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 2019

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: Adolfo Vasquez

Certificate No. & Grade: WS0014046, B

Date: December 10, 2019

TREATMENT PLANT PERFORMANCE

Total number of turbidity readings:	92	Number of 4-hour periods when plant was off-line:	88
Number of readings above 0.10 NTU:	1	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:	4.71
		Average log inactivation) (including UV) for viruses:	50.13
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:	5.88
		Number of days with pH below 7.0 in the last disinfection zone:	2.00
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:	55 (at least 30 required) (8)		
Average disinfectant residual value:	1.85	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: 11.81 NTU	Average turbidity value: 1.24 NTU		
	Minimum turbidity reading: 0.36 NTU	Standard deviation: 1.424 NTU		
	95th percentile value: 1.71 NTU			
IFE Stastical Summary	Maximum IFE turbidity reading: 0.12 NTU	Average IFE turbidity value: 0.04 NTU		
	Minimum IFEturbidity reading: 0.02 NTU	Standard deviation: 0.018 NTU		
	95th percentile IFE value: 0.07 NTU			
CFE Stastical Summary	Maximum CFE turbidity reading: 0.11 NTU	Average CFE turbidity value: 0.05 NTU		
	Minimum CFE turbidity reading: 0.02 NTU	Standard deviation: 0.011 NTU		
	95th percentile CFE value: 0.07 NTU			

STATISTICAL ANALYSIS OF pH DATA

Last Zone pH Stastical Summary	Maximum pH reading: 7.54 pH	Average pH value: 7.20 pH
	Minimum pH reading: 5.88 pH	Standard deviation: 0.302 pH
	95th percentile value: 7.50 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:** 1,937

Month: November **Year:** 2019 **Population:** 6,779

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	0.872	1.031	37	140	1.0	1.6					X	X	X	0.05	0.04	0.06	2.9	
2	0.985	1.095	42	140	1.0	1.6					X	X	X	0.06	0.07	0.06	3.5	
3	0.974	1.155	47	140	0.9	1.7					X	X	X	0.06	0.05	0.06	3.4	
4	0.996	1.211	27	160	0.6	2.1					X	X	X	0.04	0.02	0.04	3.0	
5	0.984	1.409	18	160	0.5	1.3					X	X	X	0.04	0.06	0.06	2.4	
6	0.944	1.469	17	160	0.5	1.3					X	X	X	0.05	0.07	0.06	2.7	
7	0.846	0.961	20	140	0.4	1.3					X	X	X	0.04	0.05	0.06	2.9	
8	0.886	0.989	21	140	0.4	1.3					X	X	X	0.05	0.06	0.06	2.4	
9	0.835	0.808	24	140	0.4	1.3					X	X	X	0.05	0.06	0.06	3.5	
10	0.835	0.794	30	140	0.4	1.3					X	X	X	0.06	0.05	0.06	3.0	
11	0.829	0.970	24	140	0.4	1.2					0.07	X	X	0.05	0.05	0.05	3.1	
12	0.789	0.882	28	140	0.4	1.3					X	X	X	0.06	0.05	0.05	0.7	
13	0.870	0.929	21	140	0.4	1.3					X	X	X	0.05	0.05	0.05	1.0	
14	0.788	0.534	18	140	1.2	1.3					0.06	X	X	X	0.04	0.06	2.1	
15	0.787	0.713	27	160	1.1	1.3					X	X	X	0.04	0.06	0.05	0.6	
16	0.808	0.840	18	160	1.2	1.2					X	X	X	0.05	0.05	0.07	1.4	
17	0.903	0.873	18	160	1.1	1.8					0.07	X	X	X	0.06	0.07	3.3	
18	0.919	0.999	27	160	1.5	11.8					0.07	X	X	0.06	0.07	0.05	2.8	
19	0.978	1.032	31	160	1.2	1.4					X	X	X	0.04	0.07	0.06	3.2	
20	0.807	0.743	23	160	1.1	1.2					X	X	X	0.06	0.11	0.05	3.1	
21	0.895	0.709	16	140	1.2	1.1					X	X	X	0.05	0.05	0.06	2.9	
22	0.750	0.715	15	140	1.1	1.2					X	X	X	0.05	0.06	0.06	1.2	
23	0.838	0.736	17	140	1.1	1.1					X	X	X	0.05	0.06	0.05	2.5	
24	0.827	0.772	22	160	1.1	1.2					0.05	X	X	0.05	0.05	0.05	3.2	
25	0.792	0.873	28	140	1.1	1.1					X	X	X	0.04	0.04	0.05	1.7	
26	0.764	0.711	23	140	0.8	0.8					X	X	X	0.05	0.05	0.05	2.7	
27	0.741	0.514	16	160	0.9	0.8					X	X	X	X	0.05	0.05	2.3	
28	0.833	0.583	14	160	0.9	0.9					X	X	X	0.06	0.06	0.05	2.2	
29	0.751	0.723	19	160	0.9	0.9					X	X	X	0.04	0.06	0.06	2.1	
30	0.898	0.684	23	180	0.9	0.9					X	X	X	0.07	0.06	0.06	2.9	
31																		
Total	25.724	26.457		Max	1.5	11.8												
Avg	0.857	0.882		Avg	0.9	1.6												
Max	0.996	1.469		95th %	1.2	2.0												
Min	0.741	0.514		Min	0.4	0.8												
				95th percentile based on data from all basins						1.7								

