# 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 Utility | PLANT NAME OR NUMBER: | Rio Bravo |
| PWS ID No.: | 2400022 | | |
| Plant ID No.: | 20831 | Operator's Signature: | |
| Report for the Month of: | April 2018 | Certificate No. & Grade: | WS0012772, B |
| | | Date: | May 10, 2018 |

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.

## TREATMENT PLANT PERFORMANCE

| | | | |
|---|---|---|---|
| Total number of turbidity readings: | 95 | Number of 4-hour periods when plant was off-line: | 85 |
| Number of readings above 0.10 NTU: | 94 | 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: 4.0 (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: | 0.0 | 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: | 5.76 |
| | | Average log inactivation) (including UV) for viruses: | 83.33 |
| 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: | 6.53 |
| | | Number of days with pH below 7.0 in the last disinfection zone: | 6.00 |
| 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: | 43 (at least 30 required) (8) | | |
| Average disinfectant residual value: | 1.97 | 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 | P.7-TOC ACC |
|---|---|---|---|---|
| Alternate Technol. | UV–CDA | UV–Sensor Data | UV–UVT Analyzer | |

## STATISTICAL ANALYSIS OF TURBIDITY DATA

| | | | | |
|---|---|---|---|---|
| Settled Water Stastical Summary | Maximum turbidity reading: | 6.80 NTU | Average turbidity value: | 3.55 NTU |
| | Minimum turbidity reading: | 0.35 NTU | Standard deviation: | 1.255 NTU |
| | 95th percentile value: | 5.15 NTU | | |
| IFE Stastical Summary | Maximum IFE turbidity reading: | 0.00 NTU | Average IFE turbidity value: | 0.08 NTU |
| | Minimum IFEturbidity reading: | 0.28 NTU | Standard deviation: | 0.169 NTU |
| | 95th percentile IFE value: | 0.05 NTU | | |
| CFE Stastical Summary | Maximum CFE turbidity reading: | 0.21 NTU | Average CFE turbidity value: | 0.15 NTU |
| | Minimum CFE turbidity reading: | 0.10 NTU | Standard deviation: | 0.033 NTU |
| | 95th percentile CFE value: | 0.20 NTU | | |

## STATISTICAL ANALYSIS OF pH DATA

| | | | | |
|---|---|---|---|---|
| Last Zone pH Stastical Summary | Maximum pH reading: | 7.60 pH | Average pH value: | 7.10 pH |
| | Minimum pH reading: | 6.53 pH | Standard deviation: | 0.274 pH |
| | 95th percentile value: | 7.51 pH | | |

