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: December 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: Adelio V

Certificate No. & Grade: WS0014046, B

Date: January 10, 2020

TREATMENT PLANT PERFORMANCE

Total number of turbidity readings:	88	Number of 4-hour periods when plant was off-line:	98
Number of readings above 0.10 NTU:	0	Number of 4-hour periods when plant was on-line	
Number of readings above 0.3 NTU:	0	but turbidity data was not collected:	0
Number of readings above 0.5 NTU:	0	Number of days when plant was on-line	
Number of readings above 1.0 NTU:	0	but individual filter turbidity data was not collected:	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:	4.28
		Average log inactivation) (including UV) for viruses:	43.48
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:	6.95
		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 31 required) (8)		
Average disinfectant residual value:	2.60	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:	7.30 NTU	Average turbidity value:	1.65 NTU
	Minimum turbidity reading:	0.40 NTU	Standard deviation:	1.463 NTU
	95th percentile value:	4.97 NTU		
IFE Stastical Summary	Maximum IFE turbidity reading:	0.10 NTU	Average IFE turbidity value:	0.04 NTU
	Minimum IFEturbidity reading:	0.01 NTU	Standard deviation:	0.017 NTU
	95th percentile IFE value:	0.07 NTU		
CFE Stastical Summary	Maximum CFE turbidity reading:	0.10 NTU	Average CFE turbidity value:	0.05 NTU
	Minimum CFE turbidity reading:	0.03 NTU	Standard deviation:	0.010 NTU
	95th percentile CFE value:	0.07 NTU		

STATISTICAL ANALYSIS OF pH DATA

Last Zone pH Stastical Summary	Maximum pH reading:	7.39 pH	Average pH value:	7.22 pH
	Minimum pH reading:	6.95 pH	Standard deviation:	0.099 pH
	95th percentile value:	7.35 pH		

SURFACE WATER MONTHLY OPERATING REPORT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER SUPPLY DIVISION/PUBLIC DRINKING WATER SECTION (MC-155)
SURFACE WATER MONTHLY OPERATING REPORT

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:** 1,936

Month: December **Year:** 2019 **Population:** 6,776

PERFORMANCE DATA

Date	Raw Water Pumpage (MGD)	Treated Water Pumpage (MGD)	RAW WATER ANALYSES		SETTLED WATER TURBIDITY (Optional Data) Basin No.						FINISHED WATER QUALITY Combined Filter Effluent Turbidity						Lowest Residual	Time*
			NTU	Alk.	1	2	3	4	5	6	NTU1	NTU2	NTU3	NTU4	NTU5	NTU6		
1	0.849	0.641	23	180	0.9	0.8					X	X	X	0.05	0.04	0.05	2.3	
2	0.857	0.648	18	160	4.1	0.8					X	X	X	0.05	0.05	0.04	3.2	
3	0.708	0.614	27	160	5.1	0.7					X	X	X	0.05	0.05	0.04	3.4	
4	0.739	0.710	29	160	0.8	0.5					X	X	X	0.04	0.05	0.05	3.0	
5	0.807	0.828	45	160	0.8	0.5					X	X	X	0.04	0.03	0.06	2.8	
6	0.841	0.734	35	160	0.8	0.5					X	X	X	0.07	0.07	0.08	2.7	
7	0.825	0.752	34	160	0.7	0.6					X	X	X	0.07	0.06	0.06	2.5	
8	0.854	0.777	19	160	0.7	0.6					X	X	X	0.06	0.06	0.06	2.6	
9	0.860	0.798	37	160	0.9	0.6					X	X	X	0.07	0.07	0.06	2.5	
10	0.721	0.620	21	160	0.8	0.6					X	X	X	0.05	0.08	0.05	2.4	
11	0.816	0.698	19	160	0.8	0.6					X	X	X	0.06	0.06	0.06	1.9	
12	0.756	0.691	21	160	0.8	0.5					X	X	X	0.06	0.06	0.05	2.9	
13	0.711	0.839	28	160	0.8	0.5					X	X	X	0.05	0.04	0.05	2.2	
14	0.804	0.996	26	160	3.0	2.5					X	X	X	0.05	0.05	0.05	3.0	
15	0.918	0.989	27	160	3.2	2.4					0.06	X	X	0.05	0.06	0.05	2.9	
16	0.964	0.743	22	160	2.3	0.6					X	X	X	0.05	0.05	0.05	2.7	
17	0.635	0.630	17	160	3.9	1.0					X	X	X	X	0.05	0.05	2.3	
18	0.830	0.554	19	160	5.0	0.6					X	X	X	X	0.06	0.06	3.0	
19	0.817	0.739	22	160	5.1	0.4					X	X	X	X	0.05	0.05	3.4	
20	0.625	1.180	21	160	3.4	0.4					X	X	X	X	0.05	0.04	3.1	
21	0.832	0.957	10	180	2.4	0.4					X	X	X	0.05	0.05	0.05	3.1	
22	0.719	0.657	28	180	0.7	0.4					X	X	X	X	0.05	0.04	3.0	
23	0.747	0.723	25	140	1.1	1.2					X	X	X	X	0.05	0.06	3.2	
24	0.820	0.881	25	140	1.1	1.3					X	X	X	0.06	0.06	0.05	3.1	
25	0.887	0.893	40	160	2.4	3.7					X	X	X	0.06	0.06	0.06	2.8	
26	0.791	0.593	41	160	3.0	0.9					X	X	X	0.06	0.05	0.06	2.8	
27	0.849	0.566	52	140	3.2	1.1					X	X	X	0.06	0.05	0.06	2.0	
28	0.882	0.447	22	140	3.1	1.4					X	X	X	0.05	0.10	0.06	3.1	
29	0.880	0.666	30	140	2.1	1.8					0.06	X	X	0.06	0.05	0.05	3.0	
30	0.694	0.712	46	160	2.1	1.2					X	X	X	0.06	0.06	0.06	2.6	
31	0.720	0.683	64	160	7.3	1.2					X	X	X	X	0.04	0.06	2.9	
Total	24.758	22.959		Max	7.3	3.7												
Avg	0.799	0.741		Avg	2.3	1.0												
Max	0.964	1.180		95th %	5.1	2.4												
Min	0.625	0.447		Min	0.7	0.4												
				95th percentile based on data from all basins						5.0								

