# 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

**Report for the Month of:** September 2017

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. & Grade:** WS0012773, B

**Date:** October 10, 2017

## TREATMENT PLANT PERFORMANCE

| | | | |
|---|---|---|---|
| Total number of turbidity readings: | 96 | Number of 4-hour periods when plant was off-line: | 84 |
| Number of readings above 0.10 NTU: | 63 | 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: | 6.86 |
| | | Average log inactivation) (including UV) for viruses: | 95.59 |
| 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: | 6.48 |
| | | Number of days with pH below 7.0 in the last disinfection zone: | 27.00 |
| 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: | 42 (at least 30 required) (8) | | |
| Average disinfectant residual value: | 1.50 | 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: | 8.81 NTU | Average turbidity value: | 2.30 NTU |
| | Minimum turbidity reading: | 0.46 NTU | Standard deviation: | 1.859 NTU |
| | 95th percentile value: | 6.01 NTU | | |
| IFE Stastical Summary | Maximum IFE turbidity reading: | 0.00 NTU | Average IFE turbidity value: | 0.04 NTU |
| | Minimum IFEturbidity reading: | 0.36 NTU | Standard deviation: | 0.159 NTU |
| | 95th percentile IFE value: | 0.06 NTU | | |
| CFE Stastical Summary | Maximum CFE turbidity reading: | 0.17 NTU | Average CFE turbidity value: | 0.11 NTU |
| | Minimum CFE turbidity reading: | 0.05 NTU | Standard deviation: | 0.024 NTU |
| | 95th percentile CFE value: | 0.15 NTU | | |

## STATISTICAL ANALYSIS OF pH DATA

| | | | | |
|---|---|---|---|---|
| Last Zone pH Stastical Summary | Maximum pH reading: | 7.18 pH | Average pH value: | 6.72 pH |
| | Minimum pH reading: | 6.48 pH | Standard deviation: | 0.166 pH |
| | 95th percentile value: | 7.11 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:** 1,937

