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	Operator's Signature:	
Report for the Month of:	December 2018	Certificate No. & Grade:	WS0012772, B

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.

Date: January 10, 2019

TREATMENT PLANT PERFORMANCE

Total number of turbidity readings:	86	Number of 4-hour periods when plant was off-line:	100
Number of readings above 0.10 NTU:	7	Number of 4-hour periods when plant was on-line but turbidity data was not collected:	0
Number of readings above 0.3 NTU:	0		
Number of readings above 0.5 NTU:	0	Number of days when plant was on-line but individual filter turbidity data was not collected:	0
Number of readings above 1.0 NTU:	0		
Maximum allowable turbidity level:	0.3	Number of days with readings above 1.0 NTU:	0 (2)
Percentage of readings above this limit:	0.0 % (1)	Number of days with readings above 5.0 NTU:	0 (3)

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

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

Number of days with low inactivation (including UV) for no more than 4.0 consecutive hours:	0	Average log inactivation (including UV) for Giardia:	5.50
		Average log inactivation) (including UV) for viruses:	79.91
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:	6.97
		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:	44 (at least 31 required) (8)		
Average disinfectant residual value:	2.39	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:	9.89 NTU	Average turbidity value:	3.82 NTU
	Minimum turbidity reading:	0.35 NTU	Standard deviation:	2.064 NTU
	95th percentile value:	7.75 NTU		
IFE Stastical Summary	Maximum IFE turbidity reading:	0.00 NTU	Average IFE turbidity value:	0.01 NTU
	Minimum IFEturbidity reading:	0.29 NTU	Standard deviation:	0.079 NTU
	95th percentile IFE value:	0.06 NTU		
CFE Stastical Summary	Maximum CFE turbidity reading:	0.13 NTU	Average CFE turbidity value:	0.08 NTU
	Minimum CFE turbidity reading:	0.02 NTU	Standard deviation:	0.025 NTU
	95th percentile CFE value:	0.11 NTU		