NOTE: ONLY use the "Time*" column to show the length of time that the disinfectant residual entering the distribution system fell below the acceptable level.

SUBMITTED BY: Adolfo Vasquez **Certificate No. and Grade:** WS0014046, B **Date:** January 10, 2020

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: 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	0.02		0.02		0.02		0.02													
2	0.05		0.05		0.05		0.06													
3	0.07		0.04		0.05		0.04													
4	0.06		0.05		0.05		0.05													
5	0.07		0.05		0.05		0.06													
6	0.04		0.04		0.06		0.05													
7	0.04		0.04		0.05		0.05													
8	0.04		0.05		0.05		0.06													
9	0.07		0.04		0.04		0.05													
10	0.06		0.05		0.06		0.04													
11	0.05		0.07		0.04		0.04													
12	0.05		0.05		0.03		0.04													
13	0.03		0.02		0.05		0.02													
14	0.02		0.01		0.03		0.05													
15	0.02		0.02		0.03		0.03													
16	0.05		0.05		0.04		0.03													
17	0.05		0.05		0.05		0.05													
18	0.10		0.06		0.07		0.06													
19	0.04		0.02		0.04		0.04													
20	0.02		0.02		0.02		0.02													
21	0.02		0.02		0.02		0.02													
22	0.02		0.02		0.04		0.02													
23	0.03		0.04		0.04		0.09													
24	0.02		0.02		0.03		0.03													
25	0.05		0.02		0.03		0.03													
26	0.03		0.02		0.04		0.02													
27	0.05		0.05		0.06		0.04													
28	0.05		0.06		0.06		0.08													
29	0.07		0.05		0.05		0.06													
30	0.02		0.03		0.05		0.02													
31	0.03		0.04		0.05		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: Adolfo Vasquez Certificate No. and Grade: WS0014046, B Date: January 10, 2020

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: 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