**Month:** September **Year:** 2017 **Population:** 6,780

## PERFORMANCE DATA

| Date | Raw Water Pumpage (MGD) | Treated Water Pumpage (MGD) | RAW WATER ANALYSES NTU | RAW WATER ANALYSES Alk. | SETTLED WATER TURBIDITY (Mandatory 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 | 1.122 | 0.779 | 19 | 140 | 4.1 | 7.9 | | | | | X | X | X | 0.09 | 0.08 | 0.08 | 2.0 | |
| 2 | 1.129 | 0.827 | 13 | 140 | 1.6 | 3.7 | | | | | X | X | X | 0.08 | 0.07 | 0.08 | 1.6 | |
| 3 | 1.140 | 0.803 | 16 | 160 | 1.0 | 8.8 | | | | | X | X | X | 0.07 | 0.08 | 0.09 | 1.2 | |
| 4 | 1.086 | 0.803 | 20 | 120 | 0.9 | 3.2 | | | | | 0.07 | 0.08 | 0.05 | 0.06 | 0.05 | 0.10 | 1.5 | |
| 5 | 0.991 | 0.659 | 20 | 120 | 2.0 | 5.0 | | | | | 0.09 | X | X | 0.11 | 0.09 | X | 1.4 | |
| 6 | 1.160 | 0.701 | 19 | 120 | 1.5 | 3.8 | | | | | X | X | X | 0.11 | 0.11 | 0.10 | 1.7 | |
| 7 | 0.761 | 0.690 | 13 | 120 | 2.4 | 1.5 | | | | | X | X | X | 0.11 | 0.10 | X | 1.8 | |
| 8 | 1.145 | 0.760 | 37 | 120 | 2.0 | 0.7 | | | | | X | X | X | 0.11 | 0.12 | 0.13 | 1.2 | |
| 9 | 1.085 | 0.762 | 28 | 120 | 2.2 | 4.8 | | | | | X | X | 0.15 | 0.16 | 0.15 | X | 1.3 | |
| 10 | 1.072 | 0.797 | 27 | 120 | 1.7 | 5.2 | | | | | X | X | 0.16 | 0.14 | 0.14 | 0.16 | 1.8 | |
| 11 | 1.153 | 0.961 | 43 | 120 | 2.4 | 2.9 | | | | | X | X | 0.13 | 0.12 | 0.11 | X | 1.7 | |
| 12 | 1.120 | 0.759 | 34 | 120 | 1.6 | 1.5 | | | | | X | X | X | 0.12 | 0.12 | 0.12 | 1.2 | |
| 13 | 1.044 | 0.820 | 18 | 120 | 1.4 | 1.7 | | | | | X | X | X | 0.14 | 0.14 | 0.12 | 1.7 | |
| 14 | 1.060 | 0.781 | 22 | 120 | 1.2 | 1.8 | | | | | 0.12 | X | X | 0.12 | 0.11 | 0.14 | 1.6 | |
| 15 | 1.218 | 0.779 | 23 | 120 | 1.1 | 2.0 | | | | | 0.13 | X | X | 0.13 | 0.17 | 0.14 | 1.3 | |
| 16 | 1.194 | 0.803 | 20 | 120 | 1.3 | 1.7 | | | | | 0.13 | X | X | 0.14 | 0.13 | 0.12 | 1.4 | |
| 17 | 1.141 | 0.785 | 16 | 120 | 2.3 | 5.4 | | | | | 0.12 | X | X | 0.13 | 0.12 | 0.11 | 1.3 | |
| 18 | 1.375 | 0.876 | 15 | 120 | 5.9 | 7.5 | | | | | 0.10 | X | X | 0.09 | 0.08 | 0.09 | 1.6 | |
| 19 | 1.223 | 0.825 | 16 | 120 | 3.3 | 3.6 | | | | | X | X | X | 0.09 | 0.10 | 0.10 | 1.9 | |
| 20 | 1.135 | 0.818 | 11 | 120 | 1.9 | 2.2 | | | | | X | X | X | 0.11 | 0.11 | 0.11 | 1.8 | |
| 21 | 1.034 | 0.742 | 21 | 120 | 0.9 | 2.0 | | | | | X | X | X | 0.09 | 0.08 | 0.09 | 2.2 | |
| 22 | 1.057 | 0.681 | 14 | 120 | 0.7 | 1.8 | | | | | X | X | X | 0.11 | 0.11 | 0.10 | 2.1 | |
| 23 | 1.395 | 0.770 | 15 | 120 | 0.7 | 1.6 | | | | | X | X | X | 0.12 | 0.12 | 0.13 | 1.4 | |
| 24 | 1.088 | 0.755 | 23 | 120 | 1.0 | 1.0 | | | | | X | X | X | 0.12 | 0.13 | 0.13 | 2.4 | |
| 25 | 0.668 | 0.837 | 24 | 140 | 1.1 | 1.8 | | | | | X | X | X | 0.13 | 0.14 | 0.15 | 2.3 | |
| 26 | 1.193 | 0.461 | 17 | 160 | 1.1 | 1.5 | | | | | X | X | X | 0.14 | 0.13 | X | 2.2 | |
| 27 | 0.831 | 0.555 | 27 | 140 | 0.6 | 0.9 | | | | | 0.14 | X | X | X | 0.12 | 0.11 | 0.6 | |
| 28 | 0.765 | 0.548 | 33 | 140 | 0.5 | 1.2 | | | | | X | X | X | X | 0.11 | 0.11 | 1.6 | |
| 29 | 0.864 | 0.585 | 31 | 160 | 0.5 | 1.0 | | | | | X | X | X | 0.10 | 0.10 | 0.11 | 2.5 | |
| 30 | 0.856 | 0.613 | 28 | 120 | 0.5 | 0.9 | | | | | X | X | X | 0.11 | 0.11 | 0.10 | 2.9 | |
| 31 | | | | | | | | | | | | | | | | | | |
| Total | 32.105 | 22.335 | | Max | 5.9 | 8.8 | | | | | | | | | | | | |
| Avg | 1.070 | 0.745 | | Avg | 1.6 | 3.0 | | | | | | | | | | | | |
| Max | 1.395 | 0.961 | | 95th % | 3.8 | 7.7 | | | | | | | | | | | | |
| Min | 0.668 | 0.461 | | Min | 0.5 | 0.7 | | | | | | | | | | | | |
| | | | | 95th percentile based on data from all basins | | | | | | 6.0 | | | | | | | | |