# 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 Utility

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831 **Connections:** 1,948

**Month:** April **Year:** 2018 **Population:** 6,818

## 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 | 1.129 | 0.625 | 23 | 120 | 4.7 | 3.6 | | | | | X | X | 0.11 | 0.12 | 0.12 | 0.12 | 2.0 | |
| 2 | 1.010 | 0.670 | 23 | 120 | 4.7 | 3.3 | | | | | X | X | X | 0.12 | 0.13 | 0.13 | 2.1 | |
| 3 | 1.196 | 0.570 | 35 | 120 | 3.3 | 3.7 | | | | | 0.16 | X | X | 0.18 | 0.18 | 0.20 | 2.9 | |
| 4 | 0.962 | 0.525 | 13 | 120 | 4.7 | 3.7 | | | | | X | X | X | 0.19 | 0.20 | 0.20 | 2.4 | |
| 5 | 0.967 | 0.554 | 13 | 120 | 3.2 | 4.3 | | | | | X | X | X | X | 0.17 | 0.15 | 2.5 | |
| 6 | 1.192 | 0.582 | 13 | 120 | 4.4 | 5.0 | | | | | X | X | X | 0.13 | 0.13 | 0.14 | 3.0 | |
| 7 | 1.175 | 0.494 | 19 | 120 | 4.3 | 5.2 | | | | | X | X | X | 0.12 | 0.12 | 0.11 | 2.7 | |
| 8 | 1.064 | 0.631 | 18 | 120 | 4.4 | 4.3 | | | | | X | X | X | 0.11 | 0.11 | 0.12 | 2.0 | |
| 9 | 1.044 | 0.672 | 16 | 120 | 5.1 | 4.3 | | | | | X | X | X | 0.13 | 0.15 | 0.17 | 2.7 | |
| 10 | 0.901 | 0.538 | 21 | 120 | 4.7 | 0.4 | | | | | X | X | X | 0.18 | 0.17 | 0.15 | 1.8 | |
| 11 | 0.934 | 0.625 | 22 | 120 | 3.5 | 4.7 | | | | | X | X | X | 0.18 | 0.18 | X | 1.9 | |
| 12 | 1.079 | 0.638 | 14 | 140 | 3.4 | 3.1 | | | | | X | X | X | 0.19 | 0.18 | 0.15 | 2.2 | |
| 13 | 1.083 | 0.689 | 11 | 140 | 4.0 | 4.0 | | | | | X | X | X | 0.12 | 0.12 | 0.11 | 2.8 | |
| 14 | 1.091 | 0.695 | 12 | 120 | 3.7 | 4.3 | | | | | X | X | 0.13 | 0.12 | 0.14 | 0.18 | 2.2 | |
| 15 | 1.097 | 0.678 | 15 | 120 | 4.0 | 3.1 | | | | | X | X | X | 0.17 | 0.14 | 0.15 | 2.0 | |
| 16 | 1.094 | 0.663 | 10 | 120 | 3.4 | 3.5 | | | | | X | X | 0.18 | 0.15 | 0.18 | 0.18 | 1.8 | |
| 17 | 1.064 | 0.705 | 13 | 120 | 5.4 | 4.5 | | | | | X | X | X | 0.21 | 0.18 | 0.17 | 2.7 | |
| 18 | 1.119 | 0.661 | 8 | 120 | 6.8 | 4.2 | | | | | X | X | X | 0.21 | 0.20 | 0.20 | 2.9 | |
| 19 | 1.114 | 0.592 | 8 | 120 | 2.0 | 4.1 | | | | | 0.19 | X | X | 0.17 | X | 0.18 | 2.0 | |
| 20 | 1.217 | 0.595 | 15 | 120 | 3.8 | 3.1 | | | | | 0.21 | X | X | 0.20 | 0.21 | 0.19 | 2.7 | |
| 21 | 1.181 | 0.603 | 11 | 120 | 3.7 | 3.6 | | | | | 0.18 | X | X | X | 0.17 | 0.14 | 2.8 | |
| 22 | 1.014 | 0.617 | 13 | 120 | 5.2 | 4.9 | | | | | 0.13 | X | X | 0.11 | 0.11 | 0.12 | 2.9 | |
| 23 | 0.918 | 0.691 | 14 | 120 | 2.5 | 4.6 | | | | | X | X | X | 0.12 | 0.12 | 0.12 | 2.9 | |
| 24 | 1.316 | 0.682 | 27 | 100 | 3.4 | 2.7 | | | | | 0.14 | X | X | X | 0.20 | 0.20 | 3.4 | |
| 25 | 1.298 | 0.601 | 32 | 100 | 2.3 | 3.0 | | | | | 0.20 | X | X | 0.18 | 0.20 | 0.20 | 3.1 | |
| 26 | 0.871 | 0.524 | 11 | 120 | 1.4 | 1.5 | | | | | X | X | X | 0.11 | 0.11 | 0.10 | 2.6 | |
| 27 | 0.898 | 0.539 | 9 | 120 | 1.6 | 1.7 | | | | | X | X | X | 0.18 | 0.18 | 0.18 | 2.0 | |
| 28 | 0.899 | 0.569 | 8 | 100 | 3.9 | 2.1 | | | | | X | X | X | 0.16 | 0.17 | 0.15 | 2.4 | |
| 29 | 0.892 | 0.551 | 15 | 120 | 1.3 | 1.5 | | | | | X | X | X | 0.11 | 0.13 | 0.14 | 2.6 | |
| 30 | 1.565 | 0.599 | 8 | 120 | 1.3 | 1.4 | | | | | X | X | X | 0.11 | 0.12 | 0.12 | 2.1 | |
| 31 | | | | | | | | | | | | | | | | | | |
| Total | 32.384 | 18.378 | | Max | 6.8 | 5.2 | | | | | | | | | | | | |
| Avg | 1.079 | 0.613 | | Avg | 3.7 | 3.4 | | | | | | | | | | | | |
| Max | 1.565 | 0.705 | | 95th % | 5.3 | 5.0 | | | | | | | | | | | | |
| Min | 0.871 | 0.494 | | Min | 1.3 | 0.4 | | | | | | | | | | | | |
| | | | | 95th percentile based on data from all basins | | | | | | 5.2 | | | | | | | | |

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:** Tomas Sanchez Jr. **Certificate No. and Grade:** WS0012772, B **Date:** May 10, 2018

# 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 Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: April Year: 2018