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time
1	FCL *D1A*	0.3	0.747	19.3	7.2				
	FCL *D1B*	0.4	0.747	19.2	7.1				
	FCL *D2*	0.5	0.373	18.8	7.2	1.76	29.94	3.52	
	CLA *D3*	3.1	0.747	19.5	7.1			(G)	
	D4								
2	FCL *D1A*	1.1	0.747	19.5	7.1				
	FCL *D1B*	1.4	0.747	19.5	7.1				
	FCL *D2*	0.5	0.374	19.5	7.1	2.50	47.72	5.00	
	CLA *D3*	3.2	0.747	19.8	7.0			(G)	
	D4								
3	FCL *D1A*	0.9	0.729	20.5	7.2				
	FCL *D1B*	0.9	0.729	19.2	7.1				
	FCL *D2*	0.3	0.364	20.4	7.2	2.17	38.23	4.35	
	CLA *D3*	3.3	0.729	20.6	7.0			(G)	
	D4								
4	FCL *D1A*	1.0	0.693	20.3	7.1				
	FCL *D1B*	1.0	0.693	20.5	7.1				
	FCL *D2*	0.6	0.347	20.3	7.2	3.02	58.41	6.03	
	CLA *D3*	3.8	0.693	19.9	7.3			(G)	
	D4								
5	FCL *D1A*	0.9	0.724	19.3	7.3				
	FCL *D1B*	0.8	0.724	19.3	7.3				
	FCL *D2*	1.2	0.362	19.1	7.4	3.19	75.27	6.38	
	CLA *D3*	3.2	0.724	20.0	7.3			(G)	
	D4								
6	FCL *D1A*	0.6	0.748	19.4	7.3				
	FCL *D1B*	0.4	0.748	19.3	7.2				
	FCL *D2*	0.6	0.374	19.3	7.4	2.07	40.13	4.15	
	CLA *D3*	3.2	0.748	19.6	7.3			(G)	
	D4								
7	FCL *D1A*	0.6	0.758	21.0	7.3				
	FCL *D1B*	0.5	0.758	21.1	7.3				
	FCL *D2*	0.8	0.379	20.2	7.3	2.47	52.37	4.95	
	CLA *D3*	2.9	0.758	20.6	7.1			(G)	
	D4								
8	FCL *D1A*	1.1	0.755	19.3	7.2				
	FCL *D1B*	0.9	0.755	19.4	7.2				
	FCL *D2*	0.7	0.378	19.5	7.2	2.60	53.68	5.20	
	CLA *D3*	3.0	0.755	20.1	7.2			(G)	
	D4								

PERFORMANCE DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time
9	FCL *D1A*	0.5	0.776	20.0	7.2				
	FCL *D1B*	0.7	0.776	20.1	7.2				
	FCL *D2*	0.8	0.388	19.7	7.3	2.41	50.74	4.82	
	CLA *D3*	2.9	0.776	20.4	7.2			(G)	
	D4								
10	FCL *D1A*	0.7	0.786	20.2	7.2				
	FCL *D1B*	0.9	0.786	20.1	7.1				
	FCL *D2*	0.9	0.393	19.9	7.2	2.66	58.97	5.33	
	CLA *D3*	2.7	0.786	20.0	7.2			(G)	
	D4								
11	FCL *D1A*	0.6	0.778	19.5	7.3				
	FCL *D1B*	0.9	0.778	19.4	7.3				
	FCL *D2*	0.6	0.389	19.3	7.4	2.04	43.38	4.09	
	CLA *D3*	2.6	0.778	19.4	7.3			(G)	
	D4								
12	FCL *D1A*	0.5	0.757	19.6	7.2				
	FCL *D1B*	0.8	0.757	19.5	7.0				
	FCL *D2*	1.0	0.378	19.3	7.4	2.56	58.13	5.13	
	CLA *D3*	2.9	0.757	19.4	7.2			(G)	
	D4								
13	FCL *D1A*	0.6	0.693	19.3	7.2				
	FCL *D1B*	0.6	0.693	19.1	7.2				
	FCL *D2*	0.6	0.347	19.7	7.3	2.23	43.76	4.45	
	CLA *D3*	3.0	0.693	18.6	7.0			(G)	
	D4								
14	FCL *D1A*	0.8	0.711	20.1	7.2				
	FCL *D1B*	0.8	0.711	19.9	7.1				
	FCL *D2*	0.4	0.355	20.5	7.3	2.00	37.02	4.01	
	CLA *D3*	2.9	0.711	19.9	7.3			(G)	
	D4								
15	FCL *D1A*	0.5	0.714	19.3	7.2				
	FCL *D1B*	0.9	0.714	19.2	7.2				
	FCL *D2*	0.6	0.357	19.2	7.3	2.22	43.06	4.43	
	CLA *D3*	3.0	0.714	19.2	7.2			(G)	
	D4								
16	FCL *D1A*	0.8	0.734	20.7	7.2				
	FCL *D1B*	0.8	0.734	20.9	7.1				
	FCL *D2*	0.3	0.367	20.5	7.3	1.83	32.13	3.67	
	CLA *D3*	2.9	0.734	20.8	7.2			(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: January 10, 2020