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: Adolio Vasquez **Certificate No. and Grade:** WS0014046, B **Date:** December 10, 2019

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: 2019

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	0.04		0.03		0.06		0.05													
2	0.06		0.07		0.07		0.04													
3	0.07		0.07		0.06		0.06													
4	0.04		0.03		0.04		0.03													
5	0.02		0.04		0.06		0.04													
6	0.02		0.02		0.06		0.08													
7	0.02		0.03		0.03		0.05													
8	0.02		0.02		0.04		0.04													
9	0.03		0.02		0.03		0.02													
10	0.04		0.04		0.04		0.03													
11	0.04		0.04		0.06		0.04													
12	0.04		0.04		0.06		0.03													
13	0.06		0.05		0.04		0.08													
14	0.04		0.04		0.03		0.05													
15	0.04		0.04		0.03		0.04													
16	0.06		0.04		0.05		0.06													
17	0.05		0.05		0.05		0.06													
18	0.02		0.02		0.03		0.05													
19	0.03		0.02		0.03		0.12													
20	0.04		0.04		0.04		0.10													
21	0.06		0.06		0.05		0.04													
22	0.10		0.04		0.07		0.04													
23	0.07		0.04		0.06		0.06													
24	0.05		0.08		0.04		0.06													
25	0.03		0.02		0.04		0.04													
26	0.03		0.03		0.04		0.05													
27	0.03		0.02		0.05		0.04													
28	0.04		0.02		0.04		0.03													
29	0.05		0.02		0.04		0.05													
30	0.02		0.04		0.02		0.04													
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: Adolfo Vizcaya