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:** October 10, 2017

# 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: September Year: 2017

## 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 | 0.12 | | 0.10 | | 0.11 | | 0.14 | | | | | | | | | | | | | |
| 2 | 0.19 | | 0.06 | | 0.14 | | 0.14 | | | | | | | | | | | | | |
| 3 | 0.18 | | 0.04 | | 0.10 | | 0.16 | | | | | | | | | | | | | |
| 4 | 0.12 | | 0.25 | | 0.14 | | 0.12 | | | | | | | | | | | | | |
| 5 | 0.12 | | 0.15 | | 0.23 | | 0.14 | | | | | | | | | | | | | |
| 6 | 0.16 | | 0.15 | | 0.29 | | 0.19 | | | | | | | | | | | | | |
| 7 | 0.14 | | 0.13 | | 0.22 | | 0.17 | | | | | | | | | | | | | |
| 8 | 0.14 | | 0.07 | | 0.21 | | 0.18 | | | | | | | | | | | | | |
| 9 | 0.14 | | 0.16 | | 0.20 | | 0.27 | | | | | | | | | | | | | |
| 10 | 0.14 | | 0.14 | | 0.21 | | 0.26 | | | | | | | | | | | | | |
| 11 | 0.14 | | 0.09 | | 0.22 | | 0.27 | | | | | | | | | | | | | |
| 12 | 0.14 | | 0.14 | | 0.17 | | 0.23 | | | | | | | | | | | | | |
| 13 | 0.12 | | 0.21 | | 0.19 | | 0.18 | | | | | | | | | | | | | |
| 14 | 0.26 | | 0.10 | | 0.22 | | 0.25 | | | | | | | | | | | | | |
| 15 | 0.14 | | 0.16 | | 0.22 | | 0.29 | | | | | | | | | | | | | |
| 16 | 0.13 | | 0.14 | | 0.21 | | 0.23 | | | | | | | | | | | | | |
| 17 | 0.14 | | 0.07 | | 0.36 | | 0.20 | | | | | | | | | | | | | |
| 18 | 0.09 | | 0.11 | | 0.13 | | 0.13 | | | | | | | | | | | | | |
| 19 | 0.12 | | 0.14 | | 0.16 | | 0.18 | | | | | | | | | | | | | |
| 20 | 0.10 | | 0.13 | | 0.16 | | 0.14 | | | | | | | | | | | | | |
| 21 | 0.06 | | 0.10 | | 0.13 | | 0.10 | | | | | | | | | | | | | |
| 22 | 0.20 | | 0.10 | | 0.18 | | 0.17 | | | | | | | | | | | | | |
| 23 | 0.11 | | 0.13 | | 0.15 | | 0.21 | | | | | | | | | | | | | |
| 24 | 0.09 | | 0.12 | | 0.18 | | 0.23 | | | | | | | | | | | | | |
| 25 | 0.19 | | 0.14 | | 0.24 | | 0.23 | | | | | | | | | | | | | |
| 26 | 0.17 | | 0.15 | | 0.16 | | 0.18 | | | | | | | | | | | | | |
| 27 | 0.13 | | 0.11 | | 0.15 | | 0.22 | | | | | | | | | | | | | |
| 28 | 0.12 | | 0.08 | | 0.21 | | 0.14 | | | | | | | | | | | | | |
| 29 | 0.12 | | 0.06 | | 0.16 | | 0.18 | | | | | | | | | | | | | |
| 30 | 0.12 | | 0.06 | | 0.16 | | 0.18 | | | | | | | | | | | | | |
| 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: October 10, 2017

