | 0 |
| Number of readings above 1.0 NTU: | 0 | | |
| Maximum allowable turbidity level: | 0.3 | Number of days with readings above 1.0 NTU: | 0 (2) |
| Percentage of readings above this limit: | 0.0 % (1) | Number of days with readings above 5.0 NTU: | 0 (3) |

Bin Class: 2 Crypto Credit Required: 4.0 (7A) Crypto Credit Achieved: 4.5 (7B) Bin 3&4 Credits: 1.0 (7C)

| | | | | | |
|---|---|---|---|---|---|
| Watershed Protection: | 0.0 | Conventional Treatment: | 3.0 | Second Stage Filtration: | 0.0 |
| Bank Filtration: | 0.0 | Enhanced Filter Performance: | 0.5 | UV: | 1.0 |
| Presedimentation with Coagulation: | 0.0 | Bag and Cartridge Filtration: | 0.0 | Ozone, Chlorine Dioxide: | 0.0 |
| Two-Stage Lime Softening: | 0.0 | Membrane Filtration: | 0.0 | Perform. Demonstration: | 0.0 |

| | | | |
|---|---|---|---|
| Number of days with low inactivation (including UV) for no more than 4.0 consecutive hours: | 0 | Average log inactivation (including UV) for Giardia: | 5.04 |
| | | Average log inactivation) (including UV) for viruses: | 57.42 |
| Number of days with low inactivation (including UV) for more than 4.0 consecutive hours: | 0 (4) | Number of days when profiling data was not collected: | 0 |
| | | Number of days when CT data was not collected: | 0 |

Minimum disinfectant residual required leaving the plant: 0.5 mg/L, measured as Total Chlorine

| | | | |
|---|---|---|---|
| Number of days with a low residual for no more than 4.0 consecutive hours: | 0 | Minimum pH in the last disinfection zone: | 6.59 |
| | | Number of days with pH below 7.0 in the last disinfection zone: | 25.00 |
| Number of days with a low residual for more than 4.0 consecutive hours: | 0 (5) | Number of days when disinfectant residual leaving the plant was not properly monitored: | 0 |

## DISTRIBUTION SYSTEM

Minimum disinfectant residual required in distribution system: 0.5 mg/L, measured as Total Chlorine

| | | | |
|---|---|---|---|
| Total number of readings this month: | 63 (at least 30 required) (8) | | |
| Average disinfectant residual value: | 1.13 | Percentage of readings with a low residual this month: | 0.0 % (6A) |
| Number of readings with a low residual: | 0 | | |
| Number of readings with no detectable residual: | 0 | Percentage of readings with a low residual last month: | 0.0 % (6B) |

## ADDITIONAL REPORTS & WORKSHEETS

The Page 1 Addendum (Public Notices) is not required because there were no treatment technique or monitoring/reporting violations reported.

Additional report(s) for individual filter monitoring required: ◉ NONE ○ Filter Profile ○ Filter Assessment ○ CPE

Additional report(s) for individual filter monitoring submitted: ◉ NONE ○ Filter Profile (9) ○ Filter Assessment (10) ○ CPE (11)

No additional IFE Reports are required this month.

| | P.2-Turbidity Data | P.3-Filter Data | P.4&5-Disinfection Data | P.6-TOCMOR |
|---|---|---|---|---|
| Alternate Technol. | | UV–CDA | UV–Sensor Data | UV–UVT Analyzer |

## STATISTICAL ANALYSIS OF TURBIDITY DATA

| | | | | |
|---|---|---|---|---|
| Settled Water Stastical Summary | Maximum turbidity reading: | 12.81 NTU | Average turbidity value: | 1.40 NTU |
| | Minimum turbidity reading: | 0.87 NTU | Standard deviation: | 1.507 NTU |
| | 95th percentile value: | 1.91 NTU | | |
| IFE Stastical Summary | Maximum IFE turbidity reading: | 0.11 NTU | Average IFE turbidity value: | 0.07 NTU |
| | Minimum IFEturbidity reading: | 0.04 NTU | Standard deviation: | 0.012 NTU |
| | 95th percentile IFE value: | 0.10 NTU | | |
| CFE Stastical Summary | Maximum CFE turbidity reading: | 0.08 NTU | Average CFE turbidity value: | 0.07 NTU |
| | Minimum CFE turbidity reading: | 0.05 NTU | Standard deviation: | 0.007 NTU |
| | 95th percentile CFE value: | 0.08 NTU | | |

## STATISTICAL ANALYSIS OF pH DATA

| | | | | |
|---|---|---|---|---|
| Last Zone pH Stastical Summary | Maximum pH reading: | 7.05 pH | Average pH value: | 6.86 pH |
| | Minimum pH reading: | 6.59 pH | Standard deviation: | 0.124 pH |
| | 95th percentile value: | 7.02 pH | | |

# *SURFACE WATER MONTHLY OPERATING REPORT*

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**
**WATER SUPPLY DIVISION/PUBLIC DRINKING WATER SECTION (MC-155)**
**P.O. BOX 13087, AUSTIN, TEXAS 78711-3087**

