SURFACE WATER MONTHLY OPERATING REPORT

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

Summary Page

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID No.: 20831

Report for the Month of: November 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.

Operator's Signature:

Certificate No. & Grade: WS0012772/B

Date: December 10, 2018

TREATMENT PLANT PERFORMANCE

Total number of turbidity readings:	78	Number of 4-hour periods when plant was off-line:	102
Number of readings above 0.10 NTU:	4	Number of 4-hour periods when plant was on-line but turbidity data was not collected:	0
Number of readings above 0.3 NTU:	0		
Number of readings above 0.5 NTU:	0	Number of days when plant was on-line but individual filter turbidity data was not collected:	0
Number of readings above 1.0 NTU:	0		
Maximum allowable turbidity level:	0.3	Number of days with readings above 1.0 NTU:	0 (2)
Percentage of readings above this limit:	0.0 % (1)	Number of days with readings above 5.0 NTU:	0 (3)

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

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

Number of days with low inactivation (including UV) for no more than 4.0 consecutive hours:	0	Average log inactivation (including UV) for Giardia:	6.14
		Average log inactivation) (including UV) for viruses:	82.92
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:	6.98
		Number of days with pH below 7.0 in the last disinfection zone:	1.00
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:	45 (at least 30 required) (8)		
Average disinfectant residual value:	2.29	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:	9.39 NTU	Average turbidity value:	4.29 NTU
	Minimum turbidity reading:	2.15 NTU	Standard deviation:	1.472 NTU
	95th percentile value:	7.10 NTU		
IFE Stastical Summary	Maximum IFE turbidity reading:	0.00 NTU	Average IFE turbidity value:	0.03 NTU
	Minimum IFEturbidity reading:	0.28 NTU	Standard deviation:	0.070 NTU
	95th percentile IFE value:	0.04 NTU		
CFE Stastical Summary	Maximum CFE turbidity reading:	0.15 NTU	Average CFE turbidity value:	0.08 NTU
	Minimum CFE turbidity reading:	0.02 NTU	Standard deviation:	0.025 NTU
	95th percentile CFE value:	0.10 NTU		

STATISTICAL ANALYSIS OF pH DATA

Last Zone pH Stastical Summary	Maximum pH reading:	7.98 pH	Average pH value:	7.28 pH
	Minimum pH reading:	6.98 pH	Standard deviation:	0.200 pH
	95th percentile value:	7.68 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 Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 **Plant ID No.:** 20831 **Connections:** 1,927