# 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:** September **Year:** 2017

## 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 | 1.0 | 0.948 | 25.2 | 6.8 | | | | |
| | FCL D1B | 0.8 | 0.948 | 25.6 | 6.7 | | | | |
| | FCL D2 | 0.6 | 0.474 | 25.3 | 6.7 | 3.20 | 53.82 | 6.40 | |
| | CLA D3 | 3.6 | 0.948 | 27.6 | 6.7 | | | (G) | |
| | D4 | | | | | | | | |
| 2 | FCL D1A | 1.8 | 0.913 | 25.3 | 6.6 | | | | |
| | FCL D1B | 1.4 | 0.913 | 25.1 | 6.6 | | | | |
| | FCL D2 | 0.7 | 0.456 | 24.8 | 6.7 | 3.92 | 76.48 | 7.85 | |
| | CLA D3 | 2.5 | 0.913 | 26.2 | 6.5 | | | (G) | |
| | D4 | | | | | | | | |
| 3 | FCL D1A | 1.7 | 0.885 | 25.0 | 6.6 | | | | |
| | FCL D1B | 1.6 | 0.888 | 24.4 | 6.7 | | | | |
| | FCL D2 | 1.1 | 0.442 | 24.7 | 6.7 | 5.20 | 106.95 | 10.40 | |
| | CLA D3 | 3.1 | 0.885 | 26.9 | 6.7 | | | (G) | |
| | D4 | | | | | | | | |
| 4 | FCL D1A | 1.5 | 0.882 | 28.5 | 6.6 | | | | |
| | FCL D1B | 1.5 | 0.882 | 28.4 | 6.6 | | | | |
| | FCL D2 | 0.9 | 0.441 | 27.9 | 6.6 | 5.91 | 117.17 | 11.82 | |
| | CLA D3 | 3.3 | 0.882 | 30.0 | 6.5 | | | (G) | |
| | D4 | | | | | | | | |
| 5 | FCL D1A | 1.7 | 0.886 | 26.5 | 6.8 | | | | |
| | FCL D1B | 1.7 | 0.886 | 25.9 | 6.7 | | | | |
| | FCL D2 | 1.4 | 0.443 | 26.8 | 6.9 | 6.24 | 138.33 | 12.49 | |
| | CLA D3 | 3.3 | 0.886 | 26.4 | 6.7 | | | (G) | |
| | D4 | | | | | | | | |
| 6 | FCL D1A | 1.6 | 0.925 | 25.8 | 6.9 | | | | |
| | FCL D1B | 1.5 | 0.925 | 24.8 | 6.7 | | | | |
| | FCL D2 | 1.1 | 0.462 | 25.5 | 6.8 | 4.88 | 101.11 | 9.76 | |
| | CLA D3 | 3.1 | 0.925 | 25.4 | 6.7 | | | (G) | |
| | D4 | | | | | | | | |
| 7 | FCL D1A | 1.3 | 0.950 | 24.1 | 6.8 | | | | |
| | FCL D1B | 1.3 | 0.950 | 23.7 | 6.7 | | | | |
| | FCL D2 | 1.0 | 0.475 | 24.3 | 6.8 | 3.89 | 81.80 | 7.79 | |
| | CLA D3 | 2.1 | 0.950 | 25.4 | 6.7 | | | (G) | |
| | D4 | | | | | | | | |
| 8 | FCL D1A | 1.2 | 0.955 | 25.8 | 6.7 | | | | |
| | FCL D1B | 1.1 | 0.955 | 25.6 | 6.6 | | | | |
| | FCL D2 | 1.1 | 0.477 | 25.4 | 6.7 | 4.60 | 90.73 | 9.19 | |
| | CLA D3 | 3.0 | 0.955 | 28.0 | 6.7 | | | (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 | 1.0 | 0.956 | 25.8 | 6.7 | | | | |
| | FCL D1B | 0.8 | 0.956 | 25.5 | 6.7 | | | | |
| | FCL D2 | 0.8 | 0.478 | 25.8 | 6.9 | 3.59 | 69.42 | 7.19 | |
| | CLA D3 | 3.0 | 0.956 | 27.3 | 6.8 | | | (G) | |
| | D4 | | | | | | | | |
| 10 | FCL D1A | 1.7 | 0.972 | 25.3 | 6.8 | | | | |
| | FCL D1B | 1.6 | 0.972 | 25.0 | 6.2 | | | | |
| | FCL D2 | 1.6 | 0.486 | 23.9 | 6.8 | 5.39 | 118.17 | 10.79 | |
| | CLA D3 | 3.0 | 0.972 | 26.5 | 6.7 | | | (G) | |
| | D4 | | | | | | | | |
| 11 | FCL D1A | 0.9 | 1.003 | 24.1 | 6.9 | | | | |
| | FCL D1B | 0.7 | 1.003 | 24.2 | 6.8 | | | | |
| | FCL D2 | 1.1 | 0.501 | 25.2 | 6.9 | 3.79 | 77.33 | 7.58 | |
| | CLA D3 | 3.2 | 1.003 | 24.6 | 6.8 | | | (G) | |
| | D4 | | | | | | | | |
| 12 | FCL D1A | 1.6 | 0.973 | 25.6 | 7.3 | | | | |
| | FCL D1B | 1.4 | 0.973 | 24.0 | 7.3 | | | | |
| | FCL D2 | 1.3 | 0.486 | 25.1 | 6.5 | 4.68 | 100.43 | 9.35 | |
| | CLA D3 | 2.0 | 0.973 | 25.1 | 7.2 | | | (G) | |
| | D4 | | | | | | | | |
| 13 | FCL D1A | 1.7 | 0.933 | 26.8 | 7.2 | | | | |
| | FCL D1B | 1.6 | 0.933 | 24.5 | 7.3 | | | | |
| | FCL D2 | 1.3 | 0.466 | 24.2 | 6.6 | 4.95 | 110.51 | 9.90 | |
| | CLA D3 | 2.4 | 0.933 | 27.8 | 7.2 | | | (G) | |
| | D4 | | | | | | | | |
| 14 | FCL D1A | 1.0 | 0.902 | 24.8 | 6.7 | | | | |
| | FCL D1B | 1.1 | 0.902 | 25.6 | 7.0 | | | | |
| | FCL D2 | 1.4 | 0.451 | 26.0 | 7.1 | 5.39 | 117.63 | 10.78 | |
| | CLA D3 | 4.0 | 0.902 | 26.1 | 6.7 | | | (G) | |
| | D4 | | | | | | | | |
| 15 | FCL D1A | 1.2 | 0.907 | 25.3 | 6.8 | | | | |
| | FCL D1B | 1.2 | 0.907 | 26.0 | 6.9 | | | | |
| | FCL D2 | 1.1 | 0.453 | 26.2 | 6.9 | 5.29 | 105.00 | 10.59 | |
| | CLA D3 | 4.7 | 0.907 | 26.5 | 6.8 | | | (G) | |
| | D4 | | | | | | | | |
| 16 | FCL D1A | 1.7 | 0.920 | 26.8 | 7.1 | | | | |
| | FCL D1B | 1.8 | 0.920 | 25.7 | 7.1 | | | | |
| | FCL D2 | 1.3 | 0.460 | 26.1 | 7.2 | 4.95 | 125.54 | 9.90 | |
| | CLA D3 | 2.6 | 0.920 | 25.9 | 7.1 | | | (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:** October 10, 2017