Certificate No. and Grade: WS0014046, B

Date: December 10, 2019

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: 2019

DISINFECTION PROCESS PARAMETERS

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

PERFORMANCE DATA

DISINFECTION PROCESS DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
1	FCL *D1A*	0.6	0.732	19.0	7.4				
	FCL *D1B*	1.1	0.732	19.0	7.1				
	FCL *D2*	0.9	0.366	19.0	7.3	2.60	56.60	5.19	
	CLA *D3*	3.1	0.732	19.0	7.5			(G)	
	D4								
2	FCL *D1A*	1.0	0.788	19.0	7.2				
	FCL *D1B*	0.7	0.788	19.0	7.1				
	FCL *D2*	1.0	0.394	19.0	7.1	2.93	59.37	5.85	
	CLA *D3*	3.8	0.788	19.0	7.1			(G)	
	D4								
3	FCL *D1A*	0.9	0.806	20.0	7.2				
	FCL *D1B*	1.5	0.806	20.0	7.3				
	FCL *D2*	1.0	0.403	20.0	7.2	3.02	66.42	6.04	
	CLA *D3*	3.3	0.806	20.0	7.3			(G)	
	D4								
4	FCL *D1A*	1.0	0.810	20.1	7.3				
	FCL *D1B*	1.0	0.810	20.0	7.2				
	FCL *D2*	1.2	0.405	20.3	7.2	3.55	79.73	7.09	
	CLA *D3*	3.7	0.810	21.4	7.3			(G)	
	D4								
5	FCL *D1A*	0.9	0.799	20.1	7.1				
	FCL *D1B*	1.0	0.799	20.3	7.1				
	FCL *D2*	1.1	0.400	21.0	7.3	3.39	75.26	6.78	
	CLA *D3*	3.2	0.799	22.3	7.2			(G)	
	D4								
6	FCL *D1A*	0.9	0.773	20.4	7.3				
	FCL *D1B*	1.0	0.773	20.1	7.3				
	FCL *D2*	1.0	0.386	20.1	7.5	3.22	72.39	6.44	
	CLA *D3*	3.9	0.773	21.0	7.3			(G)	
	D4								
7	FCL *D1A*	0.5	0.760	21.0	7.2				
	FCL *D1B*	0.6	0.760	21.0	7.2				
	FCL *D2*	0.7	0.380	21.1	7.2	2.59	48.30	5.18	
	CLA *D3*	3.3	0.760	22.7	7.1			(G)	
	D4								
8	FCL *D1A*	0.5	0.734	19.2	7.4				
	FCL *D1B*	0.6	0.734	19.4	7.3				
	FCL *D2*	0.6	0.367	18.9	7.5	1.93	38.28	3.85	
	CLA *D3*	3.1	0.734	18.9	7.4			(G)	
	D4								

PERFORMANCE DATA

DISINFECTION PROCESS DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
9	FCL *D1A*	0.5	0.701	21.2	7.3				
	FCL *D1B*	0.7	0.701	21.0	7.1				
	FCL *D2*	0.8	0.350	21.0	7.3	2.93	59.66	5.86	
	CLA *D3*	3.4	0.701	21.1	7.1			(G)	
	D4								
10	FCL *D1A*	0.5	0.745	20.8	7.3				
	FCL *D1B*	0.5	0.745	21.1	7.2				
	FCL *D2*	0.6	0.373	20.6	7.4	2.39	45.67	4.78	
	CLA *D3*	3.5	0.745	20.9	7.2			(G)	
	D4								
11	FCL *D1A*	0.3	0.780	21.0	7.2				
	FCL *D1B*	0.2	0.780	20.0	7.1				
	FCL *D2*	0.8	0.390	21.0	7.3	2.36	48.79	4.71	
	CLA *D3*	3.1	0.780	20.0	7.4			(G)	
	D4								
12	FCL *D1A*	0.7	0.802	15.0	7.3				
	FCL *D1B*	0.6	0.802	15.0	7.3				
	FCL *D2*	0.8	0.401	15.0	7.7	1.63	37.24	3.26	
	CLA *D3*	3.0	0.802	15.0	7.2			(G)	
	D4								
13	FCL *D1A*	0.8	0.803	14.0	7.1				
	FCL *D1B*	0.9	0.803	15.0	7.1				
	FCL *D2*	0.6	0.401	16.4	7.7	1.24	30.86	2.47	
	CLA *D3*	1.4	0.803	15.0	7.2			(G)	
	D4								
14	FCL *D1A*	0.5	0.786	17.1	7.5				
	FCL *D1B*	0.7	0.786	17.0	7.2				
	FCL *D2*	0.9	0.393	17.1	7.4	1.89	44.65	3.77	
	CLA *D3*	2.3	0.786	16.3	7.5			(G)	
	D4								
15	FCL *D1A*	0.6	0.770	17.0	7.3				
	FCL *D1B*	0.8	0.770	17.1	7.3				
	FCL *D2*	0.8	0.385	16.4	7.3	2.19	42.76	4.38	
	CLA *D3*	4.1	0.770	16.7	7.2			(G)	
	D4								
16	FCL *D1A*	0.9	0.741	18.9	7.4				
	FCL *D1B*	1.1	0.741	19.2	7.4				
	FCL *D2*	0.3	0.370	17.2	7.3	1.60	30.63	3.21	
	CLA *D3*	2.7	0.741	18.5	7.3			(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: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B