Month: November **Year:** 2018 **Population:** 6,745

PERFORMANCE DATA

Date	Raw Water Pumpage (MGD)	Treated Water Pumpage (MGD)	RAW WATER ANALYSES NTU	RAW WATER ANALYSES Alk.	SETTLED WATER TURBIDITY (Optional Data) Basin No. 1	2	3	4	5	6	FINISHED WATER QUALITY Combined Filter Effluent Turbidity NTU1	NTU2	NTU3	NTU4	NTU5	NTU6	Lowest Residual	Time*
1	0.747	0.453	53	140	2.4	3.5					X	X	X	0.07	0.06	0.04	1.7	
2	0.825	0.523	38	140	3.0	4.9					X	X	X	0.05	0.08	0.08	1.6	
3	0.944	0.481	48	140	3.6	3.9					0.07	X	X	X	0.04	0.03	1.7	
4	0.895	0.568	24	160	2.6	3.2					0.03	X	X	X	0.04	0.04	1.4	
5	0.978	0.434	26	160	4.6	3.3					X	X	X	0.07	0.10	0.08	1.2	
6	0.771	0.297	29	160	3.0	3.2					X	X	X	X	0.09	0.08	1.3	
7	0.807	0.446	21	160	3.1	5.9					X	X	X	X	0.08	0.08	1.1	
8	0.795	0.441	28	160	3.4	3.5					X	X	X	X	0.09	0.05	1.2	
9	0.630	0.328	31	160	3.0	2.9					0.04	X	X	X	0.09	0.09	1.9	
10	0.763	0.381	42	160	3.2	3.2					X	X	X	X	0.10	0.10	1.2	
11	0.736	0.406	54	120	3.9	4.1					0.10	X	X	X	0.07	0.07	1.9	
12	0.662	0.244	67	140	4.4	4.8					X	X	X	0.09	0.08	0.08	1.6	
13	0.876	0.451	69	140	4.2	6.5					X	X	X	0.09	0.09	0.08	1.4	
14	0.804	0.390	26	140	5.7	5.0					X	X	X	0.09	0.10	0.06	1.4	
15	0.769	0.400	23	140	7.4	7.2					X	X	X	X	0.09	0.05	1.3	
16	0.853	0.420	25	140	4.7	5.3					X	X	X	0.08	0.08	0.03	1.5	
17	0.814	0.435	28	140	4.9	7.1					X	X	X	0.06	0.07	0.03	1.2	
18	0.823	0.351	23	140	5.2	3.1					X	X	X	0.09	0.02	0.05	1.1	
19	0.668	0.390	34	140	2.2	2.8					X	X	X	X	0.09	0.09	1.7	
20	0.741	0.350	43	140	3.1	5.1					X	X	X	X	0.10	0.10	2.1	
21	0.768	0.407	33	140	2.7	4.2					X	X	X	X	0.10	0.10	1.7	
22	0.751	0.403	42	140	3.8	5.3					X	X	X	X	0.09	0.09	1.2	
23	0.807	0.401	58	140	3.8	4.5					X	X	X	X	0.11	0.04	1.3	
24	0.818	0.436	20	140	4.1	3.7					X	X	X	X	0.08	0.04	1.2	
25	0.795	0.447	32	140	3.4	4.6					X	X	X	X	0.07	0.05	1.4	
26	0.817	0.462	37	160	4.5	9.4					0.06	X	X	X	0.10	0.11	1.1	
27	0.751	0.442	54	160	2.3	3.6					0.15	X	X	X	0.11	0.09	1.4	
28	0.863	0.473	57	160	2.9	5.5					0.08	X	X	X	0.08	0.09	1.5	
29	0.830	0.417	81	180	3.4	6.5					0.09	X	X	X	0.10	0.08	1.1	
30	0.866	0.547	86	160	7.0	6.6					X	X	X	0.08	0.03	0.03	0.8	
31																		
Total	23.967	12.624		Max	7.4	9.4												
Avg	0.799	0.421		Avg	3.8	4.7												
Max	0.978	0.568		95th %	6.4	7.1												
Min	0.630	0.244		Min	2.2	2.8												
				95th percentile based on data from all basins						7.1								