STATISTICAL ANALYSIS OF pH DATA

Last Zone pH Stastical Summary	Maximum pH reading:	7.40 pH	Average pH value:	7.24 pH
	Minimum pH reading:	6.97 pH	Standard deviation:	0.108 pH
	95th percentile value:	7.39 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: December **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	0.790	0.489	24	160	4.2	4.3					X	X	X	0.10	0.10	0.10	1.1	
2	0.982	0.561	23	160	7.8	4.2					X	X	X	X	0.09	0.12	1.3	
3	0.877	0.498	37	160	4.8	4.6					X	X	X	X	0.11	0.11	1.2	
4	0.795	0.485	58	180	4.2	4.3					X	X	X	0.10	0.10	0.10	1.0	
5	0.785	0.352	78	160	5.2	3.3					X	X	X	0.09	0.08	0.08	1.0	
6	0.791	0.399	83	160	5.1	4.2					X	X	X	0.07	0.07	0.04	0.6	
7	0.722	0.376	21	160	3.7	4.4					X	X	X	0.08	0.08	0.05	0.8	
8	0.764	0.603	20	160	5.5	6.9					X	X	X	0.07	0.07	0.04	0.8	
9	0.779	0.458	21	160	3.1	2.5					X	X	X	0.08	0.08	0.05	0.9	
10	0.834	0.489	20	180	6.0	2.7					X	X	X	0.08	0.10	0.09	0.7	
11	0.874	0.500	20	160	3.3	4.7					X	X	X	0.08	0.09	0.09	0.7	
12	0.778	0.413	23	160	0.6	0.7					X	X	X	0.11	0.10	0.10	0.6	
13	0.779	0.367	24	160	0.4	4.5					X	X	X	0.09	0.09	0.08	0.7	
14	0.747	0.513	31	160	0.4	3.1					X	X	X	0.06	0.03	0.04	0.7	
15	0.732	0.533	33	160	3.9	4.1					X	X	X	0.06	0.04	0.03	0.7	
16	0.872	0.521	36	160	1.4	8.1					0.03	X	X	X	0.03	0.03	0.8	
17	0.810	0.521	28	160	0.4	2.3					X	X	X	0.07	0.08	0.06	0.7	
18	0.993	0.605	37	180	0.5	4.7					0.06	X	X	0.07	0.10	0.10	0.7	
19	0.921	0.562	43	160	3.4	9.9					X	X	X	0.10	0.10	0.10	0.5	
20	0.774	0.454	33	160	4.3	5.7					X	X	X	X	0.08	0.07	0.6	
21	0.771	0.533	35	160	5.2	4.2					X	X	X	X	0.05	0.04	1.3	
22	0.800	0.546	25	160	4.3	9.0					X	X	X	X	0.04	0.02	1.0	
23	0.848	0.524	28	160	3.6	2.7					X	X	X	X	0.03	0.04	0.7	
24	0.843	0.517	27	160	5.0	5.6					X	X	X	X	0.13	0.12	2.7	
25	0.916	0.489	28	140	1.4	5.9					0.06	X	X	0.08	0.09	0.09	2.9	
26	0.931	0.612	26	140	2.1	0.4					X	X	X	0.10	0.10	0.11	1.5	
27	0.808	0.570	23	160	1.4	0.4					X	X	X	0.04	0.10	0.09	2.5	
28	0.861	0.576	29	140	3.1	4.8					X	X	X	0.07	0.08	0.06	2.6	
29	0.887	0.492	31	140	4.5	3.7					X	X	X	0.07	0.07	0.10	2.4	
30	0.777	0.231	31	140	2.5	2.4					X	X	X	X	0.09	0.09	2.5	
31	0.851	0.418	37	140	4.7	3.2					X	X	X	X	0.08	0.08	2.3	
Total	25.692	15.207		Max	7.8	9.9												
Avg	0.829	0.491		Avg	3.4	4.2												
Max	0.993	0.612		95th %	5.8	8.5												
Min	0.722	0.231		Min	0.4	0.4												
				95th percentile based on data from all basins						7.7								

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: Tomas Sanchez Jr. **Certificate No. and Grade:** WS0012772, B **Date:** January 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: December 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	0.07		0.15		0.04		0.06													
2	0.06		0.12		0.04		0.08													
3	0.05		0.12		0.04		0.06													
4	0.06		0.05		0.07		0.05													
5	0.06		0.08		0.06		0.05													
6	0.07		0.20		0.05		0.06													
7	0.04		0.05		0.04		0.06													
8	0.04		0.04		0.04		0.05													
9	0.04		0.04		0.06		0.04													
10	0.06		0.06		0.06		0.06													
11	0.06		0.06		0.04		0.04													
12	0.06		0.11		0.04		0.05													
13	0.04		0.05		0.04		0.19													
14	0.04		0.05		0.03		0.05													
15	0.05		0.09		0.09		0.05													
16	0.05		0.21		0.10		0.05													
17	0.02		0.08		0.10		0.05													
18	0.02		0.29		0.07		0.05													
19	0.04		0.10		0.10		0.07													
20	0.03		0.19		0.05		0.05													
21	0.02		0.05		0.04		0.06													
22	0.02		0.12		0.03		0.05													
23	0.01		0.20		0.03		0.04													
24	0.13		0.29		0.06		0.05													
25	0.08		0.28		0.05		0.11													
26	0.09		0.25		0.09		0.08													
27	0.08		0.11		0.10		0.07													
28	0.08		0.24		0.18		0.06													
29	0.11		0.14		0.07		0.29													
30	0.08		0.10		0.08		0.08													
31	0.07		0.06		0.06		0.05													

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: January 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:** December **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