## 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 | 0.14 | | 0.16 | | 0.22 | | 0.14 | | | | | | | | | | | | | |
| 2 | 0.14 | | 0.14 | | 0.15 | | 0.11 | | | | | | | | | | | | | |
| 3 | 0.10 | | 0.16 | | 0.15 | | 0.13 | | | | | | | | | | | | | |
| 4 | 0.10 | | 0.15 | | 0.17 | | 0.13 | | | | | | | | | | | | | |
| 5 | 0.08 | | 0.20 | | 0.16 | | 0.12 | | | | | | | | | | | | | |
| 6 | 0.10 | | 0.13 | | 0.19 | | 0.11 | | | | | | | | | | | | | |
| 7 | 0.12 | | 0.22 | | 0.12 | | 0.13 | | | | | | | | | | | | | |
| 8 | 0.10 | | 0.16 | | 0.14 | | 0.11 | | | | | | | | | | | | | |
| 9 | 0.17 | | 0.27 | | 0.18 | | 0.17 | | | | | | | | | | | | | |
| 10 | 0.16 | | 0.19 | | 0.21 | | 0.18 | | | | | | | | | | | | | |
| 11 | 0.11 | | 0.23 | | 0.21 | | 0.17 | | | | | | | | | | | | | |
| 12 | 0.15 | | 0.20 | | 0.16 | | 0.15 | | | | | | | | | | | | | |
| 13 | 0.12 | | 0.22 | | 0.16 | | 0.14 | | | | | | | | | | | | | |
| 14 | 0.16 | | 0.18 | | 0.23 | | 0.19 | | | | | | | | | | | | | |
| 15 | 0.20 | | 0.25 | | 0.24 | | 0.17 | | | | | | | | | | | | | |
| 16 | 0.19 | | 0.23 | | 0.22 | | 0.15 | | | | | | | | | | | | | |
| 17 | 0.25 | | 0.23 | | 0.26 | | 0.25 | | | | | | | | | | | | | |
| 18 | 0.20 | | 0.28 | | 0.21 | | 0.21 | | | | | | | | | | | | | |
| 19 | 0.17 | | 0.27 | | 0.22 | | 0.28 | | | | | | | | | | | | | |
| 20 | 0.18 | | 0.28 | | 0.26 | | 0.22 | | | | | | | | | | | | | |
| 21 | 0.14 | | 0.16 | | 0.20 | | 0.17 | | | | | | | | | | | | | |
| 22 | 0.11 | | 0.15 | | 0.13 | | 0.12 | | | | | | | | | | | | | |
| 23 | 0.10 | | 0.21 | | 0.14 | | 0.12 | | | | | | | | | | | | | |
| 24 | 0.17 | | 0.23 | | 0.19 | | 0.23 | | | | | | | | | | | | | |
| 25 | 0.17 | | 0.21 | | 0.19 | | 0.15 | | | | | | | | | | | | | |
| 26 | 0.12 | | 0.16 | | 0.12 | | 0.13 | | | | | | | | | | | | | |
| 27 | 0.13 | | 0.21 | | 0.13 | | 0.11 | | | | | | | | | | | | | |
| 28 | 0.12 | | 0.17 | | 0.12 | | 0.16 | | | | | | | | | | | | | |
| 29 | 0.09 | | 0.17 | | 0.13 | | 0.10 | | | | | | | | | | | | | |
| 30 | 0.13 | | 0.25 | | 0.12 | | 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: Tomas Sanchez Jr Certificate No. and Grade: WS0012772, B Date: May 10, 2018

# 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 Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: April Year: 2018