# 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: September Year: 2017

## 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* | 0.8 | 0.936 | 25.9 | 6.8 | | | | |
| | FCL *D1B* | 1.0 | 0.936 | 26.4 | 6.8 | | | | |
| | FCL *D2* | 1.1 | 0.468 | 26.3 | 6.9 | 4.64 | 93.24 | 9.28 | |
| | CLA *D3* | 4.0 | 0.936 | 27.1 | 6.8 | | | (G) | |
| | *D4* | | | | | | | | |
| 18 | FCL *D1A* | 0.7 | 0.956 | 25.4 | 6.5 | | | | |
| | FCL *D1B* | 0.8 | 0.956 | 26.1 | 6.6 | | | | |
| | FCL *D2* | 0.8 | 0.478 | 26.2 | 6.8 | 3.71 | 65.61 | 7.42 | |
| | CLA *D3* | 3.8 | 0.956 | 26.6 | 6.5 | | | (G) | |
| | *D4* | | | | | | | | |
| 19 | FCL *D1A* | 1.2 | 0.979 | 30.0 | 6.9 | | | | |
| | FCL *D1B* | 1.5 | 0.979 | 28.3 | 6.9 | | | | |
| | FCL *D2* | 0.8 | 0.489 | 27.3 | 6.8 | 4.34 | 91.17 | 8.68 | |
| | CLA *D3* | 3.5 | 0.979 | 21.7 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 20 | FCL *D1A* | 1.5 | 0.994 | 28.6 | 6.9 | | | | |
| | FCL *D1B* | 1.9 | 0.994 | 27.6 | 6.9 | | | | |
| | FCL *D2* | 1.2 | 0.497 | 27.0 | 7.0 | 5.25 | 121.41 | 10.51 | |
| | CLA *D3* | 3.1 | 0.994 | 29.5 | 6.7 | | | (G) | |
| | *D4* | | | | | | | | |
| 21 | FCL *D1A* | 1.2 | 0.902 | 27.7 | 6.8 | | | | |
| | FCL *D1B* | 1.4 | 0.902 | 27.5 | 6.8 | | | | |
| | FCL *D2* | 0.6 | 0.451 | 27.4 | 6.7 | 3.87 | 77.23 | 7.74 | |
| | CLA *D3* | 2.2 | 0.902 | 27.5 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 22 | FCL *D1A* | 1.0 | 0.921 | 29.3 | 6.9 | | | | |
| | FCL *D1B* | 1.4 | 0.921 | 28.5 | 6.9 | | | | |
| | FCL *D2* | 1.1 | 0.460 | 28.1 | 6.9 | 5.20 | 111.11 | 10.40 | |
| | CLA *D3* | 3.5 | 0.921 | 30.2 | 6.7 | | | (G) | |
| | *D4* | | | | | | | | |
| 23 | FCL *D1A* | 0.7 | 0.947 | 26.3 | 6.6 | | | | |
| | FCL *D1B* | 0.7 | 0.947 | 26.2 | 6.6 | | | | |
| | FCL *D2* | 0.6 | 0.473 | 26.5 | 6.9 | 3.38 | 56.56 | 6.76 | |
| | CLA *D3* | 4.1 | 0.947 | 27.5 | 6.7 | | | (G) | |
| | *D4* | | | | | | | | |
| 24 | FCL *D1A* | 1.0 | 0.948 | 28.3 | 6.9 | | | | |
| | FCL *D1B* | 1.4 | 0.948 | 27.7 | 6.9 | | | | |
| | FCL *D2* | 1.0 | 0.474 | 26.9 | 6.8 | 4.64 | 93.71 | 9.28 | |
| | CLA *D3* | 3.5 | 0.948 | 29.9 | 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* | 0.7 | 0.945 | 26.3 | 6.8 | | | | |
| | FCL *D1B* | 0.9 | 0.945 | 26.9 | 6.8 | | | | |
| | FCL *D2* | 0.9 | 0.472 | 27.7 | 6.8 | 4.12 | 82.50 | 8.23 | |
| | CLA *D3* | 2.8 | 0.945 | 29.6 | 6.7 | | | (G) | |
| | *D4* | | | | | | | | |
| 26 | FCL *D1A* | 0.7 | 0.988 | 26.4 | 6.9 | | | | |
| | FCL *D1B* | 0.9 | 0.988 | 26.3 | 6.8 | | | | |
| | FCL *D2* | 0.9 | 0.494 | 26.8 | 6.8 | 3.88 | 75.37 | 7.77 | |
| | CLA *D3* | 3.5 | 0.988 | 26.9 | 6.7 | | | (G) | |
| | *D4* | | | | | | | | |
| 27 | FCL *D1A* | 1.2 | 0.847 | 25.1 | 6.8 | | | | |
| | FCL *D1B* | 1.4 | 0.847 | 25.2 | 6.9 | | | | |
| | FCL *D2* | 1.1 | 0.423 | 25.4 | 6.8 | 4.36 | 102.71 | 8.71 | |
| | CLA *D3* | 0.7 | 0.847 | 26.5 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 28 | FCL *D1A* | 1.0 | 0.788 | 25.0 | 6.7 | | | | |
| | FCL *D1B* | 1.1 | 0.788 | 25.4 | 6.7 | | | | |
| | FCL *D2* | 1.3 | 0.394 | 24.4 | 6.7 | 5.95 | 115.55 | 11.90 | |
| | CLA *D3* | 4.0 | 0.788 | 26.2 | 6.7 | | | (G) | |
| | *D4* | | | | | | | | |
| 29 | FCL *D1A* | 0.7 | 0.770 | 25.7 | 6.6 | | | | |
| | FCL *D1B* | 0.9 | 0.770 | 25.6 | 6.6 | | | | |
| | FCL *D2* | 0.9 | 0.385 | 25.4 | 6.7 | 4.82 | 88.57 | 9.64 | |
| | CLA *D3* | 3.2 | 0.770 | 25.9 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 30 | FCL *D1A* | 0.8 | 0.749 | 25.3 | 6.6 | | | | |
| | FCL *D1B* | 0.9 | 0.749 | 25.5 | 6.6 | | | | |
| | FCL *D2* | 1.0 | 0.374 | 25.8 | 6.7 | 5.32 | 101.05 | 10.64 | |
| | CLA *D3* | 3.2 | 0.749 | 27.6 | 6.6 | | | (G) | |
| | *D4* | | | | | | | | |
| 31 | *D1A* | | | | | | | | |
| | *D1B* | | | | | | | | |
| | *D2* | | | | | | | | |
| | *D3* | | | | | | | | |
| | *D4* | | | | | | | | |
| | | | | | Max | 6.24 | 138.33 | 12.49 | |
| | | | | | Min | 3.20 | 53.82 | 6.40 | |
| | | | | | Avg | 4.65 | 95.54 | 9.29 | |
| | | | | | SD | 0.78 | 20.68 | 1.56 | |