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time*
1	FCL D1A	0.7	0.820	19.8	7.4	2.73	67.29	5.45 (G)	
	FCL D1B	0.7	0.820	20.4	7.3				
	FCL D2	1.2	0.410	19.1	7.4				
	CLA D3	2.9	0.820	18.9	7.3				
	D4								
2	FCL D1A	0.9	0.828	20.9	7.5	2.66	71.16	5.32 (G)	
	FCL D1B	0.9	0.828	20.9	7.4				
	FCL D2	1.1	0.414	20.5	7.4				
	CLA D3	1.7	0.828	20.3	7.1				
	D4								
3	FCL D1A	0.6	0.848	20.0	7.3	1.62	32.17	3.24 (G)	
	FCL D1B	1.0	0.848	20.7	7.4				
	FCL D2	0.4	0.424	20.0	7.0				
	CLA D3	2.0	0.848	20.4	7.3				
	D4								
4	FCL D1A	1.3	0.820	19.3	7.6	3.77	96.99	7.53 (G)	
	FCL D1B	1.2	0.820	19.4	7.6				
	FCL D2	1.6	0.410	19.8	7.4				
	CLA D3	3.9	0.820	20.0	7.4				
	D4								
5	FCL D1A	1.5	0.810	19.0	7.7	3.48	103.78	6.95 (G)	
	FCL D1B	1.8	0.810	18.4	7.6				
	FCL D2	1.9	0.405	18.0	7.5				
	CLA D3	2.4	0.810	18.4	7.3				
	D4								
6	FCL D1A	1.4	0.752	18.9	7.4	4.40	125.30	8.80 (G)	
	FCL D1B	1.6	0.752	18.7	7.3				
	FCL D2	1.9	0.376	20.5	7.3				
	CLA D3	2.3	0.752	19.8	7.2				
	D4								
7	FCL D1A	1.4	0.749	18.9	7.5	3.73	107.96	7.46 (G)	
	FCL D1B	1.8	0.749	18.7	7.4				
	FCL D2	1.7	0.374	18.7	7.3				
	CLA D3	2.0	0.749	17.4	7.3				
	D4								
8	FCL D1A	1.6	0.772	17.7	7.4	2.77	76.67	5.54 (G)	
	FCL D1B	1.6	0.772	17.5	7.4				
	FCL D2	1.0	0.386	19.6	7.5				
	CLA D3	1.8	0.772	17.6	7.3				
	D4								

PERFORMANCE DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time*
9	FCL D1A	1.0	0.799	18.1	7.3	2.58	66.42	5.15 (G)	
	FCL D1B	1.4	0.799	18.1	7.3				
	FCL D2	1.2	0.399	17.6	7.4				
	CLA D3	2.3	0.799	17.1	7.3				
	D4								
10	FCL D1A	1.1	0.804	17.8	7.2	2.30	56.86	4.60 (G)	
	FCL D1B	0.9	0.804	18.0	7.2				
	FCL D2	1.0	0.402	17.8	7.2				
	CLA D3	1.5	0.804	19.3	7.3				
	D4								
11	FCL D1A	0.7	0.825	18.8	7.3	2.69	70.60	5.37 (G)	
	FCL D1B	0.5	0.825	18.8	7.3				
	FCL D2	1.4	0.412	19.6	7.4				
	CLA D3	2.5	0.825	17.6	7.3				
	D4								
12	FCL D1A	0.9	0.839	18.4	7.3	2.88	79.16	5.77 (G)	
	FCL D1B	0.9	0.839	18.4	7.3				
	FCL D2	1.6	0.419	18.4	7.4				
	CLA D3	2.1	0.839	18.3	7.2				
	D4								
13	FCL D1A	1.0	0.832	18.1	7.3	2.73	71.75	5.46 (G)	
	FCL D1B	0.8	0.832	18.1	7.3				
	FCL D2	1.4	0.416	18.4	7.4				
	CLA D3	2.2	0.832	19.1	7.0				
	D4								
14	FCL D1A	1.1	0.802	16.9	7.4	3.09	89.82	6.19 (G)	
	FCL D1B	1.1	0.802	16.6	7.3				
	FCL D2	1.8	0.401	17.5	7.4				
	CLA D3	1.6	0.802	17.1	7.3				
	D4								
15	FCL D1A	1.4	0.777	16.4	7.5	3.22	89.31	6.44 (G)	
	FCL D1B	1.4	0.777	16.6	7.5				
	FCL D2	1.8	0.388	16.1	7.2				
	CLA D3	2.4	0.777	15.1	7.4				
	D4								
16	FCL D1A	1.2	0.758	18.1	7.5	2.54	71.54	5.09 (G)	
	FCL D1B	1.2	0.758	17.7	7.4				
	FCL D2	1.4	0.379	14.9	7.3				
	CLA D3	1.3	0.758	16.1	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:** January 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:** December **Year:** 2018