Date: December 10, 2019

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: 2019

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	0.753	17.9	7.3				
	FCL *D1B*	1.1	0.753	18.2	7.3				
	FCL *D2*	1.1	0.377	17.2	7.4	2.67	61.83	5.35	
	CLA *D3*	3.4	0.753	17.6	7.3			(G)	
	D4								
18	FCL *D1A*	0.5	0.762	18.4	7.3				
	FCL *D1B*	0.8	0.762	18.3	7.3				
	FCL *D2*	0.9	0.381	18.3	7.3	2.40	51.96	4.79	
	CLA *D3*	2.9	0.762	19.7	7.4			(G)	
	D4								
19	FCL *D1A*	0.3	0.776	18.7	7.3				
	FCL *D1B*	0.2	0.776	18.8	7.2				
	FCL *D2*	0.9	0.388	18.4	7.3	2.18	43.90	4.36	
	CLA *D3*	3.1	0.776	19.9	7.5			(G)	
	D4								
20	FCL *D1A*	1.0	0.796	19.3	7.2				
	FCL *D1B*	1.1	0.796	19.2	7.2				
	FCL *D2*	1.0	0.398	19.3	7.3	2.82	63.26	5.64	
	CLA *D3*	3.1	0.796	20.2	7.5			(G)	
	D4								
21	FCL *D1A*	0.8	0.770	20.6	7.2				
	FCL *D1B*	0.7	0.770	20.5	7.1				
	FCL *D2*	0.7	0.385	20.2	7.3	2.42	50.39	4.83	
	CLA *D3*	2.8	0.770	20.5	7.3			(G)	
	D4								
22	FCL *D1A*	0.6	0.759	21.1	7.3				
	FCL *D1B*	0.6	0.759	21.3	7.3				
	FCL *D2*	0.4	0.379	21.1	7.4	1.73	33.79	3.46	
	CLA *D3*	2.4	0.759	20.5	7.2			(G)	
	D4								
23	FCL *D1A*	0.6	0.750	20.5	6.4				
	FCL *D1B*	0.7	0.750	20.5	6.4				
	FCL *D2*	0.4	0.375	20.1	6.2	2.37	34.86	4.75	
	CLA *D3*	2.6	0.750	20.8	6.6			(G)	
	D4								
24	FCL *D1A*	0.8	0.726	20.6	5.8				
	FCL *D1B*	0.9	0.726	20.8	6.6				
	FCL *D2*	0.6	0.363	20.3	6.5	3.22	48.15	6.44	
	CLA *D3*	3.2	0.726	21.3	5.9			(G)	
	D4								