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:** December 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 Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: November 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	0.08		0.07		0.06		0.06													
2	0.07		0.10		0.06		0.06													
3	0.04		0.18		0.04		0.11													
4	0.05		0.08		0.03		0.04													
5	0.08		0.28		0.04		0.06													
6	0.08		0.23		0.04		0.05													
7	0.06		0.08		0.04		0.05													
8	0.06		0.24		0.04		0.05													
9	0.06		0.05		0.06		0.07													
10	0.08		0.18		0.05		0.09													
11	0.05		0.06		0.05		0.06													
12	0.06		0.06		0.05		0.05													
13	0.06		0.22		0.06		0.05													
14	0.08		0.06		0.07		0.06													
15	0.06		0.06		0.08		0.07													
16	0.08		0.07		0.06		0.07													
17	0.06		0.04		0.04		0.06													
18	0.04		0.08		0.04		0.07													
19	0.04		0.06		0.04		0.06													
20	0.06		0.09		0.06		0.06													
21	0.04		0.05		0.06		0.05													
22	0.04		0.05		0.05		0.04													
23	0.08		0.05		0.04		0.06													
24	0.12		0.05		0.04		0.06													
25	0.11		0.06		0.06		0.08													
26	0.08		0.11		0.05		0.07													
27	0.06		0.05		0.09		0.06													
28	0.06		0.07		0.06		0.06													
29	0.08		0.10		0.04		0.06													
30	0.06		0.17		0.05		0.08													
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: December 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 Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 **Plant ID No.:** 20831 **Month:** November **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	0.798	21.7	7.4	4.10	103.74	8.19 (G)	
	FCL D1B	1.5	0.798	21.3	7.3				
	FCL D2	1.5	0.399	21.4	7.3				
	CLA D3	3.3	0.798	21.3	7.1				
	D4								
2	FCL D1A	2.0	0.819	21.3	7.3	4.72	137.23	9.44 (G)	
	FCL D1B	1.9	0.819	21.5	7.3				
	FCL D2	1.9	0.409	21.2	7.3				
	CLA D3	2.1	0.819	22.5	7.2				
	D4								
3	FCL D1A	1.5	0.824	21.9	7.1	4.44	114.98	8.88 (G)	
	FCL D1B	1.4	0.824	22.0	7.2				
	FCL D2	1.6	0.412	21.9	7.2				
	CLA D3	2.8	0.824	21.7	7.2				
	D4								
4	FCL D1A	1.2	0.854	21.4	7.5	3.61	101.68	7.21 (G)	
	FCL D1B	1.3	0.854	21.5	7.4				
	FCL D2	1.6	0.427	21.3	7.4				
	CLA D3	2.1	0.854	22.0	7.2				
	D4								
5	FCL D1A	1.1	0.862	21.0	7.5	3.35	81.83	6.71 (G)	
	FCL D1B	1.1	0.862	21.5	7.4				
	FCL D2	1.3	0.431	20.5	7.3				
	CLA D3	3.1	0.862	22.8	7.3				
	D4								
6	FCL D1A	0.9	0.842	22.9	7.4	3.18	83.30	6.36 (G)	
	FCL D1B	1.0	0.842	22.9	7.4				
	FCL D2	1.3	0.421	21.0	7.4				
	CLA D3	2.0	0.842	22.5	7.3				
	D4								
7	FCL D1A	0.9	0.802	23.6	7.4	1.97	35.34	3.94 (G)	
	FCL D1B	0.8	0.802	23.5	7.3				
	FCL D2	0.3	0.401	22.5	7.2				
	CLA D3	2.7	0.802	23.8	7.2				
	D4								
8	FCL D1A	1.4	0.804	23.1	7.3	3.74	87.93	7.48 (G)	
	FCL D1B	1.1	0.804	22.7	7.2				
	FCL D2	1.1	0.402	22.2	7.1				
	CLA D3	2.2	0.804	22.0	7.0				
	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	1.1	0.786	20.6	7.3	3.35	79.59	6.70 (G)	
	FCL D1B	1.3	0.786	20.0	7.2				
	FCL D2	1.0	0.393	21.7	7.2				
	CLA D3	2.6	0.786	20.6	7.3				
	D4								
10	FCL D1A	0.7	0.813	20.8	7.2	3.02	72.56	6.04 (G)	
	FCL D1B	1.2	0.813	20.7	7.2				
	FCL D2	1.1	0.406	20.9	7.2				
	CLA D3	2.2	0.813	21.1	7.1				
	D4								
11	FCL D1A	0.7	0.821	21.0	7.1	3.64	85.73	7.27 (G)	
	FCL D1B	0.9	0.821	21.1	7.1				
	FCL D2	1.4	0.410	21.1	7.4				
	CLA D3	3.8	0.821	21.4	7.2				
	D4								
12	FCL D1A	0.9	0.861	17.8	7.4	2.16	52.14	4.33 (G)	
	FCL D1B	0.9	0.861	17.4	7.3				
	FCL D2	1.0	0.430	18.4	7.4				
	CLA D3	2.3	0.861	19.1	7.4				
	D4								
13	FCL D1A	0.8	0.876	16.2	7.4	1.79	42.47	3.59 (G)	
	FCL D1B	0.8	0.876	15.7	7.3				
	FCL D2	0.9	0.438	16.4	7.6				
	CLA D3	2.6	0.876	18.0	7.3				
	D4								
14	FCL D1A	0.7	0.865	16.6	7.6	1.70	45.54	3.40 (G)	
	FCL D1B	0.6	0.865	16.6	7.4				
	FCL D2	1.0	0.432	17.4	7.8				
	CLA D3	2.2	0.865	17.4	8.0				
	D4								
15	FCL D1A	1.0	0.845	18.5	7.1	3.29	83.21	6.59 (G)	
	FCL D1B	0.8	0.845	18.4	7.1				
	FCL D2	1.5	0.422	19.7	7.2				
	CLA D3	2.7	0.845	17.9	7.8				
	D4								
16	FCL D1A	1.2	0.839	15.4	7.4	2.53	67.17	5.06 (G)	
	FCL D1B	1.2	0.839	15.3	7.4				
	FCL D2	1.5	0.419	16.2	7.4				
	CLA D3	2.4	0.839	15.4	7.3				
	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:** December 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 Utilities