DISINFECTION PROCESS PARAMETERS

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

PERFORMANCE DATA

DISINFECTION PROCESS DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
17	FCL D1A	1.1	0.074	16.9	7.4	3.12	85.43	6.24 (G)	
	FCL D1B	1.0	0.737	17.1	7.3				
	FCL D2	1.6	0.368	16.6	7.4				
	CLA D3	2.5	0.737	16.0	7.2				
	D4								
18	FCL D1A	1.0	0.741	16.8	7.3	3.12	87.45	6.23 (G)	
	FCL D1B	1.1	0.741	16.9	7.3				
	FCL D2	1.7	0.370	16.4	7.4				
	CLA D3	2.2	0.741	16.4	7.1				
	D4								
19	FCL D1A	1.3	0.758	16.7	7.4	3.12	85.98	6.25 (G)	
	FCL D1B	1.5	0.758	16.5	7.4				
	FCL D2	1.7	0.379	15.8	7.3				
	CLA D3	2.4	0.758	15.6	7.3				
	D4								
20	FCL D1A	1.8	0.798	20.0	7.4	4.10	115.42	8.19 (G)	
	FCL D1B	1.8	0.798	20.1	7.4				
	FCL D2	2.0	0.399	17.7	7.4				
	CLA D3	3.2	0.798	18.4	7.0				
	D4								
21	FCL D1A	2.0	0.796	17.4	7.5	3.56	107.55	7.12 (G)	
	FCL D1B	2.2	0.796	17.7	7.4				
	FCL D2	2.1	0.398	15.8	7.3				
	CLA D3	2.1	0.796	16.7	7.3				
	D4								
22	FCL D1A	1.8	0.804	19.2	7.4	3.45	98.14	6.91 (G)	
	FCL D1B	1.6	0.804	19.4	7.3				
	FCL D2	1.8	0.402	17.0	7.3				
	CLA D3	2.2	0.804	17.4	7.3				
	D4								
23	FCL D1A	1.9	0.811	17.7	7.4	3.23	81.98	6.47 (G)	
	FCL D1B	1.7	0.811	18.2	7.4				
	FCL D2	1.5	0.405	15.8	7.4				
	CLA D3	4.2	0.811	16.3	7.3				
	D4								
24	FCL D1A	1.8	0.805	16.0	7.0	3.81	92.06	7.63 (G)	
	FCL D1B	1.7	0.805	16.0	7.3				
	FCL D2	1.7	0.402	17.0	7.2				
	CLA D3	4.8	0.805	17.0	7.2				
	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	1.2	0.760	18.7	7.1	4.02	97.12	8.03 (G)	
	FCL D1B	1.2	0.760	18.6	7.2				
	FCL D2	1.5	0.380	19.2	7.2				
	CLA D3	3.7	0.760	19.2	7.0				
	D4								
26	FCL D1A	0.8	0.763	19.7	7.2	2.36	51.07	4.72 (G)	
	FCL D1B	0.8	0.763	20.0	7.3				
	FCL D2	0.8	0.381	18.7	7.5				
	CLA D3	3.4	0.763	18.1	7.2				
	D4								
27	FCL D1A	0.9	0.779	19.7	7.3	3.01	64.88	6.02 (G)	
	FCL D1B	1.2	0.779	19.6	7.3				
	FCL D2	1.0	0.389	19.2	7.4				
	CLA D3	4.0	0.779	19.9	7.2				
	D4								
28	FCL D1A	1.0	0.801	18.6	7.3	2.68	60.87	5.36 (G)	
	FCL D1B	1.0	0.801	18.6	7.4				
	FCL D2	0.9	0.400	19.9	7.4				
	CLA D3	3.4	0.801	18.8	7.3				
	D4								
29	FCL D1A	0.6	0.824	16.4	7.4	1.92	41.51	3.84 (G)	
	FCL D1B	0.8	0.824	16.3	7.4				
	FCL D2	0.7	0.412	18.8	7.3				
	CLA D3	3.0	0.824	16.1	7.2				
	D4								
30	FCL D1A	1.0	0.844	16.3	7.3	2.05	51.76	4.11 (G)	
	FCL D1B	1.2	0.844	16.1	7.3				
	FCL D2	1.0	0.422	17.3	7.4				
	CLA D3	2.0	0.844	16.3	7.2				
	D4								
31	FCL D1A	1.0	0.846	16.1	7.2	2.96	75.06	5.92 (G)	
	FCL D1B	1.1	0.846	16.6	7.3				
	FCL D2	1.7	0.423	16.4	7.2				
	CLA D3	2.8	0.846	16.8	7.4				
	D4								