PERFORMANCE DATA

DISINFECTION PROCESS DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
25	FCL *D1A*	0.6	0.723	20.7	7.2				
	FCL *D1B*	1.0	0.723	20.1	7.1				
	FCL *D2*	0.2	0.361	20.4	7.3	1.77	26.72	3.55	
	CLA *D3*	3.5	0.723	20.7	7.2			(G)	
	D4								
26	FCL *D1A*	0.3	0.741	19.4	6.6				
	FCL *D1B*	0.7	0.741	19.5	7.0				
	FCL *D2*	0.2	0.370	19.7	7.4	1.34	17.69	2.68	
	CLA *D3*	3.1	0.741	20.0	7.2			(G)	
	D4								
27	FCL *D1A*	1.7	0.768	20.4	7.1				
	FCL *D1B*	1.6	0.768	20.5	7.1				
	FCL *D2*	1.4	0.384	20.3	7.2	4.24	104.01	8.47	
	CLA *D3*	3.1	0.768	20.4	7.1			(G)	
	D4								
28	FCL *D1A*	1.0	0.773	19.3	7.1				
	FCL *D1B*	0.9	0.773	19.0	7.1				
	FCL *D2*	1.1	0.387	19.4	7.3	3.08	69.90	6.15	
	CLA *D3*	3.2	0.773	18.8	7.1			(G)	
	D4								
29	FCL *D1A*	0.4	0.803	18.4	7.3				
	FCL *D1B*	0.4	0.803	18.7	7.2				
	FCL *D2*	0.5	0.401	18.8	7.3	1.69	30.29	3.37	
	CLA *D3*	3.2	0.803	18.9	7.3			(G)	
	D4								
30	FCL *D1A*	0.3	0.797	20.8	7.1				
	FCL *D1B*	0.2	0.797	20.8	7.1				
	FCL *D2*	0.5	0.399	21.2	7.2	1.76	29.38	3.51	
	CLA *D3*	3.0	0.797	21.5	7.2			(G)	
	D4								
31	*D1A*								
	D1B								
	D2								
	D3								
	D4								
					Max	4.24	104.01	8.47	
					Min	1.24	17.69	2.47	
					Avg	2.44	50.09	4.87	
					SD	0.70	18.46	1.40	

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

SUBMITTED BY: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B

Date: December 10, 2019

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: 2019

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	11/12	140	3.10	2.45	21.0	15	1.40			1.40
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	3.10	2.45	20.97		1.40			1.40
Max		140.00	3.10	2.45	20.97		1.40			1.40
Min		140.00	3.10	2.45	20.97		1.40			1.40

TOTAL ORGANIC CARBON (TOC) REMOVAL SUMMARY

TOC Summary					Monthly Compliance Ratio
Raw Water Alkalinity	Raw Water TOC	Treated Water TOC	TOC % Removal	ACC # used	
140	3.10	2.45	21.0	NA	1.40

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: Adolfo

Certificate and Grade No.: WS0014046, B

Date: December 10, 2019

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

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

UV MONTHLY OPERATING REPORT

FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES
OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER
UV Calculated Dose Approach Reactors