## 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* | 1.1 | 0.961 | 23.8 | 7.3 | | | | |
| | FCL *D1B* | 1.2 | 0.961 | 24.0 | 7.1 | | | | |
| | FCL *D2* | 0.8 | 0.480 | 23.5 | 7.2 | 2.87 | 62.67 | 5.74 | |
| | CLA *D3* | 2.9 | 0.961 | 23.9 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 2 | FCL *D1A* | 1.4 | 0.911 | 22.7 | 7.3 | | | | |
| | FCL *D1B* | 1.5 | 0.913 | 23.8 | 7.1 | | | | |
| | FCL *D2* | 0.7 | 0.456 | 22.9 | 7.2 | 2.84 | 63.50 | 5.68 | |
| | CLA *D3* | 2.9 | 0.913 | 22.6 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 3 | FCL *D1A* | 1.1 | 0.912 | 24.5 | 7.3 | | | | |
| | FCL *D1B* | 1.0 | 0.912 | 23.9 | 7.2 | | | | |
| | FCL *D2* | 0.9 | 0.456 | 22.6 | 7.2 | 3.32 | 69.84 | 6.63 | |
| | CLA *D3* | 3.3 | 0.912 | 24.7 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 4 | FCL *D1A* | 0.7 | 0.902 | 23.3 | 7.4 | | | | |
| | FCL *D1B* | 0.8 | 0.902 | 22.9 | 7.4 | | | | |
| | FCL *D2* | 0.2 | 0.451 | 23.6 | 7.4 | 1.58 | 26.99 | 3.17 | |
| | CLA *D3* | 3.0 | 0.902 | 23.2 | 7.5 | | | (G) | |
| | *D4* | | | | | | | | |
| 5 | FCL *D1A* | 1.6 | 0.918 | 23.3 | 7.4 | | | | |
| | FCL *D1B* | 1.6 | 0.918 | 23.0 | 7.5 | | | | |
| | FCL *D2* | 1.4 | 0.459 | 21.5 | 7.5 | 3.61 | 97.10 | 7.22 | |
| | CLA *D3* | 3.1 | 0.918 | 22.4 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 6 | FCL *D1A* | 1.4 | 0.948 | 22.5 | 7.0 | | | | |
| | FCL *D1B* | 1.8 | 0.948 | 22.9 | 6.8 | | | | |
| | FCL *D2* | 0.2 | 0.474 | 22.8 | 6.8 | 2.09 | 37.49 | 4.18 | |
| | CLA *D3* | 3.2 | 0.948 | 22.8 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 7 | FCL *D1A* | 1.2 | 0.960 | 22.6 | 6.8 | | | | |
| | FCL *D1B* | 1.8 | 0.960 | 22.7 | 6.9 | | | | |
| | FCL *D2* | 0.7 | 0.480 | 22.8 | 6.7 | 2.93 | 55.34 | 5.87 | |
| | CLA *D3* | 2.8 | 0.960 | 22.8 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 8 | FCL *D1A* | 1.7 | 0.980 | 20.5 | 6.9 | | | | |
| | FCL *D1B* | 1.9 | 0.980 | 20.4 | 6.6 | | | | |
| | FCL *D2* | 1.7 | 0.490 | 21.4 | 6.8 | 4.33 | 101.65 | 8.65 | |
| | CLA *D3* | 2.6 | 0.980 | 21.3 | 6.5 | | | (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* | 1.8 | 0.956 | 23.4 | 7.0 | | | | |
| | FCL *D1B* | 1.9 | 0.956 | 22.9 | 6.7 | | | | |
| | FCL *D2* | 1.7 | 0.478 | 22.7 | 6.9 | 5.03 | 121.49 | 10.06 | |
| | CLA *D3* | 2.9 | 0.956 | 23.0 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 10 | FCL *D1A* | 1.7 | 0.894 | 21.7 | 7.1 | | | | |
| | FCL *D1B* | 1.7 | 0.894 | 21.8 | 7.2 | | | | |
| | FCL *D2* | 1.5 | 0.447 | 21.9 | 6.9 | 4.41 | 105.14 | 8.82 | |
| | CLA *D3* | 3.1 | 0.894 | 21.4 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 11 | FCL *D1A* | 1.7 | 0.887 | 22.0 | 7.1 | | | | |
| | FCL *D1B* | 1.6 | 0.887 | 22.0 | 7.2 | | | | |
| | FCL *D2* | 1.5 | 0.443 | 22.0 | 7.0 | 4.45 | 107.43 | 8.91 | |
| | CLA *D3* | 3.1 | 0.887 | 22.0 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 12 | FCL *D1A* | 1.4 | 0.908 | 22.3 | 7.3 | | | | |
| | FCL *D1B* | 1.7 | 0.908 | 22.5 | 7.3 | | | | |
| | FCL *D2* | 1.6 | 0.454 | 22.3 | 7.1 | 4.36 | 108.98 | 8.71 | |
| | CLA *D3* | 2.8 | 0.908 | 23.6 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 13 | FCL *D1A* | 0.8 | 0.925 | 23.8 | 7.2 | | | | |
| | FCL *D1B* | 0.7 | 0.925 | 23.9 | 7.2 | | | | |
| | FCL *D2* | 0.8 | 0.462 | 23.9 | 7.1 | 2.88 | 58.10 | 5.76 | |
| | CLA *D3* | 2.9 | 0.925 | 25.1 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 14 | FCL *D1A* | 1.3 | 0.935 | 22.0 | 7.2 | | | | |
| | FCL *D1B* | 1.2 | 0.935 | 22.0 | 7.1 | | | | |
| | FCL *D2* | 1.0 | 0.467 | 22.0 | 7.2 | 3.07 | 70.71 | 6.15 | |
| | CLA *D3* | 2.8 | 0.935 | 22.0 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 15 | FCL *D1A* | 1.1 | 0.956 | 22.0 | 7.2 | | | | |
| | FCL *D1B* | 1.1 | 0.956 | 22.0 | 7.3 | | | | |
| | FCL *D2* | 1.5 | 0.478 | 23.0 | 7.2 | 3.94 | 96.12 | 7.89 | |
| | CLA *D3* | 3.4 | 0.956 | 23.0 | 7.3 | | | (G) | |
| | *D4* | | | | | | | | |
| 16 | FCL *D1A* | 1.0 | 0.964 | 2.0 | 7.2 | | | | |
| | FCL *D1B* | 1.0 | 0.964 | 2.0 | 7.2 | | | | |
| | FCL *D2* | 1.0 | 0.482 | 22.0 | 7.4 | 2.31 | 51.73 | 4.62 | |
| | CLA *D3* | 3.1 | 0.964 | 22.0 | 7.6 | | | (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: Tomas Sanchez Jr. Certificate No. and Grade: WS0012772, B Date: May 10, 2018

# 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 Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: April Year: 2018