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: October 10, 2017

# 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: September

Year: 2017

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 | 9/14 | 120 | 3.21 | 2.20 | 31.5 | 25 | 1.26 | | | 1.26 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
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| 24 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 26 | | | | | | | | | | |
| 27 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 29 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 31 | | | | | | | | | | |
| Avg | | 120.00 | 3.21 | 2.20 | 31.46 | | 1.26 | | | 1.26 |
| Max | | 120.00 | 3.21 | 2.20 | 31.46 | | 1.26 | | | 1.26 |
| Min | | 120.00 | 3.21 | 2.20 | 31.46 | | 1.26 | | | 1.26 |

## 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 | 3.21 | 2.20 | 31.5 | NA | 1.26 |

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: October 10, 2017

***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:** September **Year:** 2017

## 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 | 0.420 | 1.010 | 85.90 | 0.00 | 1.00 | 0.00 | 0.001 | 0.25 |
| | 2 | 0.571 | 1.319 | 85.90 | 0.00 | 1.00 | 0.00 | 0.001 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 2 | 1 | 0.418 | 0.816 | 92.40 | 31.41 | 1.00 | 31.41 | 0.000 | 0.000 |
| | 2 | 0.647 | 1.201 | 92.40 | 28.07 | 1.00 | 28.07 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 3 | 1 | 0.432 | 0.758 | 92.30 | 0.00 | 1.00 | 0.00 | 0.003 | 0.50 |
| | 2 | 0.636 | 1.099 | 92.30 | 0.00 | 1.00 | 0.00 | 0.002 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 4 | 1 | 0.400 | 0.777 | 93.30 | 34.57 | 1.00 | 34.57 | 0.000 | 0.25 |
| | 2 | 0.610 | 1.201 | 93.30 | 0.00 | 1.00 | 0.00 | 0.001 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 5 | 1 | 0.350 | 0.873 | 93.60 | 31.01 | 1.00 | 31.01 | 0.000 | 0.000 |
| | 2 | 0.469 | 1.223 | 93.60 | 26.42 | 1.00 | 26.42 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 6 | 1 | 0.429 | 1.089 | 93.80 | 24.28 | 1.00 | 24.28 | 0.000 | 0.000 |
| | 2 | 0.600 | 1.424 | 93.80 | 15.52 | 1.00 | 15.52 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 7 | 1 | 0.291 | 0.836 | 91.00 | 31.15 | 1.00 | 31.15 | 0.000 | 0.000 |
| | 2 | 0.406 | 1.163 | 91.00 | 25.80 | 1.00 | 25.80 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 8 | 1 | 0.425 | 0.883 | 92.90 | 30.14 | 1.00 | 30.14 | 0.000 | 0.000 |
| | 2 | 0.606 | 1.238 | 92.90 | 25.94 | 1.00 | 25.94 | 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 | 0.389 | 0.881 | 93.40 | 28.91 | 1.00 | 28.91 | 0.000 | 0.25 |
| | 2 | 0.563 | 1.260 | 93.40 | 0.00 | 1.00 | 0.00 | 0.011 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 10 | 1 | 0.402 | 0.812 | 93.70 | 31.16 | 1.00 | 31.16 | 0.000 | 0.000 |
| | 2 | 0.577 | 1.161 | 93.70 | 26.93 | 1.00 | 26.93 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 11 | 1 | 0.417 | 1.185 | 93.30 | 22.69 | 1.00 | 22.69 | 0.000 | 0.000 |
| | 2 | 0.599 | 1.500 | 93.30 | 18.20 | 1.00 | 18.20 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 12 | 1 | 0.407 | 0.778 | 93.60 | 0.00 | 1.00 | 0.00 | 0.002 | 0.25 |
| | 2 | 0.583 | 1.097 | 93.60 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 13 | 1 | 0.397 | 0.748 | 93.30 | 33.48 | 1.00 | 33.48 | 0.000 | 0.000 |
| | 2 | 0.568 | 1.045 | 93.30 | 29.71 | 1.00 | 29.71 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 14 | 1 | 0.377 | 0.704 | 94.30 | 0.00 | 1.00 | 0.00 | 0.005 | 0.25 |
| | 2 | 0.537 | 0.999 | 94.30 | 0.00 | 1.00 | 0.00 | 0.006 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 15 | 1 | 0.422 | 1.060 | 94.10 | 24.79 | 1.00 | 24.79 | 0.000 | 0.000 |
| | 2 | 0.607 | 1.238 | 94.10 | 2.66 | 1.00 | 2.66 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 16 | 1 | 0.393 | 0.814 | 94.00 | 32.37 | 1.00 | 32.37 | 0.000 | 0.25 |
| | 2 | 0.563 | 1.178 | 94.00 | 0.00 | 1.00 | 0.00 | 0.009 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |

**SUBMITTED BY:** Tomas Sanchez Jr.

**Certificate No. and Grade:** WS0012772, B **Date:** October 10, 2017

# 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:** September **Year:** 2017

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) |
|---|---|---|---|---|---|---|---|---|---|
| 17 | 1 | 0.424 | 0.741 | 89.10 | 0.00 | 1.00 | 0.00 | 0.001 | 0.25 |
| | 2 | 0.602 | 1.059 | 89.10 | 30.29 | 1.00 | 30.29 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 18 | 1 | 0.480 | 0.898 | 92.70 | 0.00 | 1.00 | 0.00 | 0.001 | 0.25 |
| | 2 | 0.681 | 1.160 | 92.70 | 22.91 | 1.00 | 22.91 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 19 | 1 | 0.439 | 0.836 | 93.40 | 0.00 | 1.00 | 0.00 | 0.002 | 0.25 |
| | 2 | 0.629 | 1.179 | 93.40 | 0.00 | 1.00 | 0.00 | 0.002 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 20 | 1 | 0.424 | 0.889 | 94.90 | 0.00 | 1.00 | 0.00 | 0.001 | 0.25 |
| | 2 | 0.606 | 1.247 | 94.90 | 0.00 | 1.00 | 0.00 | 0.001 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 21 | 1 | 0.392 | 0.819 | 95.50 | 0.00 | 1.00 | 0.00 | 0.003 | 0.50 |
| | 2 | 0.556 | 1.139 | 95.50 | 0.00 | 1.00 | 0.00 | 0.002 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 22 | 1 | 0.376 | 0.854 | 94.90 | 0.00 | 1.00 | 0.00 | 0.007 | 0.50 |
| | 2 | 0.535 | 1.197 | 94.90 | 0.00 | 1.00 | 0.00 | 0.009 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 23 | 1 | 0.384 | 0.889 | 94.90 | 0.00 | 1.00 | 0.00 | 0.001 | 0.25 |
| | 2 | 0.555 | 1.294 | 94.90 | 6.99 | 1.00 | 6.99 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 24 | 1 | 0.399 | 0.796 | 94.70 | 0.00 | 1.00 | 0.00 | 0.003 | 0.25 |
| | 2 | 0.575 | 1.144 | 94.70 | 0.00 | 1.00 | 0.00 | 0.003 | |
| | 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) |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 1 | 0.378 | 0.828 | 94.60 | 0.00 | 1.00 | 0.00 | 0.005 | 0.25 |
| | 2 | 0.534 | 1.145 | 94.60 | 0.00 | 1.00 | 0.00 | 0.006 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 26 | 1 | 0.270 | 0.966 | 94.90 | 29.22 | 1.00 | 29.22 | 0.000 | 0.000 |
| | 2 | 0.384 | 1.362 | 94.90 | 25.48 | 1.00 | 25.48 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 27 | 1 | 0.342 | 0.814 | 96.30 | 37.28 | 1.00 | 37.28 | 0.000 | 0.000 |
| | 2 | 0.481 | 1.128 | 96.30 | 23.13 | 1.00 | 23.13 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 28 | 1 | 0.288 | 0.772 | 96.70 | 39.20 | 1.00 | 39.20 | 0.000 | 0.000 |
| | 2 | 0.404 | 1.111 | 96.70 | 13.18 | 1.00 | 13.18 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 29 | 1 | 0.322 | 0.729 | 89.50 | 42.24 | 1.00 | 42.24 | 0.000 | 0.000 |
| | 2 | 0.451 | 1.012 | 89.50 | 7.43 | 1.00 | 7.43 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 30 | 1 | 0.319 | 0.789 | 96.80 | 40.74 | 1.00 | 40.74 | 0.000 | 0.000 |
| | 2 | 0.444 | 1.096 | 96.80 | 35.37 | 1.00 | 35.37 | 0.000 | |
| | 3 | X | X | X | X | X | X | X | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |
| 31 | 1 | | | | | | | | |
| | 2 | | | | | | | | |
| | 3 | | | | | | | | |
| | 4 | | | | | | | | |
| | 5 | | | | | | | | |