PLANT NAME OR NUMBER: Rio Bravo

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

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
17	FCL D1A	0.9	0.805	18.8	7.5	2.71	65.95	5.43 (G)	
	FCL D1B	1.1	0.805	18.2	7.4				
	FCL D2	1.2	0.402	17.8	7.4				
	CLA D3	3.1	0.805	18.2	7.3				
	D4								
18	FCL D1A	0.7	0.787	19.5	7.5	1.82	32.31	3.65 (G)	
	FCL D1B	0.7	0.787	19.1	7.4				
	FCL D2	0.4	0.393	18.9	7.4				
	CLA D3	3.8	0.787	18.4	7.2				
	D4								
19	FCL D1A	1.1	0.783	19.3	7.7	3.71	98.49	7.41 (G)	
	FCL D1B	1.3	0.783	19.0	7.5				
	FCL D2	1.7	0.391	19.1	7.3				
	CLA D3	2.9	0.783	19.0	7.2				
	D4								
20	FCL D1A	1.3	0.801	17.1	7.5	3.75	99.45	7.49 (G)	
	FCL D1B	1.6	0.801	17.1	7.4				
	FCL D2	1.9	0.400	18.1	7.2				
	CLA D3	3.0	0.801	18.3	7.2				
	D4								
21	FCL D1A	1.1	0.826	17.8	7.4	3.34	89.16	6.69 (G)	
	FCL D1B	1.5	0.826	18.1	7.3				
	FCL D2	1.7	0.413	18.0	7.3				
	CLA D3	2.9	0.826	18.1	7.3				
	D4								
22	FCL D1A	1.3	0.838	19.0	7.6	3.28	100.76	6.56 (G)	
	FCL D1B	1.2	0.838	19.0	7.5				
	FCL D2	1.9	0.419	18.9	7.6				
	CLA D3	2.5	0.838	18.3	7.3				
	D4								
23	FCL D1A	1.2	0.859	19.9	7.6	3.08	92.38	6.15 (G)	
	FCL D1B	1.3	0.859	20.1	7.6				
	FCL D2	1.7	0.429	19.2	7.6				
	CLA D3	2.2	0.859	19.7	7.3				
	D4								
24	FCL D1A	1.4	0.833	18.2	7.6	2.94	85.58	5.88 (G)	
	FCL D1B	1.5	0.833	19.1	7.5				
	FCL D2	1.6	0.416	17.9	7.6				
	CLA D3	2.4	0.833	18.7	7.2				
	D4								

PERFORMANCE DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
25	FCL D1A	1.0	0.799	20.5	7.4	3.39	91.77	6.78 (G)	
	FCL D1B	1.2	0.799	20.6	7.4				
	FCL D2	1.5	0.399	19.9	7.6				
	CLA D3	3.1	0.799	20.1	7.2				
	D4								
26	FCL D1A	1.1	0.797	17.7	7.5	2.72	75.30	5.43 (G)	
	FCL D1B	0.9	0.797	17.7	7.4				
	FCL D2	1.5	0.398	17.0	7.6				
	CLA D3	2.5	0.797	18.4	7.4				
	D4								
27	FCL D1A	1.3	0.780	18.7	7.9	2.87	83.49	5.74 (G)	
	FCL D1B	1.5	0.780	18.3	7.6				
	FCL D2	1.4	0.390	18.0	7.5				
	CLA D3	2.2	0.780	18.2	7.5				
	D4								
28	FCL D1A	1.1	0.761	19.9	7.6	3.66	111.68	7.32 (G)	
	FCL D1B	1.6	0.761	19.4	7.4				
	FCL D2	1.9	0.380	18.7	7.7				
	CLA D3	2.8	0.761	18.5	7.4				
	D4								
29	FCL D1A	1.0	0.768	19.1	7.3	4.15	109.17	8.29 (G)	
	FCL D1B	1.2	0.768	19.0	7.3				
	FCL D2	1.9	0.384	19.2	7.4				
	CLA D3	4.1	0.768	18.1	7.3				
	D4								
30	FCL D1A	1.0	0.797	19.2	7.3	2.82	72.80	5.64 (G)	
	FCL D1B	0.9	0.797	19.3	7.2				
	FCL D2	1.3	0.398	17.9	7.4				
	CLA D3	2.2	0.797	19.0	7.1				
	D4								
31	D1A								
	D1B								
	D2								
	D3								
	D4								
	Max					4.72	137.23	9.44	
	Min					1.70	32.31	3.40	
	Avg					3.16	82.76	6.32	
	SD					0.75	23.79	1.51	