PUBLIC WATER SYSTEM NAME: Webb County Water Utilities

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: November Year: 2019

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	0.350	0.686	87.47	35.34	1.00	35.34	0.000	0.000
	2	0.470	0.888	87.47	29.96	1.00	29.96	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
2	1	0.394	0.707	87.64	30.12	1.00	30.12	0.000	0.000
	2	0.509	0.904	87.64	31.29	1.00	31.29	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
3	1	0.405	0.726	87.39	2.04	1.00	2.04	0.007	0.25
	2	0.513	0.930	87.39	30.42	1.00	30.42	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
4	1	0.408	0.803	86.66	30.07	1.00	30.07	0.000	0.000
	2	0.503	1.055	86.66	10.13	1.00	10.13	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
5	1	0.406	0.737	79.14	5.88	1.00	5.88	0.000	0.000
	2	0.497	0.940	79.14	28.33	1.00	28.33	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
6	1	0.389	0.764	89.76	26.03	1.00	26.03	0.000	0.000
	2	0.500	1.005	89.76	28.62	1.00	28.62	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
7	1	0.362	0.728	89.96	0.00	1.00	0.00	0.005	0.25
	2	0.425	0.881	89.96	0.00	1.00	0.00	0.005	
	3	X	X	X	X	X	X	X	
	4								
	5								
8	1	0.349	0.686	86.47	0.00	1.00	0.00	0.002	0.25
	2	0.403	0.852	86.47	0.00	1.00	0.00	0.001	
	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)
9	1	0.344	0.867	91.37	0.00	1.00	0.00	0.006	0.25
	2	0.452	1.150	91.37	0.00	1.00	0.00	0.008	
	3	X	X	X	X	X	X	X	
	4								
	5								
10	1	0.337	0.692	88.10	0.00	1.00	0.00	0.006	0.25
	2	0.444	0.910	88.10	0.00	1.00	0.00	0.008	
	3	X	X	X	X	X	X	X	
	4								
	5								
11	1	0.350	0.863	87.54	30.34	1.00	30.34	0.000	0.000
	2	0.472	1.157	87.54	25.97	1.00	25.97	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
12	1	0.308	0.715	86.15	26.27	1.00	26.27	0.000	0.25
	2	0.409	0.944	86.15	1.61	1.00	1.61	0.010	
	3	X	X	X	X	X	X	X	
	4								
	5								
13	1	0.326	0.958	91.15	0.00	1.00	0.00	0.006	0.25
	2	0.418	1.237	91.15	0.00	1.00	0.00	0.008	
	3	X	X	X	X	X	X	X	
	4								
	5								
14	1	0.343	0.725	83.41	30.51	1.00	30.51	0.000	0.25
	2	0.442	0.953	83.41	2.18	1.00	2.18	0.009	
	3	X	X	X	X	X	X	X	
	4								
	5								
15	1	0.326	0.684	91.08	37.96	1.00	37.96	0.000	0.000
	2	0.428	0.897	91.08	10.45	1.00	10.45	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
16	1	0.298	0.666	91.72	0.00	1.00	0.00	0.005	0.25
	2	0.385	0.852	91.72	0.00	1.00	0.00	0.006	
	3	X	X	X	X	X	X	X	
	4								
	5								

SUBMITTED BY: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B Date: December 10, 2019

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: 2019

TRUE

VALIDATED OPERATIONAL CONDITIONS

VALIDATED PARAMETERS						PERFORMANCE REQUIREMENTS	
Parameters	Reactor Number UVCD1	UVCD2	UVCD3	UVCD4	UVCD5	Crypto Log Inactivation	Required UV Dose (mJ/cm²)
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	0.719	1.497	89.37	14.01	1.00	14.01	0.000	0.000
	2	0.085	0.860	89.37	15.03	1.00	15.03	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
18	1	0.430	1.455	85.95	13.57	1.00	13.57	0.000	0.000
	2	0.432	0.915	85.95	23.07	1.00	23.07	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
19	1	0.387	0.846	91.30	30.96	1.00	30.96	0.000	0.000
	2	0.494	1.119	91.30	19.75	1.00	19.75	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
20	1	0.343	0.900	89.98	2.25	1.00	2.25	0.008	0.25
	2	0.448	1.201	89.98	2.57	1.00	2.57	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
21	1	0.357	0.862	89.18	29.78	1.00	29.78	0.000	0.000
	2	0.460	1.154	89.18	24.04	1.00	24.04	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
22	1	0.314	0.851	89.84	0.00	1.00	0.00	0.005	0.25
	2	0.410	1.159	89.84	0.00	1.00	0.00	0.007	
	3	X	X	X	X	X	X	X	
	4								
	5								
23	1	0.307	0.651	80.58	36.18	1.00	36.18	0.000	0.000
	2	0.389	0.854	80.58	27.91	1.00	27.91	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
24	1	0.346	0.635	81.26	0.00	1.00	0.00	0.005	0.25
	2	0.445	0.845	81.26	0.00	1.00	0.00	0.007	
	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/cm²)	Sensor CF	Adjusted Minimum UV Dose (mJ/cm²)	Total Off-Spec Product. (MG)	Consec. Off-Spec Hours (hr)
25	1	0.311	0.667	87.27	0.00	1.00	0.00	0.002	0.25
	2	0.392	0.896	87.27	0.00	1.00	0.00	0.002	
	3	X	X	X	X	X	X	X	
	4								
	5								
26	1	0.315	0.703	87.86	0.00	1.00	0.00	0.004	0.25
	2	0.397	0.975	87.86	0.00	1.00	0.00	0.006	
	3	X	X	X	X	X	X	X	
	4								
	5								
27	1	0.298	0.721	88.79	0.01	1.00	0.01	0.007	0.25
	2	0.393	0.974	88.79	25.23	1.00	25.23	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
28	1	0.336	0.849	84.37	28.85	1.00	28.85	0.000	0.000
	2	0.436	1.143	84.37	24.84	1.00	24.84	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
29	1	0.306	0.744	85.07	32.08	1.00	32.08	0.000	0.000
	2	0.396	0.976	85.07	27.18	1.00	27.18	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
30	1	0.369	0.833	83.29	31.58	1.00	31.58	0.000	0.000
	2	0.488	1.101	83.29	10.67	1.00	10.67	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
31	1								
	2								
	3								
	4								
	5								