## 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* | 1.7 | 0.938 | 22.4 | 7.5 | | | | |
| | FCL *D1B* | 1.7 | 0.938 | 22.5 | 7.5 | | | | |
| | FCL *D2* | 1.3 | 0.469 | 22.4 | 7.4 | 3.56 | 93.94 | 7.11 | |
| | CLA *D3* | 2.9 | 0.938 | 23.8 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 18 | FCL *D1A* | 1.8 | 0.957 | 23.2 | 7.1 | | | | |
| | FCL *D1B* | 1.8 | 0.957 | 23.8 | 7.1 | | | | |
| | FCL *D2* | 1.1 | 0.478 | 21.8 | 6.9 | 4.02 | 87.79 | 8.04 | |
| | CLA *D3* | 3.6 | 0.957 | 23.7 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 19 | FCL *D1A* | 1.9 | 0.964 | 21.6 | 7.2 | | | | |
| | FCL *D1B* | 1.9 | 0.964 | 22.5 | 7.2 | | | | |
| | FCL *D2* | 1.3 | 0.482 | 21.5 | 7.2 | 3.81 | 89.74 | 7.61 | |
| | CLA *D3* | 3.7 | 0.964 | 23.0 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 20 | FCL *D1A* | 1.9 | 0.999 | 23.1 | 7.5 | | | | |
| | FCL *D1B* | 2.0 | 0.999 | 23.3 | 7.5 | | | | |
| | FCL *D2* | 0.7 | 0.499 | 22.7 | 7.1 | 2.84 | 69.96 | 5.68 | |
| | CLA *D3* | 2.4 | 0.999 | 23.4 | 7.5 | | | (G) | |
| | *D4* | | | | | | | | |
| 21 | FCL *D1A* | 1.3 | 1.014 | 22.7 | 7.2 | | | | |
| | FCL *D1B* | 1.4 | 1.014 | 23.7 | 7.2 | | | | |
| | FCL *D2* | 1.0 | 0.507 | 21.6 | 7.3 | 2.93 | 67.09 | 5.86 | |
| | CLA *D3* | 3.3 | 1.014 | 23.0 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 22 | FCL *D1A* | 1.2 | 1.014 | 22.3 | 7.4 | | | | |
| | FCL *D1B* | 1.3 | 1.014 | 22.4 | 7.3 | | | | |
| | FCL *D2* | 0.9 | 0.507 | 21.1 | 7.3 | 2.69 | 60.41 | 5.38 | |
| | CLA *D3* | 3.5 | 1.014 | 21.8 | 7.1 | | | (G) | |
| | *D4* | | | | | | | | |
| 23 | FCL *D1A* | 1.9 | 0.783 | 22.4 | 7.3 | | | | |
| | FCL *D1B* | 2.2 | 0.783 | 23.1 | 7.2 | | | | |
| | FCL *D2* | 0.7 | 0.391 | 22.0 | 7.3 | 3.52 | 83.09 | 7.05 | |
| | CLA *D3* | 3.1 | 0.783 | 22.5 | 7.3 | | | (G) | |
| | *D4* | | | | | | | | |
| 24 | FCL *D1A* | 1.1 | 0.959 | 24.6 | 7.3 | | | | |
| | FCL *D1B* | 0.9 | 0.959 | 24.2 | 7.2 | | | | |
| | FCL *D2* | 0.7 | 0.479 | 22.9 | 7.3 | 2.84 | 56.53 | 5.68 | |
| | CLA *D3* | 3.7 | 0.959 | 24.4 | 7.3 | | | (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* | 0.9 | 0.954 | 23.0 | 7.4 | | | | |
| | FCL *D1B* | 0.9 | 0.954 | 23.6 | 7.4 | | | | |
| | FCL *D2* | 0.7 | 0.477 | 22.4 | 7.3 | 2.51 | 51.72 | 5.02 | |
| | CLA *D3* | 3.6 | 0.954 | 22.8 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 26 | FCL *D1A* | 1.8 | 0.745 | 20.8 | 7.4 | | | | |
| | FCL *D1B* | 1.8 | 0.745 | 21.5 | 7.3 | | | | |
| | FCL *D2* | 1.7 | 0.372 | 21.4 | 7.4 | 5.07 | 138.40 | 10.15 | |
| | CLA *D3* | 3.7 | 0.745 | 21.3 | 7.4 | | | (G) | |
| | *D4* | | | | | | | | |
| 27 | FCL *D1A* | 2.1 | 0.786 | 21.9 | 7.3 | | | | |
| | FCL *D1B* | 2.0 | 0.786 | 22.2 | 7.4 | | | | |
| | FCL *D2* | 1.7 | 0.393 | 22.2 | 7.4 | 5.14 | 143.72 | 10.28 | |
| | CLA *D3* | 3.2 | 0.786 | 22.4 | 7.1 | | | (G) | |
| | *D4* | | | | | | | | |
| 28 | FCL *D1A* | 1.3 | 0.816 | 22.0 | 7.2 | | | | |
| | FCL *D1B* | 1.4 | 0.816 | 23.0 | 7.1 | | | | |
| | FCL *D2* | 1.0 | 0.408 | 23.0 | 7.0 | 3.72 | 83.94 | 7.44 | |
| | CLA *D3* | 2.5 | 0.816 | 23.0 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 29 | FCL *D1A* | 1.7 | 0.830 | 21.4 | 7.3 | | | | |
| | FCL *D1B* | 1.8 | 0.830 | 22.0 | 7.2 | | | | |
| | FCL *D2* | 1.7 | 0.415 | 23.4 | 7.2 | 5.11 | 134.55 | 10.22 | |
| | CLA *D3* | 3.4 | 0.830 | 22.1 | 7.2 | | | (G) | |
| | *D4* | | | | | | | | |
| 30 | FCL *D1A* | 1.4 | 0.848 | 23.1 | 7.3 | | | | |
| | FCL *D1B* | 1.6 | 0.848 | 22.9 | 7.3 | | | | |
| | FCL *D2* | 1.2 | 0.424 | 23.1 | 7.2 | 4.37 | 102.27 | 8.74 | |
| | CLA *D3* | 3.3 | 0.848 | 24.0 | 7.0 | | | (G) | |
| | *D4* | | | | | | | | |
| 31 | *D1A* | | | | | | | | |
| | *D1B* | | | | | | | | |
| | *D2* | | | | | | | | |
| | *D3* | | | | | | | | |
| | *D4* | | | | | | | | |
| | | | | | Max | 5.14 | 143.72 | 10.28 | |
| | | | | | Min | 1.58 | 26.99 | 3.17 | |
| | | | | | Avg | 3.54 | 83.25 | 7.08 | |
| | | | | | SD | 0.94 | 29.00 | 1.87 | |