	Giardia Log	Virus Log	Inact. Ratio
Max	4.40	125.30	8.80
Min	1.62	32.17	3.24
Avg	3.02	79.78	6.05
SD	0.64	21.25	1.28

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:** January 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: December

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	12/10	180	2.48	1.90	23.4	15	1.56			1.56
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		180.00	2.48	1.90	23.39		1.56			1.56
Max		180.00	2.48	1.90	23.39		1.56			1.56
Min		180.00	2.48	1.90	23.39		1.56			1.56

TOTAL ORGANIC CARBON (TOC) REMOVAL SUMMARY

TOC Summary					Monthly Compliance Ratio
Raw Water Alkalinity	Raw Water TOC	Treated Water TOC	TOC % Removal	ACC # used	
180	2.48	1.90	23.4	NA	1.56

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: January 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:** December **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	0.398	1.275	92.87	30.76	1.00	30.76	0.000	
	3	0.273	0.812	92.87	43.89	1.00	43.89	0.000	
	4								
	5								
2	1	X	X	X	X	X	X	X	0.000
	2	0.423	1.125	78.53	34.86	1.00	34.86	0.000	
	3	0.288	0.728	78.53	48.54	1.00	48.54	0.000	
	4								
	5								
3	1	X	X	X	X	X	X	X	0.75
	2	0.501	1.500	94.77	0.00	1.00	0.00	0.012	
	3	0.331	0.985	94.77	0.00	1.00	0.00	0.007	
	4								
	5								
4	1	X	X	X	X	X	X	X	0.000
	2	0.412	0.929	95.70	5.09	1.00	5.09	0.000	
	3	0.272	0.608	95.70	59.01	1.00	59.01	0.000	
	4								
	5								
5	1	X	X	X	X	X	X	X	0.000
	2	0.414	1.097	95.58	35.11	1.00	35.11	0.000	
	3	0.274	0.684	95.58	50.44	1.00	50.44	0.000	
	4								
	5								
6	1	X	X	X	X	X	X	X	0.75
	2	0.409	0.947	95.43	0.00	1.00	0.00	0.009	
	3	0.274	0.617	95.73	0.00	1.00	0.00	0.005	
	4								
	5								
7	1	X	X	X	X	X	X	X	0.50
	2	0.370	0.862	92.75	0.00	1.00	0.00	0.003	
	3	0.242	0.564	92.75	0.00	1.00	0.00	0.001	
	4								
	5								
8	1	X	X	X	X	X	X	X	0.000
	2	0.376	0.855	95.87	39.79	1.00	39.79	0.000	
	3	0.259	0.584	95.87	55.81	1.00	55.81	0.000	
	4								
	5								