SUBMITTED BY: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B Date: December 10, 2019

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:** 2019

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	29.96	4.00	0.23	1.00	1 to 3	9	0.00*	1.00	0.00	1.00
	2	30.12	4.00	0.24	1.00		10	0.00*	1.00	0.00	1.00
	3	2.04*	1.00	0.00	1.00		11	25.97	4.00	0.11	1.00
	4	10.13	2.87	0.00	1.00		12	1.61*	1.00	0.00	1.00
	5	5.88	2.14	0.00	1.00		13	0.00*	1.00	0.00	1.00
	6	26.03	4.00	0.11	1.00		14	2.18*	1.06	0.00	1.00
	7	0.00*	1.00	0.00	1.00		15	10.45	2.92	0.00	1.00
	8	0.00*	1.00	0.00	1.00		16	0.00*	1.00	0.00	1.00

DAILY MINIMUM INACTIVATION

Reactor Range	SUMMARY DATA					Reactor Range	SUMMARY DATA				
	Date	Min Dose (mJ/cm²)	Min Inactivation: Giardia Log	Virus Log	Crypto Log		Date	Min Dose (mJ/cm²)	Min Inactivation: Giardia Log	Virus Log	Crypto Log
1 to 3	17	14.01	3.38	0.00	1.00	1 to 3	25	0.00*	1.00	0.00	1.00
	18	13.57	3.32	0.00	1.00		26	0.00*	1.00	0.00	1.00
	19	19.75	3.84	0.00	1.00		27	0.01*	1.00	0.00	1.00
	20	2.25*	1.10	0.00	1.00		28	24.84	4.00	0.07	1.00
	21	24.04	4.00	0.05	1.00		29	27.18	4.00	0.15	1.00
	22	0.00*	1.00	0.00	1.00		30	10.67	2.95	0.00	1.00
	23	27.91	4.00	0.17	1.00		31				1.00
	24	0.00*	1.00	0.00	1.00						

Total volume of water treated by all CDA reactors:	23.77	MG
Total volume of off-spec water produced by all CDA reactors:	0.15	MG
Percentage of off-spec water produced by all CDA reactors:	0.61	%
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: 8, 16, 23,

SUBMITTED BY: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B **Date:** December 10, 2019

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: 2019

CALIBRATION DATA

UV Sensor Calibration Report for Calculated Dose Reactors

CDA Reactor Number	Calibration Date and Data	Duty Sensor	Duty Sensor Serial #	Ref Sensor Serial #	Duty Sensor Reading (mJ/cm²)	Ref Sensor Reading (mJ/cm²)	Cal Ratio	Duty Sensor Replaced?	Calculated Sensor CF
UVCD No. 1	Previous Month's Sensor CF	1	92	44	64.10	64.00	1.00	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	11/1/19	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 2	Previous Month's Sensor CF	1	38	44	70.30	68.30	1.03	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	11/1/19	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 3	Previous Month's Sensor CF	1	39	44	94.00	80.40	1.17		off-line
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	11/1/19	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: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B