# SURFACE WATER MONTHLY OPERATING REPORT

**FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)**

*Turbidity Data Page*

**PUBLIC WATER SYSTEM NAME:** Webb County Water Utilities

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831 **Connections:** 1,964

**Month:** June **Year:** 2020 **Population:** 6,874

## PERFORMANCE DATA

| Date | Raw Water Pumpage (MGD) | Treated Water Pumpage (MGD) | RAW WATER ANALYSES NTU | RAW WATER ANALYSES Alk. | SETTLED WATER TURBIDITY (Optional Data) Basin No. 1 | 2 | 3 | 4 | 5 | 6 | FINISHED WATER QUALITY Combined Filter Effluent Turbidity NTU1 | NTU2 | NTU3 | NTU4 | NTU5 | NTU6 | Lowest Residual | Time* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.733 | 0.770 | 20 | 140 | 1.6 | 1.1 | | | | | X | X | X | X | 0.05 | 0.05 | 2.4 | |
| 2 | 0.728 | 0.701 | 24 | 160 | 2.6 | 1.1 | | | | | X | X | X | X | 0.05 | 0.06 | 2.2 | |
| 3 | 0.769 | 0.813 | 38 | 160 | 2.0 | 1.2 | | | | | X | X | X | X | 0.06 | 0.06 | 2.2 | |
| 4 | 0.780 | 0.925 | 15 | 120 | 12.8 | 1.2 | | | | | X | X | X | 0.06 | 0.06 | 0.06 | 2.3 | |
| 5 | 0.884 | 1.015 | 13 | 120 | 1.2 | 1.2 | | | | | X | X | X | 0.07 | 0.07 | 0.06 | 2.5 | |
| 6 | 0.960 | 0.845 | 20 | 120 | 1.2 | 1.3 | | | | | X | X | X | 0.05 | 0.06 | 0.06 | 2.2 | |
| 7 | 0.944 | 1.020 | 25 | 120 | 1.2 | 1.3 | | | | | X | X | X | 0.06 | 0.05 | 0.06 | 2.1 | |
| 8 | 0.938 | 0.958 | 42 | 120 | 1.1 | 1.3 | | | | | 0.07 | X | X | 0.07 | 0.07 | 0.07 | 2.5 | |
| 9 | 1.081 | 0.997 | 17 | 120 | 1.1 | 1.9 | | | | | X | X | X | 0.06 | 0.06 | 0.06 | 2.3 | |
| 10 | 1.067 | 1.010 | 21 | 120 | 0.9 | 1.3 | | | | | X | X | X | X | 0.06 | 0.06 | 1.3 | |
| 11 | 0.809 | 0.940 | 27 | 120 | 1.1 | 1.3 | | | | | X | X | X | 0.06 | 0.06 | 0.06 | 1.1 | |
| 12 | 0.984 | 1.001 | 32 | 120 | 1.1 | 1.3 | | | | | 0.06 | X | X | 0.06 | 0.06 | 0.07 | 1.6 | |
| 13 | 1.016 | 0.965 | 15 | 120 | 1.1 | 1.3 | | | | | 0.06 | X | X | 0.07 | 0.07 | 0.07 | 2.1 | |
| 14 | 1.027 | 1.028 | 22 | 120 | 1.1 | 1.3 | | | | | X | X | X | 0.07 | 0.07 | 0.07 | 2.1 | |
| 15 | 1.058 | 1.031 | 16 | 120 | 1.2 | 1.1 | | | | | X | X | X | 0.08 | 0.07 | 0.06 | 1.8 | |
| 16 | 0.950 | 1.073 | 14 | 120 | 1.2 | 1.1 | | | | | 0.07 | X | X | 0.08 | 0.07 | 0.07 | 1.2 | |
| 17 | 1.044 | 1.076 | 14 | 120 | 1.1 | 1.1 | | | | | 0.07 | X | X | 0.07 | 0.07 | 0.07 | 2.1 | |
| 18 | 0.903 | 0.976 | 20 | 100 | 1.1 | 1.2 | | | | | 0.07 | X | X | 0.07 | 0.07 | 0.07 | 2.7 | |
| 19 | 1.046 | 1.017 | 29 | 100 | 1.1 | 1.2 | | | | | X | X | X | 0.07 | 0.07 | 0.07 | 2.4 | |
| 20 | 0.968 | 1.007 | 38 | 120 | 1.1 | 1.1 | | | | | 0.08 | X | X | 0.08 | 0.07 | 0.08 | 2.5 | |
| 21 | 1.022 | 1.046 | 49 | 100 | 1.1 | 1.3 | | | | | 0.08 | X | X | 0.07 | 0.07 | 0.07 | 2.0 | |
| 22 | 1.062 | 1.092 | 24 | 100 | 1.1 | 1.1 | | | | | 0.07 | X | X | 0.06 | 0.07 | 0.07 | 2.2 | |
| 23 | 1.257 | 1.027 | 25 | 100 | 1.1 | 1.1 | | | | | 0.06 | X | X | 0.06 | 0.06 | 0.06 | 2.9 | |
| 24 | 0.930 | 0.917 | 25 | 100 | 1.1 | 1.0 | | | | | X | X | X | 0.07 | 0.07 | 0.06 | 2.4 | |
| 25 | 0.932 | 1.038 | 22 | 100 | 1.1 | 1.0 | | | | | X | X | X | 0.06 | 0.07 | 0.07 | 2.4 | |
| 26 | 0.702 | 0.892 | 20 | 100 | 1.1 | 1.0 | | | | | X | X | X | X | 0.06 | 0.06 | 2.3 | |
| 27 | 0.853 | 0.861 | 23 | 100 | 1.1 | 1.1 | | | | | X | X | X | 0.07 | 0.06 | 0.06 | 1.9 | |
| 28 | 0.774 | 0.820 | 24 | 100 | 1.1 | 1.1 | | | | | X | X | X | X | 0.06 | 0.05 | 2.1 | |
| 29 | 0.896 | 1.056 | 22 | 120 | 1.2 | 1.1 | | | | | X | X | X | 0.06 | 0.05 | 0.06 | 1.8 | |
| 30 | 1.054 | 1.122 | 26 | 120 | 1.2 | 1.1 | | | | | X | X | X | 0.06 | 0.07 | 0.07 | 1.6 | |
| 31 | | | | | | | | | | | | | | | | | | |
| Total | 28.171 | 29.039 | | Max | 12.8 | 1.9 | | | | | | | | | | | | |
| Avg | 0.939 | 0.968 | | Avg | 1.6 | 1.2 | | | | | | | | | | | | |
| Max | 1.257 | 1.122 | | 95th % | 2.3 | 1.3 | | | | | | | | | | | | |
| Min | 0.702 | 0.701 | | Min | 0.9 | 1.0 | | | | | | | | | | | | |
| | | | | 95th percentile based on data from all basins | | | | | | 1.9 | | | | | | | | |

NOTE: ONLY use the "Time*" column to show the length of time that the disinfectant residual entering the distribution system fell below the acceptable level.

**SUBMITTED BY:** Jesse Vasquez **Certificate No. and Grade:** WS0014085, B **Date:** July 10, 2020

# SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)

*Filter Data Page*

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: June Year: 2020

## PERFORMANCE DATA

INDIVIDUAL FILTER TURBIDITY

| Date | Filter No. 1 | | Filter No. 2 | | Filter No. 3 | | Filter No. 4 | | Filter No. 5 | | Filter No. 6 | | Filter No. 7 | | Filter No. 8 | | Filter No. 9 | | Filter No. 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Max | 4 Hrs | Max | 4 Hrs | Max | 4 Hrs | Max | 4 Hrs | Max | 4 Hrs | Max | 4 Hrs | Max | 4 Hrs | Max | 4 Hrs | Max | 4 Hrs | Max | 4 Hrs |
| 1 | 0.06 | | 0.06 | | 0.06 | | 0.06 | | | | | | | | | | | | | |
| 2 | 0.06 | | 0.06 | | 0.07 | | 0.06 | | | | | | | | | | | | | |
| 3 | 0.06 | | 0.06 | | 0.09 | | 0.05 | | | | | | | | | | | | | |
| 4 | 0.09 | | 0.07 | | 0.08 | | 0.06 | | | | | | | | | | | | | |
| 5 | 0.08 | | 0.07 | | 0.10 | | 0.06 | | | | | | | | | | | | | |
| 6 | 0.08 | | 0.04 | | 0.07 | | 0.08 | | | | | | | | | | | | | |
| 7 | 0.09 | | 0.06 | | 0.08 | | 0.06 | | | | | | | | | | | | | |
| 8 | 0.07 | | 0.06 | | 0.11 | | 0.08 | | | | | | | | | | | | | |
| 9 | 0.07 | | 0.07 | | 0.08 | | 0.06 | | | | | | | | | | | | | |
| 10 | 0.07 | | 0.06 | | 0.06 | | 0.06 | | | | | | | | | | | | | |
| 11 | 0.06 | | 0.06 | | 0.08 | | 0.07 | | | | | | | | | | | | | |
| 12 | 0.07 | | 0.07 | | 0.08 | | 0.06 | | | | | | | | | | | | | |
| 13 | 0.08 | | 0.08 | | 0.08 | | 0.07 | | | | | | | | | | | | | |
| 14 | 0.07 | | 0.07 | | 0.08 | | 0.06 | | | | | | | | | | | | | |
| 15 | 0.07 | | 0.08 | | 0.10 | | 0.08 | | | | | | | | | | | | | |
| 16 | 0.07 | | 0.07 | | 0.08 | | 0.07 | | | | | | | | | | | | | |
| 17 | 0.07 | | 0.07 | | 0.08 | | 0.07 | | | | | | | | | | | | | |
| 18 | 0.09 | | 0.06 | | 0.08 | | 0.07 | | | | | | | | | | | | | |
| 19 | 0.07 | | 0.08 | | 0.08 | | 0.07 | | | | | | | | | | | | | |
| 20 | 0.08 | | 0.07 | | 0.07 | | 0.08 | | | | | | | | | | | | | |
| 21 | 0.07 | | 0.07 | | 0.07 | | 0.07 | | | | | | | | | | | | | |
| 22 | 0.10 | | 0.06 | | 0.08 | | 0.08 | | | | | | | | | | | | | |
| 23 | 0.09 | | 0.08 | | 0.10 | | 0.09 | | | | | | | | | | | | | |
| 24 | 0.10 | | 0.10 | | 0.09 | | 0.09 | | | | | | | | | | | | | |
| 25 | 0.08 | | 0.07 | | 0.09 | | 0.08 | | | | | | | | | | | | | |
| 26 | 0.08 | | 0.07 | | 0.08 | | 0.07 | | | | | | | | | | | | | |
| 27 | 0.08 | | 0.08 | | 0.09 | | 0.08 | | | | | | | | | | | | | |
| 28 | 0.07 | | 0.06 | | 0.07 | | 0.09 | | | | | | | | | | | | | |
| 29 | 0.06 | | 0.08 | | 0.08 | | 0.08 | | | | | | | | | | | | | |
| 30 | 0.07 | | 0.08 | | 0.08 | | 0.10 | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | |

SUMMARY & COMPLIANCE ACTIONS

| Criteria | Filter No. 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Plant |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of days with event(s) above 0.5 NTU at 4.0 hrs this month | | | | | | | | | | | |
| Number of days with event(s) above 1.0 NTU this month | 0 | 0 | 0 | 0 | | | | | | | |
| Number of days with event(s) above 1.0 NTU last month | 0 | 0 | 0 | 0 | | | | | | | |
| Number of days with event(s) above 1.0 NTU two months ago | 0 | 0 | 0 | 0 | | | | | | | |
| Total number of days with event(s) above 1.0 NTU in three months | 0 | 0 | 0 | 0 | | | | | | | |
| Number of events above 2.0 NTU this month | | | | | | | | | | | 0 |
| Number of events above 2.0 NTU last month | | | | | | | | | | | 0 |
| Does the filter/plant have an approved Corrective Action Plan? | N | N | N | N | | | | | | | N |
| Is the plant required to submit a Filter Profile Report? | N | N | N | N | | | | | | | |
| Is the plant required to submit a Filter Assessment Report? | N | N | N | N | | | | | | | |
| Is the plant required to submit a Request for Compliance CPE? | | | | | | | | | | | N |

SUBMITTED BY: Jesse Vasquez

Certificate No. and Grade: WS0014085, B

Date: July 10, 2020

# SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
*Disinfection Data Page*

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: June Year: 2020

## DISINFECTION PROCESS PARAMETERS

| APPROVED CT STUDY PARAMETERS | | | | | | PERFORMANCE STANDARDS | |
|---|---|---|---|---|---|---|---|
| | Disinfection Zones | | | | | Log Inactivations | |
| Parameters | D1A | D1B | D2 | D3 | D4 | Giardia lamblia Cysts | Viruses |
| Flow Rate (MGD) | 1.250 | 1.250 | 0.625 | 1.250 | | 0.5 | 2.0 |
| $T_{10}$ (minutes) | 7.9 | 7.9 | 21.0 | 50.4 | | | |

## PERFORMANCE DATA

DISINFECTION PROCESS DATA

| Date | Disinfectant | C (mg/L) | Flow (MGD) | Temp (°C) | pH | Giardia Log | Virus Log | Inact. Ratio | Time= |
|---|---|---|---|---|---|---|---|---|---|
| 1 | FCL *D1A* | 0.6 | 0.791 | 25.3 | 7.2 | | | | |
| | FCL *D1B* | 0.5 | 0.791 | 25.7 | 7.2 | | | | |
| | FCL *D2* | 0.6 | 0.395 | 25.7 | 7.1 | 3.17 | 59.48 | 6.35 | |
| | CLA *D3* | 3.2 | 0.791 | 26.7 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 2 | FCL *D1A* | 0.8 | 0.783 | 27.1 | 7.0 | | | | |
| | FCL *D1B* | 0.9 | 0.783 | 26.8 | 7.0 | | | | |
| | FCL *D2* | 0.7 | 0.391 | 26.7 | 7.0 | 4.18 | 84.82 | 8.37 | |
| | CLA *D3* | 2.9 | 0.783 | 28.2 | 6.9 | | | (G) | |
| | *D4* | | | | | | | | |
| 3 | FCL *D1A* | 0.5 | 0.800 | 26.1 | 7.0 | | | | |
| | FCL *D1B* | 0.6 | 0.800 | 25.9 | 7.0 | | | | |
| | FCL *D2* | 0.6 | 0.400 | 26.3 | 6.9 | 3.31 | 60.15 | 6.62 | |
| | CLA *D3* | 3.0 | 0.800 | 28.3 | 6.9 | | | (G) | |
| | *D4* | | | | | | | | |
| 4 | FCL *D1A* | 0.2 | 0.804 | 26.2 | 6.5 | | | | |
| | FCL *D1B* | 0.3 | 0.804 | 26.7 | 6.7 | | | | |
| | FCL *D2* | 0.2 | 0.402 | 26.4 | 6.7 | 1.85 | 24.89 | 3.71 | |
| | CLA *D3* | 2.6 | 0.804 | 27.7 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 5 | FCL *D1A* | 0.2 | 0.836 | 27.3 | 6.8 | | | | |
| | FCL *D1B* | 0.2 | 0.836 | 26.3 | 6.8 | | | | |
| | FCL *D2* | 0.2 | 0.418 | 27.0 | 6.8 | 1.71 | 23.47 | 3.42 | |
| | CLA *D3* | 2.6 | 0.836 | 27.7 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 6 | FCL *D1A* | 0.2 | 0.819 | 26.3 | 6.8 | | | | |
| | FCL *D1B* | 0.3 | 0.819 | 25.9 | 6.8 | | | | |
| | FCL *D2* | 0.2 | 0.410 | 25.7 | 6.9 | 1.76 | 24.16 | 3.52 | |
| | CLA *D3* | 2.7 | 0.819 | 27.0 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |
| 7 | FCL *D1A* | 0.2 | 0.839 | 26.9 | 6.9 | | | | |
| | FCL *D1B* | 0.2 | 0.839 | 27.4 | 6.9 | | | | |
| | FCL *D2* | 0.3 | 0.419 | 26.7 | 7.0 | 1.77 | 28.22 | 3.55 | |
| | CLA *D3* | 2.3 | 0.839 | 27.5 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 8 | FCL *D1A* | 0.3 | 0.842 | 27.6 | 6.9 | | | | |
| | FCL *D1B* | 0.3 | 0.842 | 27.4 | 6.9 | | | | |
| | FCL *D2* | 0.3 | 0.421 | 27.9 | 7.0 | 1.96 | 31.48 | 3.91 | |
| | CLA *D3* | 2.6 | 0.842 | 28.9 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |

## PERFORMANCE DATA

DISINFECTION PROCESS DATA

| Date | Disinfectant | C (mg/L) | Flow (MGD) | Temp (°C) | pH | Giardia Log | Virus Log | Inact. Ratio | Time= |
|---|---|---|---|---|---|---|---|---|---|
| 9 | FCL *D1A* | 0.5 | 0.811 | 28.1 | 6.9 | | | | |
| | FCL *D1B* | 0.5 | 0.811 | 28.0 | 6.9 | | | | |
| | FCL *D2* | 0.5 | 0.405 | 28.1 | 7.0 | 3.06 | 57.05 | 6.12 | |
| | CLA *D3* | 2.7 | 0.811 | 28.5 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 10 | FCL *D1A* | 0.4 | 0.780 | 28.7 | 6.9 | | | | |
| | FCL *D1B* | 0.5 | 0.780 | 28.5 | 6.9 | | | | |
| | FCL *D2* | 1.2 | 0.390 | 29.7 | 6.8 | 6.06 | 133.92 | 12.12 | |
| | CLA *D3* | 2.4 | 0.780 | 31.3 | 6.9 | | | (G) | |
| | *D4* | | | | | | | | |
| 11 | FCL *D1A* | 1.4 | 0.755 | 27.0 | 7.1 | | | | |
| | FCL *D1B* | 1.9 | 0.755 | 27.0 | 6.9 | | | | |
| | FCL *D2* | 0.7 | 0.388 | 26.0 | 7.1 | 3.84 | 94.64 | 7.67 | |
| | CLA *D3* | 1.1 | 0.755 | 26.0 | 6.9 | | | (G) | |
| | *D4* | | | | | | | | |
| 12 | FCL *D1A* | 0.8 | 0.793 | 27.1 | 7.1 | | | | |
| | FCL *D1B* | 0.9 | 0.793 | 26.8 | 7.1 | | | | |
| | FCL *D2* | 0.8 | 0.397 | 26.6 | 7.1 | 3.89 | 88.23 | 7.78 | |
| | CLA *D3* | 2.0 | 0.793 | 27.5 | 6.9 | | | (G) | |
| | *D4* | | | | | | | | |
| 13 | FCL *D1A* | 0.6 | 0.811 | 26.1 | 7.1 | | | | |
| | FCL *D1B* | 0.4 | 0.811 | 26.9 | 7.0 | | | | |
| | FCL *D2* | 0.8 | 0.406 | 25.7 | 7.2 | 3.44 | 70.11 | 6.87 | |
| | CLA *D3* | 3.0 | 0.811 | 25.5 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 14 | FCL *D1A* | 1.0 | 0.822 | 26.8 | 7.0 | | | | |
| | FCL *D1B* | 0.6 | 0.822 | 26.9 | 7.0 | | | | |
| | FCL *D2* | 1.0 | 0.411 | 25.9 | 7.1 | 4.18 | 91.07 | 8.36 | |
| | CLA *D3* | 2.9 | 0.822 | 27.0 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 15 | FCL *D1A* | 0.5 | 0.856 | 27.1 | 6.9 | | | | |
| | FCL *D1B* | 0.4 | 0.856 | 27.1 | 6.9 | | | | |
| | FCL *D2* | 0.8 | 0.428 | 26.1 | 6.9 | 3.61 | 67.59 | 7.21 | |
| | CLA *D3* | 3.3 | 0.856 | 27.7 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |
| 16 | FCL *D1A* | 0.2 | 0.847 | 26.2 | 6.9 | | | | |
| | FCL *D1B* | 0.2 | 0.847 | 26.7 | 6.9 | | | | |
| | FCL *D2* | 0.3 | 0.424 | 24.8 | 7.0 | 1.99 | 25.93 | 3.98 | |
| | CLA *D3* | 3.6 | 0.847 | 26.6 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |

NOTE: = ONLY use the "Time=" column to show the length of time that the total inactivation ratio was less than 1.00.

SUBMITTED BY: Jesse Vasquez Certificate No. and Grade: WS0014085, B Date: July 10, 2020

# SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
*Disinfection Data Page (cont.)*

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: June Year: 2020

## DISINFECTION PROCESS PARAMETERS

| APPROVED CT STUDY PARAMETERS | | | | | | PERFORMANCE STANDARDS | |
|---|---|---|---|---|---|---|---|
| | Disinfection Zones | | | | | Log Inactivations | |
| Parameters | D1A | D1B | D2 | D3 | D4 | Giardia lamblia Cysts | Virus |
| Flow Rate (MGD) | 1.25 | 1.25 | 0.63 | 1.25 | | 0.5 | 2.0 |
| $T_{10}$ (minutes) | 7.90 | 7.90 | 21.00 | 50.40 | | | |

## PERFORMANCE DATA

DISINFECTION PROCESS DATA

| Date | Disinfectant | C (mg/L) | Flow (MGD) | Temp (°C) | pH | Giardia Log | Virus Log | Inact. Ratio | Time= |
|---|---|---|---|---|---|---|---|---|---|
| 17 | FCL *D1A* | 0.3 | 0.805 | 27.0 | 7.0 | | | | |
| | FCL *D1B* | 0.3 | 0.805 | 26.7 | 6.9 | | | | |
| | FCL *D2* | 0.4 | 0.402 | 27.0 | 7.1 | 2.76 | 43.08 | 5.53 | |
| | CLA *D3* | 3.8 | 0.805 | 29.0 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |
| 18 | FCL *D1A* | 0.2 | 0.786 | 26.5 | 7.0 | | | | |
| | FCL *D1B* | 0.2 | 0.786 | 27.1 | 6.9 | | | | |
| | FCL *D2* | 0.3 | 0.393 | 27.2 | 7.0 | 2.60 | 36.22 | 5.20 | |
| | CLA *D3* | 4.0 | 0.786 | 27.6 | 6.9 | | | (G) | |
| | *D4* | | | | | | | | |
| 19 | FCL *D1A* | 0.5 | 0.798 | 28.3 | 6.9 | | | | |
| | FCL *D1B* | 0.3 | 0.798 | 28.2 | 7.0 | | | | |
| | FCL *D2* | 0.4 | 0.399 | 28.0 | 6.9 | 2.85 | 46.88 | 5.70 | |
| | CLA *D3* | 3.3 | 0.798 | 29.2 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |
| 20 | FCL *D1A* | 0.2 | 0.810 | 28.0 | 6.9 | | | | |
| | FCL *D1B* | 0.2 | 0.810 | 27.8 | 6.9 | | | | |
| | FCL *D2* | 0.4 | 0.405 | 27.5 | 7.0 | 2.50 | 36.80 | 5.01 | |
| | CLA *D3* | 3.6 | 0.810 | 27.2 | 6.7 | | | (G) | |
| | *D4* | | | | | | | | |
| 21 | FCL *D1A* | 0.2 | 0.812 | 27.8 | 6.8 | | | | |
| | FCL *D1B* | 0.2 | 0.812 | 28.2 | 6.8 | | | | |
| | FCL *D2* | 0.3 | 0.406 | 27.7 | 6.9 | 2.57 | 36.36 | 5.14 | |
| | CLA *D3* | 3.9 | 0.812 | 27.8 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |
| 22 | FCL *D1A* | 0.1 | 0.843 | 27.6 | 6.8 | | | | |
| | FCL *D1B* | 0.1 | 0.843 | 27.7 | 6.8 | | | | |
| | FCL *D2* | 0.3 | 0.422 | 28.1 | 6.7 | 2.08 | 26.77 | 4.17 | |
| | CLA *D3* | 3.5 | 0.843 | 28.4 | 6.7 | | | (G) | |
| | *D4* | | | | | | | | |
| 23 | FCL *D1A* | 0.3 | 0.824 | 28.7 | 7.0 | | | | |
| | FCL *D1B* | 0.3 | 0.824 | 28.8 | 7.0 | | | | |
| | FCL *D2* | 0.3 | 0.412 | 28.1 | 7.0 | 2.34 | 35.41 | 4.68 | |
| | CLA *D3* | 3.4 | 0.824 | 28.9 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 24 | FCL *D1A* | 0.7 | 0.780 | 26.8 | 6.9 | | | | |
| | FCL *D1B* | 0.3 | 0.780 | 26.9 | 6.8 | | | | |
| | FCL *D2* | 0.8 | 0.390 | 26.4 | 7.0 | 3.98 | 77.70 | 7.96 | |
| | CLA *D3* | 3.3 | 0.780 | 28.4 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |