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:** December 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 Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID No.: 20831

Month: November

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	11/14	140	2.63	2.17	17.5	15	1.17			1.17
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Avg		140.00	2.63	2.17	17.49		1.17			1.17
Max		140.00	2.63	2.17	17.49		1.17			1.17
Min		140.00	2.63	2.17	17.49		1.17			1.17

TOTAL ORGANIC CARBON (TOC) REMOVAL SUMMARY

TOC Summary					Monthly Compliance Ratio
Raw Water Alkalinity	Raw Water TOC	Treated Water TOC	TOC % Removal	ACC # used	
140	2.63	2.17	17.5	NA	1.17

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: December 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 (cont.)

UV Calculated Dose Approach - Daily Minimum Inactivation Summary Page

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

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

DAILY MINIMUM INACTIVATION

Reactor Range	Date	Min Dose (mJ/cm²)	Inactivation Credit Achieved Giardia Log	Virus Log	Crypto Log	Reactor Range	Date	Min Dose (mJ/cm²)	Min Inactivation Giardia Log	Virus Log	Crypto Log
1 to 3	1	22.37	4.00	0.00	1.00	1 to 3	9	0.00*	1.00	0.00	1.00
	2	31.61	4.00	0.28	1.00		10	27.60	4.00	0.16	1.00
	3	18.65	3.76	0.00	1.00		11	35.96	4.00	0.41	1.00
	4	0.00*	1.00	0.00	1.00		12	26.85	4.00	0.14	1.00
	5	1.94*	1.00	0.00	1.00		13	1.87*	1.00	0.00	1.00
	6	0.00*	1.00	0.00	1.00		14	35.37	4.00	0.39	1.00
	7	29.63	4.00	0.22	1.00		15	35.70	4.00	0.40	1.00
	8	0.00*	1.00	0.00	1.00		16	2.67	1.35	0.00	1.00

DAILY MINIMUM INACTIVATION

Reactor Range	Date	Min Dose (mJ/cm²)	Min Inactivation Giardia Log	Virus Log	Crypto Log	Reactor Range	Date	Min Dose (mJ/cm²)	Min Inactivatic Giardia Log	Virus Log
1 to 3	17	31.93	4.00	0.29	1.00	1 to 3	25	29.28	4.00	0.21
	18	38.12	4.00	0.47	1.00		26	37.03	4.00	0.44
	19	31.04	4.00	0.27	1.00		27	37.40	4.00	0.45
	20	30.98	4.00	0.26	1.00		28	28.52	4.00	0.19
	21	2.29*	1.13	0.00	1.00		29	19.42	3.82	0.00
	22	19.43	3.82	0.00	1.00		30	0.00*	1.00	0.00
	23	31.32	4.00	0.27	1.00		31			
	24	0.00*	1.00	0.00	1.00					

Total volume of water treated by all CDA reactors:	19.32	MG
Total volume of off-spec water produced by all CDA reactors:	0.08	MG
Percentage of off-spec water produced by all CDA reactors:	0.39	%
Crypto Log-Inactivation Credit for treatment by CDA reactors:	1.00	log

Raw water pumpage and total production by all UV reactors differ by more than 15% on these days: (November, 2018) 3, 4, 5, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30.

SUBMITTED BY: Tomas Sanchez Jr.