Date: December 10, 2019

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: 2019

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							

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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

NA

Month: November

Year: 2019

CALIBRATION DATA

Benchtop UVT Analyzer Serial Number: UVT 08 - 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	11/1/19	78713	92.40	91.20	1.20	NA	NA
	2	11/4/19	78713	92.40	91.30	1.10	NA	NA
	3	11/11/19	78713	92.60	93.10	0.50	NA	NA
	4	11/18/19	78713	91.90	92.60	0.70	NA	NA
	5	11/25/19	78713	91.30	92.60	1.30	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: UVT 08 - P0108955

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

SUBMITTED BY: Adolio Vasquez

Certificate No. and Grade: WS0014046, B

Date: December 10, 2019

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: 2019

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		

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: 2019

	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						TRUE						TRUE						TRUE					
Train 2		FALSE						FALSE						FALSE						FALSE				
Train 3			FALSE						FALSE						FALSE						FALSE			
Train 4				FALSE						FALSE						FALSE						FALSE		
Train 5					FALSE						FALSE						FALSE						FALSE	
						Minimum						Minimum						Minimum						Minimum
1	4.50					4.50	1.00					1.00	6.60					6.60	56.84					56.84
2	4.50					4.50	1.00					1.00	6.60					6.60	59.61					59.61
3	4.50					4.50	1.00					1.00	4.02					4.02	66.42					66.42
4	4.50					4.50	1.00					1.00	6.41					6.41	79.73					79.73
5	4.50					4.50	1.00					1.00	5.53					5.53	75.26					75.26
6	4.50					4.50	1.00					1.00	7.22					7.22	72.50					72.50
7	4.50					4.50	1.00					1.00	3.59					3.59	48.30					48.30
8	4.50					4.50	1.00					1.00	2.93					2.93	38.28					38.28
9	4.50					4.50	1.00					1.00	3.93					3.93	59.66					59.66
10	4.50					4.50	1.00					1.00	3.39					3.39	45.67					45.67
11	4.50					4.50	1.00					1.00	6.36					6.36	48.90					48.90
12	4.50					4.50	1.00					1.00	2.63					2.63	37.24					37.24
13	4.50					4.50	1.00					1.00	2.24					2.24	30.86					30.86
14	4.50					4.50	1.00					1.00	2.94					2.94	44.65					44.65
15	4.50					4.50	1.00					1.00	5.11					5.11	42.76					42.76
16	4.50					4.50	1.00					1.00	2.60					2.60	30.63					30.63
17	4.50					4.50	1.00					1.00	6.05					6.05	61.83					61.83
18	4.50					4.50	1.00					1.00	5.72					5.72	51.96					51.96
19	4.50					4.50	1.00					1.00	6.02					6.02	43.90					43.90
20	4.50					4.50	1.00					1.00	3.92					3.92	63.26					63.26
21	4.50					4.50	1.00					1.00	6.42					6.42	50.44					50.44
22	4.50					4.50	1.00					1.00	2.73					2.73	33.79					33.79
23	4.50					4.50	1.00					1.00	6.37					6.37	35.03					35.03
24	4.50					4.50	1.00					1.00	4.22					4.22	48.15					48.15
25	4.50					4.50	1.00					1.00	2.77					2.77	26.72					26.72
26	4.50					4.50	1.00					1.00	2.34					2.34	17.69					17.69
27	4.50					4.50	1.00					1.00	5.24					5.24	104.01					104.01
28	4.50					4.50	1.00					1.00	7.08					7.08	69.97					69.97
29	4.50					4.50	1.00					1.00	5.69					5.69	30.44					30.44
30	4.50					4.50	1.00					1.00	4.71					4.71	29.38					29.38
31																								
MIN	4.50					4.50	1.00					1.00	2.24					2.24	17.69					17.69
AVG	4.50					4.50	1.00					1.00	4.71					4.71	50.13					50.13
MAX	4.50					4.50	1.00					1.00	7.22					7.22	104.01					104.01