PERFORMANCE DATA

Date	Reactor	Total Product. (MG)	Max. Flow Rate (MGD)	Min UV Trans. (%)	Minimum Meas'd UV Dose (mJ/cm^2)	Sensor CF	Adjusted Minimum UV Dose (mJ/cm^2)	Total Off-Spec Product. (MG)	Consec. Off-Spec Hours (hr)
9	1	X	X	X	X	X	X	X	0.75
	2	0.353	0.888	95.99	0.00	1.00	0.00	0.007	
	3	0.269	0.595	95.99	0.00	1.00	0.00	0.007	
	4								
	5								
10	1	X	X	X	X	X	X	X	0.000
	2	0.337	1.138	94.65	30.94	1.00	30.94	0.000	
	3	0.269	0.841	94.65	43.29	1.00	43.29	0.000	
	4								
	5								
11	1	X	X	X	X	X	X	X	0.000
	2	0.355	0.896	95.85	39.75	1.00	39.75	0.000	
	3	0.290	0.687	95.85	55.81	1.00	55.81	0.000	
	4								
	5								
12	1	X	X	X	X	X	X	X	0.000
	2	0.354	0.857	90.81	26.54	1.00	26.54	0.000	
	3	0.271	0.642	90.81	40.96	1.00	40.96	0.000	
	4								
	5								
13	1	X	X	X	X	X	X	X	0.25
	2	0.400	1.100	96.24	0.00	1.00	0.00	0.002	
	3	0.266	0.725	96.24	0.00	1.00	0.00	0.001	
	4								
	5								
14	1	X	X	X	X	X	X	X	0.000
	2	0.382	1.051	96.78	7.11	1.00	7.11	0.000	
	3	0.262	0.693	96.78	53.52	1.00	53.52	0.000	
	4								
	5								
15	1	X	X	X	X	X	X	X	0.000
	2	0.334	0.916	93.11	35.11	1.00	35.11	0.000	
	3	0.253	0.621	93.11	59.15	1.00	59.15	0.000	
	4								
	5								
16	1	X	X	X	X	X	X	X	0.25
	2	0.385	1.115	89.77	0.00	1.00	0.00	0.003	
	3	0.301	0.889	89.77	0.00	1.00	0.00	0.002	
	4								
	5								

SUBMITTED BY: Tomas Sanchez Jr.