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

ın
Crypto Log
1.00
1.00
1.00
1.00
1.00
1.00
1.00

UVMOR

UV MONTHLY OPERATING REPORT

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

UV Calculated Dose Approach Reactors

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

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

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)
1	1	X	X	X	X	X	X	X	0.000
	2	0.397	0.945	83.80	22.37	1.00	22.37	0.000	
	3	0.264	0.610	83.80	48.97	1.00	48.97	0.000	
	4								
	5								
2	1	X	X	X	X	X	X	X	0.000
	2	0.422	1.048	89.70	31.61	1.00	31.61	0.000	
	3	0.286	0.690	89.70	39.93	1.00	39.93	0.000	
	4								
	5								
3	1	X	X	X	X	X	X	X	0.000
	2	0.419	0.992	92.20	33.00	1.00	33.00	0.000	
	3	0.282	0.668	92.20	18.65	1.00	18.65	0.000	
	4								
	5								
4	1	X	X	X	X	X	X	X	0.25
	2	0.463	1.355	85.60	0.00	1.00	0.00	0.010	
	3	0.281	0.660	85.60	36.51	1.00	36.51	0.000	
	4								
	5								
5	1	X	X	X	X	X	X	X	0.25
	2	0.492	1.067	86.70	31.75	1.00	31.75	0.000	
	3	0.325	0.688	86.70	1.94	1.00	1.94	0.007	
	4								
	5								
6	1	X	X	X	X	X	X	X	0.25
	2	0.425	1.121	92.90	0.00	1.00	0.00	0.001	
	3	0.278	0.790	92.90	37.49	1.00	37.49	0.000	
	4								
	5								
7	1	X	X	X	X	X	X	X	0.000
	2	0.419	1.248	87.30	29.63	1.00	29.63	0.000	
	3	0.268	0.820	87.30	40.49	1.00	40.49	0.000	
	4								
	5								
8	1	X	X	X	X	X	X	X	0.50
	2	0.416	0.943	85.60	0.00	1.00	0.00	0.003	
	3	0.265	0.614	85.60	0.00	1.00	0.00	0.001	
	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)
9	1	X	X	X	X	X	X	X	1.00
	2	0.361	0.926	82.40	0.00	1.00	0.00	0.009	
	3	0.229	0.596	82.40	0.00	1.00	0.00	0.001	
	4								
	5								
10	1	X	X	X	X	X	X	X	0.000
	2	0.326	0.967	78.20	27.60	1.00	27.60	0.000	
	3	0.233	0.667	78.20	39.22	1.00	39.22	0.000	
	4								
	5								
11	1	X	X	X	X	X	X	X	0.000
	2	0.393	0.905	93.00	35.96	1.00	35.96	0.000	
	3	0.276	0.646	93.00	48.16	1.00	48.16	0.000	
	4								
	5								
12	1	X	X	X	X	X	X	X	0.000
	2	0.342	0.980	81.10	26.85	1.00	26.85	0.000	
	3	0.232	0.643	81.10	35.94	1.00	35.94	0.000	
	4								
	5								
13	1	X	X	X	X	X	X	X	0.25
	2	0.430	1.150	90.10	1.87	1.00	1.87	0.008	
	3	0.296	0.723	90.10	38.99	1.00	38.99	0.000	
	4								
	5								
14	1	X	X	X	X	X	X	X	0.000
	2	0.313	0.958	85.30	35.37	1.00	35.37	0.000	
	3	0.235	0.651	85.30	47.77	1.00	47.77	0.000	
	4								
	5								
15	1	X	X	X	X	X	X	X	0.000
	2	0.271	0.854	85.60	35.70	1.00	35.70	0.000	
	3	0.231	0.636	85.60	48.74	1.00	48.74	0.000	
	4								
	5								
16	1	X	X	X	X	X	X	X	0.000
	2	0.306	0.790	88.00	37.87	1.00	37.87	0.000	
	3	0.261	0.578	88.00	2.67	1.00	2.67	0.000	
	4								
	5								

SUBMITTED BY: Tomas Sanchez Jr.

Certificate No. and Grade: WS0012772, B **Date:** December 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 Utilities