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

SUBMITTED BY: Tomas Sanchez Jr. Certificate No. and Grade: WS0012772, B Date: May 10, 2018

# 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 Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID No.: 20831

Month: April

Year: 2018

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 | 4/4 | 120 | 3.54 | 2.82 | 20.3 | 25 | 0.81 | | | 0.81 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 16 | | | | | | | | | | |
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| 18 | | | | | | | | | | |
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| 20 | | | | | | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 26 | | | | | | | | | | |
| 27 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 29 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 31 | | | | | | | | | | |
| Avg | | 120.00 | 3.54 | 2.82 | 20.34 | | 0.81 | | | 0.81 |
| Max | | 120.00 | 3.54 | 2.82 | 20.34 | | 0.81 | | | 0.81 |
| Min | | 120.00 | 3.54 | 2.82 | 20.34 | | 0.81 | | | 0.81 |

## TOTAL ORGANIC CARBON (TOC) REMOVAL SUMMARY

| TOC Summary | | | | | Monthly Compliance Ratio |
|---|---|---|---|---|---|
| Raw Water Alkalinity | Raw Water TOC | Treated Water TOC | TOC % Removal | ACC # used | |
| 120 | 3.54 | 2.82 | 20.3 | NA | 0.81 |

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:

Certificate No. and Grade: WS0012772, B

Date: May 10, 2018

***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 Utility

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831 **Month:** April **Year:** 2018

## VALIDATED OPERATIONAL CONDITIONS

| VALIDATED PARAMETERS | | | | | | PERFORMANCE REQUIREMENTS | |
|---|---|---|---|---|---|---|---|
| | Reactor Number | | | | | | |
| Parameters | UVCD1 | UVCD2 | UVCD3 | UVCD4 | UVCD5 | Crypto Log Inactivation | Required UV Dose ($mJ/cm^2$) |
| 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 | X | X | X | X | X | X | X | 0.000 |
| | 2 | 0.592 | 1.129 | 85.40 | 28.35 | 1.00 | 28.35 | 0.000 | |
| | 3 | 0.382 | 0.764 | 85.40 | 45.53 | 1.00 | 45.53 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 2 | 1 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.525 | 1.115 | 86.20 | 0.00 | 1.00 | 0.00 | 0.004 | |
| | 3 | 0.342 | 0.729 | 86.20 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 3 | 1 | X | X | X | X | X | X | X | 0.50 |
| | 2 | 0.527 | 0.971 | 99.50 | 0.00 | 1.00 | 0.00 | 0.004 | |
| | 3 | 0.348 | 0.644 | 99.50 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 4 | 1 | X | X | X | X | X | X | X | 0.000 |
| | 2 | 0.467 | 1.051 | 98.70 | 31.24 | 1.00 | 31.24 | 0.000 | |
| | 3 | 0.311 | 0.673 | 98.70 | 50.68 | 1.00 | 50.68 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 5 | 1 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.378 | 0.974 | 88.50 | 32.57 | 1.00 | 32.57 | 0.000 | |
| | 3 | 0.367 | 0.959 | 88.50 | 0.00 | 1.00 | 0.00 | 0.004 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 6 | 1 | 0.487 | 1.118 | 86.90 | 0.00 | 1.00 | 0.00 | 0.005 | 0.75 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.472 | 1.073 | 86.90 | 0.00 | 1.00 | 0.00 | 0.004 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 7 | 1 | 0.495 | 1.138 | 95.90 | 29.27 | 1.00 | 29.27 | 0.000 | 0.000 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.482 | 1.111 | 95.60 | 32.46 | 1.00 | 32.46 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 8 | 1 | 0.467 | 0.941 | 91.50 | 15.63 | 1.00 | 15.63 | 0.000 | 0.000 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.454 | 0.908 | 91.50 | 37.49 | 1.00 | 37.49 | 0.000 | |
| | 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 | 0.443 | 0.938 | 87.10 | 34.14 | 1.00 | 34.14 | 0.000 | 0.75 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.437 | 0.910 | 87.10 | 0.00 | 1.00 | 0.00 | 0.012 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 10 | 1 | 0.394 | 0.888 | 86.50 | 0.00 | 1.00 | 0.00 | 0.007 | 0.25 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.383 | 0.854 | 86.50 | 0.00 | 1.00 | 0.00 | 0.007 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 11 | 1 | X | X | X | X | X | X | X | 0.75 |
| | 2 | 0.520 | 1.027 | 87.10 | 0.00 | 1.00 | 0.00 | 0.016 | |
| | 3 | 0.332 | 0.677 | 87.10 | 0.00 | 1.00 | 0.00 | 0.009 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 12 | 1 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.596 | 1.068 | 86.20 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 3 | 0.377 | 0.710 | 86.20 | 0.00 | 1.00 | 0.00 | 0.001 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 13 | 1 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.609 | 1.089 | 85.90 | 0.00 | 1.00 | 0.00 | 0.005 | |
| | 3 | 0.386 | 0.727 | 85.90 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 14 | 1 | X | X | X | X | X | X | X | 0.50 |
| | 2 | 0.597 | 1.500 | 84.90 | 0.00 | 1.00 | 0.00 | 0.017 | |
| | 3 | 0.378 | 1.029 | 84.90 | 0.00 | 1.00 | 0.00 | 0.011 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 15 | 1 | X | X | X | X | X | X | X | 0.000 |
| | 2 | 0.609 | 1.432 | 83.60 | 22.82 | 1.00 | 22.82 | 0.000 | |
| | 3 | 0.392 | 0.918 | 83.60 | 35.83 | 1.00 | 35.83 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 16 | 1 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.564 | 1.315 | 88.40 | 0.00 | 1.00 | 0.00 | 0.004 | |
| | 3 | 0.378 | 0.901 | 88.40 | 0.00 | 1.00 | 0.00 | 0.004 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |

**SUBMITTED BY:** Tomas Sanchez Jr.

**Certificate No. and Grade:** WS0012772, B **Date:** May 10, 2018

# 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 Utility

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831 **Month:** April **Year:** 2018

TRUE

## VALIDATED OPERATIONAL CONDITIONS

| VALIDATED PARAMETERS | | | | | | PERFORMANCE REQUIREMENTS | |
|---|---|---|---|---|---|---|---|
| | Reactor Number | | | | | | |
| Parameters | UVCD1 | UVCD2 | UVCD3 | UVCD4 | UVCD5 | Crypto Log Inactivation | Required UV Dose ($mJ/cm^2$) |
| 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 | X | X | X | X | X | X | X | 0.000 |
| | 2 | 0.571 | 1.429 | 83.30 | 22.82 | 1.00 | 22.82 | 0.000 | |
| | 3 | 0.373 | 0.933 | 83.30 | 36.31 | 1.00 | 36.31 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 18 | 1 | 0.470 | 1.087 | 84.00 | 2.63 | 1.00 | 2.63 | 0.000 | 0.000 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.454 | 1.147 | 84.00 | 28.74 | 1.00 | 28.74 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 19 | 1 | 0.436 | 0.948 | 84.60 | 33.15 | 1.00 | 33.15 | 0.000 | 0.000 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.422 | 0.918 | 84.60 | 36.49 | 1.00 | 36.49 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 20 | 1 | 0.492 | 0.953 | 98.10 | 0.00 | 1.00 | 0.00 | 0.001 | 0.25 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.475 | 0.914 | 98.10 | 37.00 | 1.00 | 37.00 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 21 | 1 | 0.466 | 0.948 | 85.40 | 25.27 | 1.00 | 25.27 | 0.000 | 0.000 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.450 | 0.914 | 85.40 | 37.68 | 1.00 | 37.68 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 22 | 1 | 0.445 | 0.893 | 100.00 | 32.02 | 1.00 | 32.02 | 0.000 | 0.000 |
| | 2 | X | X | X | X | X | X | X | |
| | 3 | 0.431 | 0.856 | 100.00 | 40.63 | 1.00 | 40.63 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 23 | 1 | X | X | X | X | X | X | X | 0.000 |
| | 2 | 0.440 | 0.886 | 85.50 | 36.40 | 1.00 | 36.40 | 0.000 | |
| | 3 | 0.287 | 0.576 | 85.50 | 57.30 | 1.00 | 57.30 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 24 | 1 | X | X | X | X | X | X | X | 0.000 |
| | 2 | 0.463 | 1.181 | 99.70 | 28.01 | 1.00 | 28.01 | 0.000 | |
| | 3 | 0.387 | 0.739 | 99.70 | 46.55 | 1.00 | 46.55 | 0.000 | |
| | 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 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.460 | 1.106 | 100.00 | 0.00 | 1.00 | 0.00 | 0.002 | |
| | 3 | 0.425 | 0.703 | 100.00 | 0.00 | 1.00 | 0.00 | 0.001 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 26 | 1 | X | X | X | X | X | X | X | 0.000 |
| | 2 | 0.438 | 0.901 | 100.00 | 35.59 | 1.00 | 35.59 | 0.000 | |
| | 3 | 0.294 | 0.585 | 100.00 | 57.46 | 1.00 | 57.46 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 27 | 1 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.450 | 1.026 | 100.00 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 3 | 0.322 | 0.782 | 100.00 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 28 | 1 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.493 | 1.350 | 100.00 | 0.00 | 1.00 | 0.00 | 0.005 | |
| | 3 | 0.326 | 0.877 | 100.00 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 29 | 1 | X | X | X | X | X | X | X | 0.000 |
| | 2 | 0.481 | 1.301 | 100.00 | 25.66 | 1.00 | 25.66 | 0.000 | |
| | 3 | 0.315 | 0.859 | 100.00 | 4.00 | 1.00 | 4.00 | 0.000 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 30 | 1 | X | X | X | X | X | X | X | 0.25 |
| | 2 | 0.513 | 0.998 | 100.00 | 0.00 | 1.00 | 0.00 | 0.002 | |
| | 3 | 0.339 | 0.678 | 100.00 | 0.00 | 1.00 | 0.00 | 0.001 | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 31 | 1 | | | | | | | | |
| | 2 | | | | | | | | |
| | 3 | | | | | | | | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |

**SUBMITTED BY:** Tomas Sanchez Jr.

**Certificate No. and Grade:** WS0012772, B **Date:** May 10, 2018

# 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 Utility

**PLANT NAME OR NUMBER:** Rio Bravo

**PWS ID No.:** 2400022 **Plant ID No.:** 20831 **Month:** April **Year:** 2018

## 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 | 28.35 | 4.00 | 0.18 | 1.00 | 1 to 3 | 9 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 2 | 0.00* | 1.00 | 0.00 | 1.00 | | 10 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 3 | 0.00* | 1.00 | 0.00 | 1.00 | | 11 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 4 | 31.24 | 4.00 | 0.27 | 1.00 | | 12 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 5 | 0.00* | 1.00 | 0.00 | 1.00 | | 13 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 6 | 0.00* | 1.00 | 0.00 | 1.00 | | 14 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 7 | 29.27 | 4.00 | 0.21 | 1.00 | | 15 | 22.82 | 4.00 | 0.01 | 1.00 |
| | 8 | 15.63 | 3.54 | 0.00 | 1.00 | | 16 | 0.00* | 1.00 | 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 | 22.82 | 4.00 | 0.01 | 1.00 | 1 to 3 | 25 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 18 | 2.63 | 1.33 | 0.00 | 1.00 | | 26 | 35.59 | 4.00 | 0.40 | 1.00 |
| | 19 | 33.15 | 4.00 | 0.33 | 1.00 | | 27 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 20 | 0.00* | 1.00 | 0.00 | 1.00 | | 28 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 21 | 25.27 | 4.00 | 0.09 | 1.00 | | 29 | 4.00 | 1.80 | 0.00 | 1.00 |
| | 22 | 32.02 | 4.00 | 0.30 | 1.00 | | 30 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 23 | 36.40 | 4.00 | 0.42 | 1.00 | | 31 | | | | 1.00 |
| | 24 | 28.01 | 4.00 | 0.17 | 1.00 | | | | | | |

| | | |
|---|---|---|
| Total volume of water treated by all CDA reactors: | 26.41 | MG |
| Total volume of off-spec water produced by all CDA reactors: | 0.15 | MG |
| Percentage of off-spec water produced by all CDA reactors: | 0.56 | % |
| Crypto Log-Inactivation Credit for treatment by CDA reactors: | 1.00 | log |

**Treated water pumpage and total production by all UV reactors differ by more than 15% on these days:** (April, 2018) 3, 4, 5, 6, 7, 9, 18, 19, 20, 21, 23, 24, 25, 26, 30,

**SUBMITTED BY:** Tomas Sanchez Jr.

**Certificate No. and Grade:** WS0012772, B **Date:** May 10, 2018

# 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 Utility

PLANT NAME OR NUMBER: Rio Bravo

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

Month: April Year: 2018

## 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 | 38 | 75.80 | 77.50 | 0.98 | NA | 1.00 |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1.00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 4/1/18 | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | 1.00 | 10 | | | | | | | |
| UVCD No. 2 | Previous Month's Sensor CF | 1 | 44 | 38 | 64.40 | 69.20 | 0.93 | NA | 1.00 |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1.00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 4/1/18 | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | 1.00 | 10 | | | | | | | |
| UVCD No. 3 | Previous Month's Sensor CF | 1 | 39 | 38 | 72.00 | 72.30 | 1.00 | NA | 1.00 |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1.00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 4/1/18 | 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: Tomas Sanchez Jr.

Certificate No. and Grade: WS0012772, B

Date: May 10, 2018

# 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 Utility

PLANT NAME OR NUMBER: Rio Bravo

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

Month: April Year: 2018

## 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: Tomas Sanchez Jr.

Certificate No. and Grade: WS0012772, B

Date: May 10, 2018

# 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 Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID 20831 Month: April Year: 2018

## CALIBRATION DATA

Benchtop UVT Analyzer Serial Number: 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 | 4/2/18 | 78713 | 98.60 | 90.40 | 8.20 | YES | NA |
| | 2 | 4/9/18 | 78713 | 98.50 | 96.10 | 2.40 | YES | NA |
| | 3 | 4/16/18 | 78713 | 98.80 | 94.90 | 3.90 | YES | NA |
| | 4 | 4/23/18 | 78713 | 100.00 | 91.30 | 8.70 | YES | NA |
| | 5 | 4/30/18 | 78713 | 100.00 | 92.50 | 7.50 | 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: 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 | | | | | | | |
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| | 5 | | | | | | | |
| UVT No. 19 | 1 | | | | | | | |
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| UVT No. 20 | 1 | | | | | | | |
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SUBMITTED BY: Tomas Sanchez Jr

Certificate No. and Grade: WS0012772, B

Date: May 10, 2018