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

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	X	X	X	X	X	X	X	0.000
	2	0.370	0.823	93.04	17.63	1.00	17.63	0.000	
	3	0.262	0.560	93.04	60.93	1.00	60.93	0.000	
	4								
	5								
18	1	X	X	X	X	X	X	X	0.50
	2	0.430	0.971	96.66	0.00	1.00	0.00	0.006	
	3	0.333	0.666	96.66	0.00	1.00	0.00	0.003	
	4								
	5								
19	1	X	X	X	X	X	X	X	0.50
	2	0.438	0.855	96.24	0.00	1.00	0.00	0.003	
	3	0.325	0.591	96.24	0.00	1.00	0.00	0.004	
	4								
	5								
20	1	X	X	X	X	X	X	X	0.000
	2	0.391	1.163	96.29	24.30	1.00	24.30	0.000	
	3	0.271	0.778	96.29	46.12	1.00	46.12	0.000	
	4								
	5								
21	1	X	X	X	X	X	X	X	0.25
	2	0.381	0.885	95.63	0.00	1.00	0.00	0.002	
	3	0.268	0.615	95.63	0.00	1.00	0.00	0.001	
	4								
	5								
22	1	X	X	X	X	X	X	X	0.25
	2	0.399	1.009	96.04	0.00	1.00	0.00	0.001	
	3	0.278	0.688	96.04	0.00	1.00	0.00	0.001	
	4								
	5								
23	1	X	X	X	X	X	X	X	0.000
	2	0.375	0.981	95.26	32.44	1.00	32.44	0.000	
	3	0.271	0.689	95.26	44.72	1.00	44.72	0.000	
	4								
	5								
24	1	X	X	X	X	X	X	X	0.50
	2	0.402	0.871	91.09	0.00	1.00	0.00	0.003	
	3	0.290	0.589	91.09	0.00	1.00	0.00	0.002	
	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	X	X	X	X	X	X	X	0.000
	2	0.396	0.782	86.59	32.12	1.00	32.12	0.000	
	3	0.313	0.589	86.59	44.61	1.00	44.61	0.000	
	4								
	5								
26	1	X	X	X	X	X	X	X	0.000
	2	0.479	0.864	88.79	36.12	1.00	36.12	0.000	
	3	0.317	0.590	88.79	49.16	1.00	49.16	0.000	
	4								
	5								
27	1	X	X	X	X	X	X	X	0.000
	2	0.429	0.882	87.03	8.98	1.00	8.98	0.000	
	3	0.283	0.583	87.03	48.90	1.00	48.90	0.000	
	4								
	5								
28	1	X	X	X	X	X	X	X	0.25
	2	0.454	0.904	89.30	0.00	1.00	0.00	0.006	
	3	0.296	0.594	89.30	0.00	1.00	0.00	0.004	
	4								
	5								
29	1	X	X	X	X	X	X	X	0.25
	2	0.456	1.427	84.39	0.00	1.00	0.00	0.006	
	3	0.299	0.896	84.39	0.00	1.00	0.00	0.004	
	4								
	5								
30	1	X	X	X	X	X	X	X	0.25
	2	0.421	1.222	74.72	0.00	1.00	0.00	0.010	
	3	0.273	0.835	74.72	36.22	1.00	36.22	0.000	
	4								
	5								
31	1	X	X	X	X	X	X	X	
	2	0.394	0.979	71.07	29.14	1.00	29.14	0.000	
	3	0.280	0.658	71.07	43.31	1.00	43.31	0.000	
	4								
	5								

SUBMITTED BY: Tomas Sanchez Jr.

Certificate No. and Grade: WS0012772, B

Date: January 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:** December **Year:** 2018

DAILY MINIMUM INACTIVATION

Reactor Range	SUMMARY DATA					Reactor Range	SUMMARY DATA				
	Date	Min Dose (mJ/cm²)	Inactivation Credit Achieved: Giardia Log	Virus Log	Crypto Log		Date	Min Dose (mJ/cm²)	Min Inactivation: Giardia Log	Virus Log	Crypto Log
1 to 3	1	30.76	4.00	0.26	1.00	1 to 3	9	0.00*	1.00	0.00	1.00
	2	34.86	4.00	0.38	1.00		10	30.94	4.00	0.26	1.00
	3	0.00*	1.00	0.00	1.00		11	39.75	4.00	0.52	1.00
	4	5.09	1.98	0.00	1.00		12	26.54	4.00	0.13	1.00
	5	35.11	4.00	0.39	1.00		13	0.00*	1.00	0.00	1.00
	6	0.00*	1.00	0.00	1.00		14	7.11	2.38	0.00	1.00
	7	0.00*	1.00	0.00	1.00		15	35.11	4.00	0.39	1.00
	8	39.79	4.00	0.52	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 Inactivatic: Giardia Log	Virus Log
1 to 3	17	17.63	3.69	0.00	1.00	1 to 3	25	32.12	4.00	0.30
	18	0.00*	1.00	0.00	1.00		26	36.12	4.00	0.42
	19	0.00*	1.00	0.00	1.00		27	8.98	2.69	0.00
	20	24.30	4.00	0.05	1.00		28	0.00*	1.00	0.00
	21	0.00*	1.00	0.00	1.00		29	0.00*	1.00	0.00
	22	0.00*	1.00	0.00	1.00		30	0.00*	1.00	0.00
	23	32.44	4.00	0.31	1.00		31	29.14	4.00	0.21
	24	0.00*	1.00	0.00	1.00					

Total volume of water treated by all CDA reactors:	21.17	MG
Total volume of off-spec water produced by all CDA reactors:	0.12	MG
Percentage of off-spec water produced by all CDA reactors:	0.54	%
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: (December, 2018) 1, 2, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 31

SUBMITTED BY: Tomas Sanchez Jr.