PLANT NAME OR NUMBER: Rio Bravo

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

TRUE

VALIDATED OPERATIONAL CONDITIONS

VALIDATED PARAMETERS						PERFORMANCE REQUIREMENTS	
Parameters	Reactor Number					Crypto Log Inactivation	Required UV Dose (mJ/cm²)
	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/cm²)	Sensor CF	Adjusted Minimum UV Dose (mJ/cm²)	Total Off-Spec Product. (MG)	Consec. Off-Spec Hours (hr)
17	1	X	X	X	X	X	X	X	0.000
	2	0.327	0.894	86.00	37.35	1.00	37.35	0.000	
	3	0.272	0.613	86.00	31.93	1.00	31.93	0.000	
	4								
	5								
18	1	X	X	X	X	X	X	X	0.000
	2	0.384	0.860	84.60	38.12	1.00	38.12	0.000	
	3	0.273	0.583	84.60	50.66	1.00	50.66	0.000	
	4								
	5								
19	1	X	X	X	X	X	X	X	0.000
	2	0.302	1.111	85.50	31.04	1.00	31.04	0.000	
	3	0.220	0.739	85.50	42.92	1.00	42.92	0.000	
	4								
	5								
20	1	X	X	X	X	X	X	X	0.000
	2	0.357	1.088	70.50	30.98	1.00	30.98	0.000	
	3	0.247	0.758	70.50	33.25	1.00	33.25	0.000	
	4								
	5								
21	1	X	X	X	X	X	X	X	0.25
	2	0.385	1.107	70.10	7.76	1.00	7.76	0.000	
	3	0.257	0.736	70.10	2.29	1.00	2.29	0.006	
	4								
	5								
22	1	X	X	X	X	X	X	X	0.000
	2	0.396	1.315	71.10	19.43	1.00	19.43	0.000	
	3	0.265	0.862	71.10	38.60	1.00	38.60	0.000	
	4								
	5								
23	1	X	X	X	X	X	X	X	0.000
	2	0.363	1.170	71.90	31.32	1.00	31.32	0.000	
	3	0.265	0.773	71.90	32.14	1.00	32.14	0.000	
	4								
	5								
24	1	X	X	X	X	X	X	X	0.25
	2	0.398	1.278	79.90	0.00	1.00	0.00	0.008	
	3	0.269	0.871	79.90	0.00	1.00	0.00	0.006	
	4								
	5								

PERFORMANCE DATA

Date	Reactor	Total Product. (MG)	Max. Flow Rate (MGD)	Min UV Trans. (%)	Minimum Meas'd UV Dose (mJ/cm²)	Sensor CF	Adjusted Minimum UV Dose (mJ/cm²)	Total Off-Spec Product. (MG)	Consec. Off-Spec Hours (hr)
25	1	X	X	X	X	X	X	X	0.000
	2	0.387	1.239	83.60	29.28	1.00	29.28	0.000	
	3	0.259	0.823	83.60	40.61	1.00	40.61	0.000	
	4								
	5								
26	1	X	X	X	X	X	X	X	0.000
	2	0.410	0.990	71.10	37.03	1.00	37.03	0.000	
	3	0.275	0.649	71.10	51.49	1.00	51.49	0.000	
	4								
	5								
27	1	X	X	X	X	X	X	X	0.000
	2	0.323	0.915	93.30	37.40	1.00	37.40	0.000	
	3	0.233	0.649	93.30	51.00	1.00	51.00	0.000	
	4								
	5								
28	1	X	X	X	X	X	X	X	0.000
	2	0.387	0.935	76.90	28.52	1.00	28.52	0.000	
	3	0.278	0.612	76.90	53.72	1.00	53.72	0.000	
	4								
	5								
29	1	X	X	X	X	X	X	X	0.000
	2	0.357	1.019	92.80	19.42	1.00	19.42	0.000	
	3	0.264	0.688	92.80	48.61	1.00	48.61	0.000	
	4								
	5								
30	1	X	X	X	X	X	X	X	0.25
	2	0.441	0.992	94.40	0.00	1.00	0.00	0.007	
	3	0.290	0.651	94.40	0.00	1.00	0.00	0.008	
	4								
	5								
31	1								
	2								
	3								
	4								
	5								

SUBMITTED BY: Tomas Sanchez Jr.

Certificate No. and Grade: WS0012772, B **Date:** December 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 Utilities

PLANT NAME OR NUMBER: Rio Bravo

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

Month: November **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	X	X	ND	ND	nd		off-line
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	11/1/18	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 2	Previous Month's Sensor CF	1	38	44	82.90	78.20	1.06	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	11/1/18	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 3	Previous Month's Sensor CF	1	39	44	76.40	69.90	1.09	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	11/1/18	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: December 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 Utilities

PLANT NAME OR NUMBER: Rio Bravo

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

Month: November **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: December 10, 2018