**SUBMITTED BY:** Tomas Sanchez Jr.

**Certificate No. and Grade:** WS0012772, B **Date:** October 10, 2017

# 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:** September **Year:** 2017

## 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 | 0.00* | 1.00 | 0.00 | 1.00 | 1 to 3 | 9 | 0.00 | 1.00 | 0.00 | 1.00 |
| | 2 | 28.07 | 4.00 | 0.17 | 1.00 | | 10 | 26.93 | 4.00 | 0.14 | 1.00 |
| | 3 | 0.00* | 1.00 | 0.00 | 1.00 | | 11 | 18.20 | 3.73 | 0.00 | 1.00 |
| | 4 | 0.00 | 1.00 | 0.00 | 1.00 | | 12 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 5 | 26.42 | 4.00 | 0.12 | 1.00 | | 13 | 29.71 | 4.00 | 0.23 | 1.00 |
| | 6 | 15.52 | 3.54 | 0.00 | 1.00 | | 14 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 7 | 25.80 | 4.00 | 0.10 | 1.00 | | 15 | 2.66 | 1.34 | 0.00 | 1.00 |
| | 8 | 25.94 | 4.00 | 0.11 | 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 | 0.00 | 1.00 | 0.00 | 1.00 | 1 to 3 | 25 | 0.00* | 1.00 | 0.00 | 1.00 |
| | 18 | 0.00 | 1.00 | 0.00 | 1.00 | | 26 | 25.48 | 4.00 | 0.09 | 1.00 |
| | 19 | 0.00* | 1.00 | 0.00 | 1.00 | | 27 | 23.13 | 4.00 | 0.02 | 1.00 |
| | 20 | 0.00* | 1.00 | 0.00 | 1.00 | | 28 | 13.18 | 3.27 | 0.00 | 1.00 |
| | 21 | 0.00* | 1.00 | 0.00 | 1.00 | | 29 | 7.43 | 2.45 | 0.00 | 1.00 |
| | 22 | 0.00* | 1.00 | 0.00 | 1.00 | | 30 | 35.37 | 4.00 | 0.39 | 1.00 |
| | 23 | 0.00 | 1.00 | 0.00 | 1.00 | | 31 | | | | 1.00 |
| | 24 | 0.00* | 1.00 | 0.00 | 1.00 | | | | | | |

| | | |
|---|---|---|
| Total volume of water treated by all CDA reactors: | 28.19 | MG |
| Total volume of off-spec water produced by all CDA reactors: | 0.09 | MG |
| Percentage of off-spec water produced by all CDA reactors: | 0.32 | % |
| 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:** 5, 15, 16, 18, 23, 25, 26,

**SUBMITTED BY:** Tomas Sanchez Jr

**Certificate No. and Grade:** WS0012772, B **Date:** October 10, 2017

# 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:** September **Year:** 2017

## 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 | 44 | 92 | 64.30 | 63.90 | 1.01 | NA | 1.00 |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1.00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 9/1/17 | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | 1.00 | 10 | | | | | | | |
| UVCD No. 2 | Previous Month's Sensor CF | 1 | 40 | 92 | 80.60 | 81.30 | 0.99 | NA | 1.00 |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1.00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 9/1/17 | 7 | | | | | | | |
| | New Sensor CF | 8 | | | | | | | |
| | | 9 | | | | | | | |
| | 1.00 | 10 | | | | | | | |
| UVCD No. 3 | Previous Month's Sensor CF | 1 | 0 | 0 | ND | ND | nd | | off-line |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | 1.00 | 4 | | | | | | | |
| | Calibration Date | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | 9/1/17 | 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:** October 10, 2017

# 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:** September **Year:** 2017

## 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:** October 10, 2017

# 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: September

Year: 2017

## CALIBRATION DATA

Benchtop UVT Analyzer Serial Number: PO108955

| 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 | 8/28/17 | AF45-WD | 93.40 | 95.30 | 1.90 | NA | NA |
| | 2 | 9/4/17 | AF45-WD | 93.30 | 91.10 | 2.20 | NO | None |
| | 3 | 9/11/17 | AF45-WD | 94.00 | 92.10 | 1.90 | NA | NA |
| | 4 | 9/18/17 | AF45-WD | 94.70 | 91.60 | 3.10 | NO | None |
| | 5 | 9/25/17 | AF45-WD | 95.20 | 95.60 | 0.40 | NA | 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: PO108955

| 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: Tomas Sanchez Jr.

Certificate No. and Grade: WS0012772, B

Date: October 10, 2017