## PERFORMANCE DATA

DISINFECTION PROCESS DATA

| Date | Disinfectant | C (mg/L) | Flow (MGD) | Temp (°C) | pH | Giardia Log | Virus Log | Inact. Ratio | Time= |
|---|---|---|---|---|---|---|---|---|---|
| 25 | FCL *D1A* | 0.6 | 0.790 | 28.1 | 6.9 | | | | |
| | FCL *D1B* | 0.5 | 0.790 | 28.1 | 6.8 | | | | |
| | FCL *D2* | 0.6 | 0.395 | 27.4 | 7.1 | 3.61 | 66.43 | 7.23 | |
| | CLA *D3* | 3.6 | 0.790 | 28.0 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 26 | FCL *D1A* | 0.6 | 0.800 | 27.6 | 7.0 | | | | |
| | FCL *D1B* | 0.4 | 0.800 | 27.3 | 7.0 | | | | |
| | FCL *D2* | 0.8 | 0.400 | 27.6 | 7.1 | 3.95 | 79.98 | 7.91 | |
| | CLA *D3* | 3.3 | 0.800 | 27.3 | 7.1 | | | (G) | |
| | *D4* | | | | | | | | |
| 27 | FCL *D1A* | 0.8 | 0.822 | 26.4 | 6.8 | | | | |
| | FCL *D1B* | 0.2 | 0.822 | 27.1 | 6.8 | | | | |
| | FCL *D2* | 0.2 | 0.411 | 27.7 | 6.9 | 1.51 | 23.49 | 3.02 | |
| | CLA *D3* | 1.9 | 0.822 | 27.0 | 6.9 | | | (G) | |
| | *D4* | | | | | | | | |
| 28 | FCL *D1A* | 1.7 | 0.835 | 26.3 | 6.9 | | | | |
| | FCL *D1B* | 1.7 | 0.835 | 26.7 | 7.0 | | | | |
| | FCL *D2* | 1.0 | 0.418 | 27.3 | 7.1 | 5.65 | 128.12 | 11.29 | |
| | CLA *D3* | 3.2 | 0.835 | 28.0 | 6.9 | | | (G) | |
| | *D4* | | | | | | | | |
| 29 | FCL *D1A* | 1.3 | 0.866 | 27.5 | 6.8 | | | | |
| | FCL *D1B* | 0.6 | 0.866 | 27.0 | 6.9 | | | | |
| | FCL *D2* | 0.1 | 0.433 | 27.3 | 7.0 | 1.68 | 28.78 | 3.36 | |
| | CLA *D3* | 1.9 | 0.866 | 27.8 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |
| 30 | FCL *D1A* | 0.7 | 0.846 | 28.8 | 6.9 | | | | |
| | FCL *D1B* | 0.5 | 0.846 | 28.6 | 6.8 | | | | |
| | FCL *D2* | 0.8 | 0.423 | 29.2 | 7.0 | 4.45 | 91.42 | 8.90 | |
| | CLA *D3* | 3.1 | 0.846 | 30.1 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |
| 31 | *D1A* | | | | | | | | |
| | *D1B* | | | | | | | | |
| | *D2* | | | | | | | | |
| | *D3* | | | | | | | | |
| | *D4* | | | | | | | | |
| | | | | | Max | 6.06 | 133.92 | 12.12 | |
| | | | | | Min | 1.51 | 23.47 | 3.02 | |
| | | | | | Avg | 3.08 | 57.42 | 6.16 | |
| | | | | | SD | 1.15 | 30.75 | 2.30 | |

NOTE: = ONLY use the "Time=" column to show the length of time that the total inactivation ratio was less than 1.00.

SUBMITTED BY: Jesse Vasquez Certificate No. and Grade: WS0014085, B Date: July 10, 2020

# MONTHLY TOTAL ORGANIC CARBON REMOVAL REPORT (TOCMOR)

## FOR SURFACE WATER OR GROUND WATER UNDER THE INFLUENCE OF SURFACE WATER SYSTEMS

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID No.: 20831

Month: June

Year: 2020

Type of treatment: [X] Conventional [ ] Unconventional explain:

Note: Systems are required to run one TOC Sample Set every month. Additional space is provided for those systems that do additional sampling

| Test No. | Test Date | Monthly TOC Sample Set | | | Actual % TOC Removed | Step 1 Required % Removal | Step 1 Removal Ratio | Optional data | | INDIVIDUAL SAMPLE COMPLIANCE REMOVAL RATIO |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Raw Alkalinity | Raw TOC | Treated TOC | | | | Step 2 Required % Removal | Step 2 Removal Ratio | |
| | | Enter the Sample Set results | | | calculated | calculated from matrix | calculated | | | calculated |
| 1 | 6/1 | 140 | 3.45 | 2.71 | 21.4 | 15 | 1.43 | | | 1.43 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
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| 16 | | | | | | | | | | |
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| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 26 | | | | | | | | | | |
| 27 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 29 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 31 | | | | | | | | | | |
| Avg | | 140.00 | 3.45 | 2.71 | 21.45 | | 1.43 | | | 1.43 |
| Max | | 140.00 | 3.45 | 2.71 | 21.45 | | 1.43 | | | 1.43 |
| Min | | 140.00 | 3.45 | 2.71 | 21.45 | | 1.43 | | | 1.43 |

## TOTAL ORGANIC CARBON (TOC) REMOVAL SUMMARY

| TOC Summary | | | | | Monthly Compliance Ratio |
|---|---|---|---|---|---|
| Raw Water Alkalinity | Raw Water TOC | Treated Water TOC | TOC % Removal | ACC # used | |
| 140 | 3.45 | 2.71 | 21.4 | NA | 1.43 |

I certify that I am familiar with the information contained in this report and that, to the best of my knowledge, the information is true, complete, and accurate.

Operator's Signature: Jesse

Certificate No. and Grade: WS0014085, B

Date: July 10, 2020

***Submit the report by the 10th of the month following the reporting period to:***

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER SUPPLY DIVISION/PUBLIC DRINKING WATER SECTION (MC-155)
P.O. BOX 13087, AUSTIN, TEXAS 78711-3087

# UV MONTHLY OPERATING REPORT

**FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER**

***UV Calculated Dose Approach Reactors***

**PUBLIC WATER SYSTEM NAME:** Webb County Water Utilities

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831 **Month:** June **Year:** 2020

## VALIDATED OPERATIONAL CONDITIONS

| VALIDATED PARAMETERS | | | | | | PERFORMANCE REQUIREMENTS | |
|---|---|---|---|---|---|---|---|
| Parameters | Reactor Number | | | | | Crypto Log Inactivation | Required UV Dose ($mJ/cm^2$) |
| | UVCD1 | UVCD2 | UVCD3 | UVCD4 | UVCD5 | | |
| Max Validated Flow Rate (MGD) | 5.080 | 5.080 | 5.080 | | | 1.0 | 2.50 |
| Min Validated UVT (%) | 69.20 | 69.20 | 69.20 | | | | |

## PERFORMANCE DATA

| Date | Reactor | Total Product. (MG) | Max. Flow Rate (MGD) | Min UV Trans. (%) | Minimum Meas'd UV Dose ($mJ/cm^2$) | Sensor CF | Adjusted Minimum UV Dose ($mJ/cm^2$) | Total Off-Spec Product. (MG) | Consec. Off-Spec Hours (hr) |
|---|---|---|---|---|---|---|---|---|---|
| | OPERATIONAL DATA | | | | | | | | |
| 1 | 1 | 0.313 | 0.724 | 86.20 | 28.92 | 1.00 | 28.92 | 0.000 | 0.000 |
| | 2 | 0.419 | 0.977 | 86.20 | 23.07 | 1.00 | 23.07 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 2 | 1 | 0.326 | 0.722 | 89.80 | 28.92 | 1.00 | 28.92 | 0.000 | 4.00 |
| | 2 | 0.276 | 0.981 | 89.80 | 0.00 | 1.00 | 0.00 | 0.153 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 3 | 1 | 0.338 | 0.757 | 91.08 | 26.79 | 1.00 | 26.79 | 0.000 | 0.000 |
| | 2 | 0.452 | 0.993 | 91.08 | 24.72 | 1.00 | 24.72 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 4 | 1 | 0.372 | 0.733 | 89.59 | 4.80 | 1.00 | 4.80 | 0.000 | 0.000 |
| | 2 | 0.498 | 0.966 | 89.59 | 4.04 | 1.00 | 4.04 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 5 | 1 | 0.367 | 0.764 | 89.18 | 0.00 | 1.00 | 0.00 | 0.004 | 0.25 |
| | 2 | 0.487 | 1.008 | 89.18 | 0.00 | 1.00 | 0.00 | 0.006 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 6 | 1 | 0.400 | 0.845 | 91.11 | 0.00 | 1.00 | 0.00 | 0.008 | 0.25 |
| | 2 | 0.535 | 1.099 | 91.11 | 0.00 | 1.00 | 0.00 | 0.011 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 7 | 1 | 0.389 | 0.806 | 89.08 | 26.83 | 1.00 | 26.83 | 0.000 | 0.25 |
| | 2 | 0.510 | 1.069 | 89.08 | 0.00 | 1.00 | 0.00 | 0.010 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 8 | 1 | 0.394 | 0.800 | 90.54 | 29.94 | 1.00 | 29.94 | 0.000 | 0.000 |
| | 2 | 0.519 | 1.076 | 90.54 | 9.74 | 1.00 | 9.74 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |

## PERFORMANCE DATA

| Date | Reactor | Total Product. (MG) | Max. Flow Rate (MGD) | Min UV Trans. (%) | Minimum Meas'd UV Dose ($mJ/cm^2$) | Sensor CF | Adjusted Minimum UV Dose ($mJ/cm^2$) | Total Off-Spec Product. (MG) | Consec. Off-Spec Hours (hr) |
|---|---|---|---|---|---|---|---|---|---|
| | OPERATIONAL DATA | | | | | | | | |
| 9 | 1 | 0.306 | 0.738 | 89.32 | 29.99 | 1.00 | 29.99 | 0.000 | 4.25 |
| | 2 | 0.403 | 0.958 | 89.32 | 0.00 | 1.00 | 0.00 | 0.010 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 10 | 1 | 0.345 | 0.705 | 90.03 | 31.21 | 1.00 | 31.21 | 0.000 | 0.000 |
| | 2 | 0.450 | 0.947 | 90.03 | 9.12 | 1.00 | 9.12 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 11 | 1 | 0.355 | 0.690 | 87.00 | 25.59 | 1.00 | 25.59 | 0.000 | 0.000 |
| | 2 | 0.460 | 0.921 | 87.00 | 16.06 | 1.00 | 16.06 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 12 | 1 | 0.381 | 0.697 | 89.27 | 28.98 | 1.00 | 28.98 | 0.000 | 0.000 |
| | 2 | 0.504 | 0.937 | 89.27 | 4.58 | 1.00 | 4.58 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 13 | 1 | 0.420 | 0.733 | 89.27 | 29.87 | 1.00 | 29.87 | 0.000 | 0.000 |
| | 2 | 0.551 | 0.961 | 89.27 | 12.44 | 1.00 | 12.44 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 14 | 1 | 0.450 | 0.760 | 88.52 | 0.00 | 1.00 | 0.00 | 0.005 | 0.25 |
| | 2 | 0.581 | 0.958 | 88.52 | 0.00 | 1.00 | 0.00 | 0.006 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 15 | 1 | 0.434 | 0.799 | 88.71 | 26.83 | 1.00 | 26.83 | 0.000 | 0.000 |
| | 2 | 0.559 | 1.065 | 88.71 | 17.43 | 1.00 | 17.43 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 16 | 1 | 0.380 | 0.798 | 88.29 | 6.97 | 1.00 | 6.97 | 0.000 | 0.000 |
| | 2 | 0.494 | 1.068 | 88.29 | 3.01 | 1.00 | 3.01 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |

**SUBMITTED BY:** Jesse Vasquez

**Certificate No. and Grade:** WS0014085, B **Date:** July 10, 2020

# UV MONTHLY OPERATING REPORT

**FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)**

***UV Calculated Dose Approach Reactors (cont.)***

**PUBLIC WATER SYSTEM NAME:** Webb County Water Utilities

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831 **Month:** June **Year:** 2020

TRUE

## VALIDATED OPERATIONAL CONDITIONS

| VALIDATED PARAMETERS | | | | | | PERFORMANCE REQUIREMENTS | |
|---|---|---|---|---|---|---|---|
| Parameters | Reactor Number | | | | | Crypto Log Inactivation | Required UV Dose ($mJ/cm^2$) |
| | UVCD1 | UVCD2 | UVCD3 | UVCD4 | UVCD5 | | |
| Max Validated Flow Rate (MGD) | 5.080 | 5.080 | 5.080 | | | 1.0 | 2.50 |
| Min Validated UVT (%) | 69.20 | 69.20 | 69.20 | | | | |

## PERFORMANCE DATA

| Date | Reactor | Total Product. (MG) | Max. Flow Rate (MGD) | Min UV Trans. (%) | Minimum Meas'd UV Dose ($mJ/cm^2$) | Sensor CF | Adjusted Minimum UV Dose ($mJ/cm^2$) | Total Off-Spec Product. (MG) | Consec. Off-Spec Hours (hr) |
|---|---|---|---|---|---|---|---|---|---|
| | OPERATIONAL DATA | | | | | | | | |
| 17 | 1 | 0.383 | 0.744 | 88.22 | 29.31 | 1.00 | 29.31 | 0.000 | 0.000 |
| | 2 | 0.496 | 0.987 | 88.22 | 2.68 | 1.00 | 2.68 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 18 | 1 | 0.356 | 0.744 | 86.93 | 29.09 | 1.00 | 29.09 | 0.000 | 0.000 |
| | 2 | 0.474 | 1.003 | 86.93 | 16.25 | 1.00 | 16.25 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 19 | 1 | 0.431 | 0.755 | 87.61 | 0.00 | 1.00 | 0.00 | 0.029 | 0.75 |
| | 2 | 0.525 | 0.979 | 87.61 | 0.00 | 1.00 | 0.00 | 0.008 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 20 | 1 | 0.362 | 0.777 | 87.71 | 0.00 | 1.00 | 0.00 | 0.007 | 0.25 |
| | 2 | 0.473 | 1.037 | 87.71 | 0.00 | 1.00 | 0.00 | 0.009 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 21 | 1 | 0.392 | 0.762 | 87.08 | 0.00 | 1.00 | 0.00 | 0.004 | 0.25 |
| | 2 | 0.509 | 1.016 | 87.08 | 0.00 | 1.00 | 0.00 | 0.005 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 22 | 1 | 0.383 | 0.744 | 85.64 | 29.31 | 1.00 | 29.31 | 0.000 | 0.000 |
| | 2 | 0.496 | 0.987 | 85.64 | 2.68 | 1.00 | 2.68 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 23 | 1 | 0.422 | 0.775 | 89.03 | 26.28 | 1.00 | 26.28 | 0.000 | 0.000 |
| | 2 | 0.552 | 1.074 | 89.03 | 18.01 | 1.00 | 18.01 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 24 | 1 | 0.400 | 0.813 | 88.20 | 1.92 | 1.00 | 1.92 | 0.007 | 0.25 |
| | 2 | 0.523 | 1.040 | 88.20 | 15.97 | 1.00 | 15.97 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |

## PERFORMANCE DATA

| Date | Reactor | Total Product. (MG) | Max. Flow Rate (MGD) | Min UV Trans. (%) | Minimum Meas'd UV Dose ($mJ/cm^2$) | Sensor CF | Adjusted Minimum UV Dose ($mJ/cm^2$) | Total Off-Spec Product. (MG) | Consec. Off-Spec Hours (hr) |
|---|---|---|---|---|---|---|---|---|---|
| | OPERATIONAL DATA | | | | | | | | |
| 25 | 1 | 0.393 | 0.715 | 89.47 | 0.00 | 1.00 | 0.00 | 0.120 | 0.25 |
| | 2 | 0.522 | 0.944 | 89.47 | 0.00 | 1.00 | 0.00 | 0.016 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 26 | 1 | 0.302 | 0.783 | 88.59 | 0.00 | 1.00 | 0.00 | 0.001 | 0.25 |
| | 2 | 0.400 | 1.032 | 88.59 | 0.00 | 1.00 | 0.00 | 0.002 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 27 | 1 | 0.361 | 0.757 | 87.44 | 23.33 | 1.00 | 23.33 | 0.000 | 0.000 |
| | 2 | 0.470 | 1.000 | 87.44 | 7.06 | 1.00 | 7.06 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 28 | 1 | 0.330 | 0.792 | 87.44 | 0.00 | 1.00 | 0.00 | 0.001 | 0.25 |
| | 2 | 0.436 | 1.057 | 87.44 | 0.00 | 1.00 | 0.00 | 0.012 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 29 | 1 | 0.376 | 0.781 | 86.64 | 23.77 | 1.00 | 23.77 | 0.000 | 0.000 |
| | 2 | 0.497 | 1.030 | 86.64 | 16.18 | 1.00 | 16.18 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 30 | 1 | 0.424 | 1.032 | 90.42 | 17.80 | 1.00 | 17.80 | 0.000 | 0.000 |
| | 2 | 0.543 | 1.367 | 90.42 | 9.61 | 1.00 | 9.61 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 31 | 1 | | | | | | | | |
| | 2 | | | | | | | | |
| | 3 | | | | | | | | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |

**SUBMITTED BY:** Josie Vasquez

**Certificate No. and Grade:** WS0014085, B **Date:** July 10, 2020

# UV MONTHLY OPERATING REPORT

**FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)**

*UV Calculated Dose Approach - Daily Minimum Inactivation Summary Page*

**PUBLIC WATER SYSTEM NAME:** Webb County Water Utilities

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831 **Month:** June **Year:** 2020

## DAILY MINIMUM INACTIVATION

| Reactor Range | SUMMARY DATA | | | | | Reactor Range | SUMMARY DATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | Min Dose (mJ/cm²) | Inactivation Credit Achieved: Giardia Log | Virus Log | Crypto Log | | Date | Min Dose (mJ/cm²) | Min Inactivation: Giardia Log | Virus Log | Crypto Log |
| 1 to 3 | 1 | 23.07 | 4.00 | 0.01 | 1.00 | 1 to 3 | 9 | 0.00* | 0.00 | 0.00 | 1.00 |
| | 2 | 0.00* | 1.00 | 0.00 | 1.00 | | 10 | 9.12 | 2.72 | 0.00 | 1.00 |
| | 3 | 24.72 | 4.00 | 0.07 | 1.00 | | 11 | 16.06 | 3.58 | 0.00 | 1.00 |
| | 4 | 4.04 | 1.81 | 0.00 | 1.00 | | 12 | 4.58 | 1.91 | 0.00 | 1.00 |
| | 5 | 0.00* | 1.00 | 0.00 | 1.00 | | 13 | 12.44 | 3.18 | 0.00 | 1.00 |
| | 6 | 0.00* | 1.00 | 0.00 | 1.00 | | 14 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 7 | 0.00* | 1.00 | 0.00 | 1.00 | | 15 | 17.43 | 3.67 | 0.00 | 1.00 |
| | 8 | 9.74 | 2.81 | 0.00 | 1.00 | | 16 | 3.01 | 1.50 | 0.00 | 1.00 |

## DAILY MINIMUM INACTIVATION

| Reactor Range | SUMMARY DATA | | | | | Reactor Range | SUMMARY DATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | Min Dose (mJ/cm²) | Min Inactivation: Giardia Log | Virus Log | Crypto Log | | Date | Min Dose (mJ/cm²) | Min Inactivation: Giardia Log | Virus Log | Crypto Log |
| 1 to 3 | 17 | 2.68 | 1.35 | 0.00 | 1.00 | 1 to 3 | 25 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 18 | 16.25 | 3.59 | 0.00 | 1.00 | | 26 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 19 | 0.00* | 1.00 | 0.00 | 1.00 | | 27 | 7.06 | 2.37 | 0.00 | 1.00 |
| | 20 | 0.00* | 1.00 | 0.00 | 1.00 | | 28 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 21 | 0.00* | 1.00 | 0.00 | 1.00 | | 29 | 16.18 | 3.58 | 0.00 | 1.00 |
| | 22 | 2.68 | 1.35 | 0.00 | 1.00 | | 30 | 9.61 | 2.79 | 0.00 | 1.00 |
| | 23 | 18.01 | 3.71 | 0.00 | 1.00 | | 31 | | | | 1.00 |
| | 24 | 1.92* | 1.00 | 0.00 | 1.00 | | | | | | |

**Total volume of water treated by all CDA reactors:** 25.90 MG

**Total volume of off-spec water produced by all CDA reactors:** 0.43 MG

**Percentage of off-spec water produced by all CDA reactors:** 1.68 %

**Crypto Log-Inactivation Credit for treatment by CDA reactors:** 1.00 log

**Raw water pumpage and total production by all UV reactors differ by more than 15% on these days:** 2, 9, 10, 17, 22, 23,

**SUBMITTED BY:** Jesse Vasquez

**Certificate No. and Grade:** WS0014085, B **Date:** July 10, 2020

# UV MONTHLY OPERATING REPORT

**FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)**

***UV Sensor Calibration for Calculated Dose Reactors***

**PUBLIC WATER SYSTEM NAME:** Webb County Water Utilities

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831

**Month:** June **Year:** 2020

## CALIBRATION DATA

UV Sensor Calibration Report for Calculated Dose Reactors

| CDA Reactor Number | Calibration Date and Data | Duty Sensor | Duty Sensor Serial # | Ref Sensor Serial # | Duty Sensor Reading (mJ/cm²) | Ref Sensor Reading (mJ/cm²) | Cal Ratio | Duty Sensor Replaced? | Calculated Sensor CF |
|---|---|---|---|---|---|---|---|---|---|
| UVCD No. 1 | Previous Month's Sensor CF | 1 | 92 | 44 | 66 30 | 69 30 | 0 96 | NA | 1 00 |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1 00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 6/1/20 | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | 1 00 | 10 | | | | | | | |
| UVCD No. 2 | Previous Month's Sensor CF | 1 | 38 | 44 | 68 70 | 68 90 | 1 00 | NA | 1 00 |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1 00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 6/1/20 | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | 1 00 | 10 | | | | | | | |
| UVCD No. 3 | Previous Month's Sensor CF | 1 | 39 | 44 | 7 60 | 5 40 | 1 41 | YES | Replaced |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1 00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 6/1/20 | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | 1 00 | 10 | | | | | | | |
| UVCD No. 4 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 5 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |

## CALIBRATION DATA

UV Sensor Calibration Report for Calculated Dose Reactors

| CDA Reactor Number | Calibration Date | Duty Sensor | Duty Sensor Serial # | Ref Sensor Serial # | Duty Sensor Reading (mJ/cm²) | Ref Sensor Reading (mJ/cm²) | Cal Ratio | Duty Sensor Replaced? | Calculated Sensor CF |
|---|---|---|---|---|---|---|---|---|---|
| UVCD No. 6 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 7 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 8 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 9 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 10 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |

**SUBMITTED BY:** Jesse Vasquez

**Certificate No. and Grade:** WS0014085, B

**Date:** July 10, 2020

# UV MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)
*UV Sensor Calibration for Calculated Dose Reactors (cont.)*

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831

Month: June Year: 2020

## CALIBRATION DATA

UV Sensor Calibration Report for Calculated Dose Reactors

| CDA Reactor Number | Calibration Date | Duty Sensor | Duty Sensor Serial # | Ref Sensor Serial # | Duty Sensor Reading (mJ/cm²) | Ref Sensor Reading (mJ/cm²) | Cal Ratio | Duty Sensor Replaced? | Calculated Sensor CF |
|---|---|---|---|---|---|---|---|---|---|
| UVCD No. 11 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 12 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 13 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 14 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 15 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |

## CALIBRATION DATA

UV Sensor Calibration Report for Calculated Dose Reactors

| CDA Reactor Number | Calibration Date | Duty Sensor | Duty Sensor Serial # | Ref Sensor Serial # | Duty Sensor Reading (mJ/cm²) | Ref Sensor Reading (mJ/cm²) | Cal Ratio | Duty Sensor Replaced? | Calculated Sensor CF |
|---|---|---|---|---|---|---|---|---|---|
| UVCD No. 16 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 17 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 18 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 19 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| UVCD No. 20 | Previous Month's Sensor CF | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | | 10 | | | | | | | |