Certificate No. and Grade: WS0012772, B **Date:** January 10, 2019

›n
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 (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: December **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							
	12/1/18	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 2	Previous Month's Sensor CF	1	38	44	71.50	70.80	1.01	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	12/1/18	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 3	Previous Month's Sensor CF	1	39	44	93.20	94.30	0.99	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	12/1/18	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: January 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: December

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: January 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.)
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: December

Year: 2018

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	12/1/18	78713	95.50	94.80	0.70	NA	NA
	2	12/3/18	78713	95.60	93.70	1.90	NA	NA
	3	12/10/18	78713	96.20	95.10	1.10	NA	NA
	4	12/17/18	78713	96.90	95.40	1.50	NA	NA
	5	12/24/18	78713	90.70	90.60	0.10	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%)
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: Januar

Other Action Taken

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: December

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					2.50										1.00		
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: December 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	6.73					6.73	67.55					67.55
2	4.50					4.50	1.00					1.00	6.73					6.73	71.54					71.54
3	4.50					4.50	1.00					1.00	2.62					2.62	32.17					32.17
4	4.50					4.50	1.00					1.00	5.75					5.75	96.99					96.99
5	4.50					4.50	1.00					1.00	7.48					7.48	104.17					104.17
6	4.50					4.50	1.00					1.00	5.40					5.40	125.30					125.30
7	4.50					4.50	1.00					1.00	4.73					4.73	107.96					107.96
8	4.50					4.50	1.00					1.00	6.77					6.77	77.19					77.19
9	4.50					4.50	1.00					1.00	3.58					3.58	66.42					66.42
10	4.50					4.50	1.00					1.00	6.30					6.30	57.12					57.12
11	4.50					4.50	1.00					1.00	6.69					6.69	71.12					71.12
12	4.50					4.50	1.00					1.00	6.88					6.88	79.28					79.28
13	4.50					4.50	1.00					1.00	3.73					3.73	71.75					71.75
14	4.50					4.50	1.00					1.00	5.48					5.48	89.82					89.82
15	4.50					4.50	1.00					1.00	7.22					7.22	89.70					89.70
16	4.50					4.50	1.00					1.00	3.54					3.54	71.54					71.54
17	4.50					4.50	1.00					1.00	6.81					6.81	85.43					85.43
18	4.50					4.50	1.00					1.00	4.12					4.12	87.45					87.45
19	4.50					4.50	1.00					1.00	4.12					4.12	85.98					85.98
20	4.50					4.50	1.00					1.00	8.10					8.10	115.48					115.48
21	4.50					4.50	1.00					1.00	4.56					4.56	107.55					107.55
22	4.50					4.50	1.00					1.00	4.45					4.45	98.14					98.14
23	4.50					4.50	1.00					1.00	7.23					7.23	82.29					82.29
24	4.50					4.50	1.00					1.00	4.81					4.81	92.06					92.06
25	4.50					4.50	1.00					1.00	8.02					8.02	97.42					97.42
26	4.50					4.50	1.00					1.00	6.36					6.36	51.49					51.49
27	4.50					4.50	1.00					1.00	5.70					5.70	64.88					64.88
28	4.50					4.50	1.00					1.00	3.68					3.68	60.87					60.87
29	4.50					4.50	1.00					1.00	2.92					2.92	41.51					41.51
30	4.50					4.50	1.00					1.00	3.05					3.05	51.76					51.76
31	4.50					4.50	1.00					1.00	6.96					6.96	75.27					75.27
MIN	4.50					4.50	1.00					1.00	2.62					2.62	32.17					32.17
AVG	4.50					4.50	1.00					1.00	5.50					5.50	79.91					79.91
MAX	4.50					4.50	1.00					1.00	8.10					8.10	125.30					125.30