Other Action Taken

UV MONTHLY OPERATING REPORT

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

UVT Analyzer Calibration

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID: 20831

Month: November

Year: 2018

NA

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	11/1/18	78713	93.20	92.80	0.40	NA	NA
	2	11/5/18	78713	94.90	94.30	0.60	NA	NA
	3	11/12/18	78713	93.40	92.10	1.30	NA	NA
	4	11/19/18	78713	93.20	91.50	1.70	NA	NA
	5	11/26/18	78713	93.80	93.40	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: 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%)
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: Decemb

SURFACE WATER MONTHLY OPERATING REPORT

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

LT2ESWTR Summary Page (cont)

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

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

	GIARDIA AND CRYPTOSPORIDIUM TREATMENT CREDITS												GIARDIA INACTIVATION CREDITS						VIRAL INACTIVATION CREDITS					
	Total Daily Credit By Train						Total Daily Bin 3 & 4 Credit by Train						Total Daily Inactivation Credit By Train						Total Daily Inactivation Credit by Train					
Overall																								
Train 1	TRUE					Minimum	TRUE					Minimum	TRUE					Minimum	TRUE					Minimum
Train 2		FALSE						FALSE						FALSE						FALSE				
Train 3			FALSE						FALSE						FALSE						FALSE			
Train 4				FALSE						FALSE						FALSE						FALSE		
Train 5					FALSE						FALSE						FALSE						FALSE	
1	4.50					4.50	1.00					1.00	8.10					8.10	103.74					103.74
2	4.50					4.50	1.00					1.00	8.10					8.10	137.51					137.51
3	4.50					4.50	1.00					1.00	8.20					8.20	114.98					114.98
4	4.50					4.50	1.00					1.00	4.61					4.61	101.68					101.68
5	4.50					4.50	1.00					1.00	4.35					4.35	81.83					81.83
6	4.50					4.50	1.00					1.00	4.18					4.18	83.30					83.30
7	4.50					4.50	1.00					1.00	5.97					5.97	35.57					35.57
8	4.50					4.50	1.00					1.00	4.74					4.74	87.93					87.93
9	4.50					4.50	1.00					1.00	4.35					4.35	79.59					79.59
10	4.50					4.50	1.00					1.00	7.02					7.02	72.72					72.72
11	4.50					4.50	1.00					1.00	7.64					7.64	86.14					86.14
12	4.50					4.50	1.00					1.00	6.16					6.16	52.28					52.28
13	4.50					4.50	1.00					1.00	2.79					2.79	42.47					42.47
14	4.50					4.50	1.00					1.00	5.70					5.70	45.94					45.94
15	4.50					4.50	1.00					1.00	7.29					7.29	83.61					83.61
16	4.50					4.50	1.00					1.00	3.88					3.88	67.17					67.17
17	4.50					4.50	1.00					1.00	6.71					6.71	66.24					66.24
18	4.50					4.50	1.00					1.00	5.82					5.82	32.78					32.78
19	4.50					4.50	1.00					1.00	7.71					7.71	98.75					98.75
20	4.50					4.50	1.00					1.00	7.75					7.75	99.71					99.71
21	4.50					4.50	1.00					1.00	4.47					4.47	89.16					89.16
22	4.50					4.50	1.00					1.00	7.09					7.09	100.76					100.76
23	4.50					4.50	1.00					1.00	7.08					7.08	92.66					92.66
24	4.50					4.50	1.00					1.00	3.94					3.94	85.58					85.58
25	4.50					4.50	1.00					1.00	7.39					7.39	91.98					91.98
26	4.50					4.50	1.00					1.00	6.72					6.72	75.75					75.75
27	4.50					4.50	1.00					1.00	6.87					6.87	83.94					83.94
28	4.50					4.50	1.00					1.00	7.66					7.66	111.87					111.87
29	4.50					4.50	1.00					1.00	7.96					7.96	109.17					109.17
30	4.50					4.50	1.00					1.00	3.82					3.82	72.80					72.80
31																								
MIN	4.50					4.50	1.00					1.00	2.79					2.79	32.78					32.78
AVG	4.50					4.50	1.00					1.00	6.14					6.14	82.92					82.92
MAX	4.50					4.50	1.00					1.00	8.20					8.20	137.51					137.51

SURFACE WATER MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES

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

LT2ESWTR Summary Page

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID No.: 20831

Month: November

Year: 2018

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