SUBMITTED BY: Jesse Vasquez

Certificate No. and Grade: WS0014085, B

Date: July 10, 2020

# UV MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)

*UVT Analyzer Calibration*

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID 20831

Month: June

Year: 2020

NA

## CALIBRATION DATA

Benchtop UVT Analyzer Serial Number: UVT08-P0108955

| UVT Analyzer Number | Week | Calibration Date | On-line UVT Analyzer Serial # | On-line Reading (% UVT) | Grab Sample Reading (% UVT) | Difference (% UVT) | Recalibration Performed? (if Diff > 2%) | Other Action Taken |
|---|---|---|---|---|---|---|---|---|
| UVT No. 1 | 1 | 6/1/20 | 78713 | 92.50 | 92.00 | 0.50 | NA | NA |
| | 2 | 6/8/20 | 78713 | 91.20 | 92.30 | 1.10 | NA | NA |
| | 3 | 6/15/20 | 78713 | 88.60 | 89.50 | 0.90 | NA | NA |
| | 4 | 6/22/20 | 78713 | 89.20 | 89.10 | 0.10 | NA | NA |
| | 5 | 6/29/20 | 78713 | 86.30 | 89.90 | 3.60 | YES | NA |
| UVT No. 2 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 3 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 4 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 5 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 6 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 7 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 8 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 9 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 10 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |

## CALIBRATION DATA

Benchtop UVT Analyzer Serial Number: UVT08-P0108955

| UVT Analyzer Number | Week | Calibration Date | On-line UVT Analyzer Serial # | On-line Reading (% UVT) | Grab Sample Reading (% UVT) | Difference (% UVT) | Recalibration Performed? (if Diff > 2%) | Other Action Taken |
|---|---|---|---|---|---|---|---|---|
| UVT No. 11 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 12 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 13 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 14 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 15 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 16 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 17 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 18 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 19 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |
| UVT No. 20 | 1 | | | | | | | |
| | 2 | | | | | | | |
| | 3 | | | | | | | |
| | 4 | | | | | | | |
| | 5 | | | | | | | |

SUBMITTED BY: Jesse Urquez

Certificate No. and Grade: WS0014085, B

Date: July 10, 2020

# SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES

OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)

*LT2ESWTR Summary Page (cont)*

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: June Year: 2020

| | GIARDIA AND CRYPTOSPORIDIUM TREATMENT CREDITS | | | | | | | | | | | | GIARDIA INACTIVATION CREDITS | | | | | | VIRAL INACTIVATION CREDITS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Daily Credit By Train | | | | | | Total Daily Bin 3 & 4 Credit by Train | | | | | | Total Daily Inactivation Credit By Train | | | | | | Total Daily Inactivation Credit by Train | | | | | |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | |
| Train 1 | TRUE | FALSE | FALSE | FALSE | FALSE | Minimum | TRUE | FALSE | FALSE | FALSE | FALSE | Minimum | TRUE | FALSE | FALSE | FALSE | FALSE | Minimum | TRUE | FALSE | FALSE | FALSE | FALSE | Minimum |
| Train 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| Train 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| Train 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| Train 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 7.17 | | | | | 7.17 | 59.50 | | | | | 59.50 |
| 2 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 4.17 | | | | | 4.17 | 84.82 | | | | | 84.82 |
| 3 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 7.31 | | | | | 7.31 | 60.22 | | | | | 60.22 |
| 4 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 3.67 | | | | | 3.67 | 24.89 | | | | | 24.89 |
| 5 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 2.71 | | | | | 2.71 | 23.47 | | | | | 23.47 |
| 6 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 2.76 | | | | | 2.76 | 24.16 | | | | | 24.16 |
| 7 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 2.77 | | | | | 2.77 | 28.22 | | | | | 28.22 |
| 8 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 4.76 | | | | | 4.76 | 31.48 | | | | | 31.48 |
| 9 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 3.06 | | | | | 3.06 | 57.05 | | | | | 57.05 |
| 10 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 8.77 | | | | | 8.77 | 133.92 | | | | | 133.92 |
| 11 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 7.41 | | | | | 7.41 | 94.64 | | | | | 94.64 |
| 12 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 5.80 | | | | | 5.80 | 88.23 | | | | | 88.23 |
| 13 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 6.62 | | | | | 6.62 | 70.11 | | | | | 70.11 |
| 14 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 5.18 | | | | | 5.18 | 91.07 | | | | | 91.07 |
| 15 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 7.28 | | | | | 7.28 | 67.59 | | | | | 67.59 |
| 16 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 3.49 | | | | | 3.49 | 25.93 | | | | | 25.93 |
| 17 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 4.12 | | | | | 4.12 | 43.08 | | | | | 43.08 |
| 18 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 6.19 | | | | | 6.19 | 36.22 | | | | | 36.22 |
| 19 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 3.85 | | | | | 3.85 | 46.88 | | | | | 46.88 |
| 20 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 3.50 | | | | | 3.50 | 36.80 | | | | | 36.80 |
| 21 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 3.57 | | | | | 3.57 | 36.36 | | | | | 36.36 |
| 22 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 3.44 | | | | | 3.44 | 26.77 | | | | | 26.77 |
| 23 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 6.06 | | | | | 6.06 | 35.41 | | | | | 35.41 |
| 24 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 4.98 | | | | | 4.98 | 77.70 | | | | | 77.70 |
| 25 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 4.61 | | | | | 4.61 | 66.43 | | | | | 66.43 |
| 26 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 4.95 | | | | | 4.95 | 79.98 | | | | | 79.98 |
| 27 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 3.88 | | | | | 3.88 | 23.49 | | | | | 23.49 |
| 28 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 6.65 | | | | | 6.65 | 128.12 | | | | | 128.12 |
| 29 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 5.26 | | | | | 5.26 | 28.78 | | | | | 28.78 |
| 30 | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 7.24 | | | | | 7.24 | 91.42 | | | | | 91.42 |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | |
| MIN | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 2.71 | | | | | 2.71 | 23.47 | | | | | 23.47 |
| AVG | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 5.04 | | | | | 5.04 | 57.42 | | | | | 57.42 |
| MAX | 4.50 | | | | | 4.50 | 1.00 | | | | | 1.00 | 8.77 | | | | | 8.77 | 133.92 | | | | | 133.92 |

# SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES

OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)

*LT2ESWTR Summary Page*

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: June Year: 2020

| Note: Indicate the treatment processes in each train. (see comment) | TREATMENT TECHNOLOGIES | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PRETREATMENT CREDITS | | | | FILTRATION TECHNOLOGY CREDITS | | | | | | ENHANCED PERFORMANCE CREDITS | | DISINFECTION TECHNOLOGY CREDITS | | | OTHER TREATMENT CREDITS | |
| | Riverbank Filtration | Presed. with Coagul. | Two-stage Lime Softening | Conventional Sedimentation or Clarification | Conventional Granular Media Filters | Bag or Cartridge Filtration | Two-Stage Filtration | Membrane Filtration (PBT) | Membrane Filtration (QBT) | Membrane Filtration (MBT) | Enhanced CFE Perform. | Optimized IFE Perform. | Crypto Chemical Disinfect. | UV Disinfect. (ISA) | UV Disinfect. (CDA) | Watershed Protection | Perform. Demon. |
| Overall | FALSE | FALSE | FALSE | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE |
| Train 1 | | | | TRUE | TRUE | | | | | | TRUE | FALSE | | | TRUE | | |
| Train 2 | | | | | | | | | | | | | | | | | |
| Train 3 | | | | | | | | | | | | | | | | | |
| Train 4 | | | | | | | | | | | | | | | | | |
| Train 5 | | | | | | | | | | | | | | | | | |
| 1 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 2 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 3 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 4 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 5 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 6 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 7 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 8 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 9 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 10 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 11 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 12 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 13 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 14 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 15 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 16 | | | | 0.50 | 2.50 | | | | | | 0.50 | | | | 1.00 | | |
| 17 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 18 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 19 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 20 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 21 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 22 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 23 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 24 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 25 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 26 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 27 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 28 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 29 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 30 | | | | | 2.50 | | | | | | | | | | 1.00 | | |
| 31 | | | | | | | | | | | | | | | | | |
| MIN | | | | 0.5 | 2.5 | | | | | | 0.5 | | | | 1.00 | | |