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: 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

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
17	FCL *D1A*	1.0	0.770	19.1	7.4				
	FCL *D1B*	1.0	0.770	19.0	7.3				
	FCL *D2*	0.9	0.385	19.1	7.4	2.55	59.27	5.11	
	CLA *D3*	3.0	0.770	18.2	7.3			(G)	
	D4								
18	FCL *D1A*	1.0	0.728	19.3	7.4				
	FCL *D1B*	1.1	0.728	19.8	7.3				
	FCL *D2*	0.3	0.364	17.2	7.4	1.64	32.27	3.29	
	CLA *D3*	2.9	0.728	17.3	7.3			(G)	
	D4								
19	FCL *D1A*	1.1	0.818	15.9	7.4				
	FCL *D1B*	1.2	0.818	16.1	7.4				
	FCL *D2*	1.2	0.409	16.3	7.4	2.57	60.33	5.14	
	CLA *D3*	3.7	0.818	16.5	7.3			(G)	
	D4								
20	FCL *D1A*	0.4	0.810	15.8	7.4				
	FCL *D1B*	0.5	0.810	15.5	7.4				
	FCL *D2*	0.7	0.405	16.4	7.4	1.64	32.22	3.27	
	CLA *D3*	3.4	0.810	15.6	7.3			(G)	
	D4								
21	FCL *D1A*	0.4	0.796	16.8	7.4				
	FCL *D1B*	0.5	0.796	16.9	7.4				
	FCL *D2*	0.6	0.398	17.0	7.4	1.57	30.02	3.13	
	CLA *D3*	3.1	0.796	17.1	7.3			(G)	
	D4								
22	FCL *D1A*	1.2	0.773	17.8	7.3				
	FCL *D1B*	1.3	0.773	17.8	7.3				
	FCL *D2*	1.0	0.386	17.6	7.4	2.74	64.47	5.48	
	CLA *D3*	3.3	0.773	17.2	7.3			(G)	
	D4								
23	FCL *D1A*	1.8	0.752	17.6	7.4				
	FCL *D1B*	1.7	0.752	17.5	7.3				
	FCL *D2*	0.9	0.376	17.6	7.5	2.81	68.68	5.62	
	CLA *D3*	3.2	0.752	17.8	7.4			(G)	
	D4								
24	FCL *D1A*	1.0	0.726	17.2	7.4				
	FCL *D1B*	1.2	0.726	16.9	7.3				
	FCL *D2*	0.6	0.363	16.7	7.3	2.00	40.80	4.01	
	CLA *D3*	3.1	0.726	17.4	7.3			(G)	
	D4								

PERFORMANCE DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
25	FCL *D1A*	0.7	0.707	18.3	7.4				
	FCL *D1B*	1.0	0.707	18.0	7.3				
	FCL *D2*	0.7	0.354	18.2	7.4	2.30	47.71	4.60	
	CLA *D3*	3.2	0.707	18.7	7.2			(G)	
	D4								
26	FCL *D1A*	0.3	0.735	18.7	7.4				
	FCL *D1B*	0.4	0.735	18.8	7.3				
	FCL *D2*	0.5	0.368	18.6	7.5	1.67	31.19	3.33	
	CLA *D3*	3.0	0.735	18.8	7.4			(G)	
	D4								
27	FCL *D1A*	0.2	0.701	19.0	7.2				
	FCL *D1B*	0.1	0.701	18.8	7.2				
	FCL *D2*	0.2	0.350	18.5	7.3	1.21	15.95	2.42	
	CLA *D3*	2.9	0.701	19.5	7.3			(G)	
	D4								
28	FCL *D1A*	0.2	0.767	19.6	7.2				
	FCL *D1B*	0.2	0.767	19.4	7.2				
	FCL *D2*	0.1	0.383	19.3	7.4	1.06	10.86	2.13	
	CLA *D3*	3.3	0.767	19.8	7.1			(G)	
	D4								
29	FCL *D1A*	0.4	0.779	18.3	7.2				
	FCL *D1B*	0.5	0.779	18.3	7.1				
	FCL *D2*	0.2	0.390	18.4	7.3	1.19	16.75	2.39	
	CLA *D3*	3.0	0.779	18.9	7.2			(G)	
	D4								
30	FCL *D1A*	0.7	0.802	19.5	7.4				
	FCL *D1B*	0.5	0.802	19.8	7.2				
	FCL *D2*	0.7	0.401	19.2	7.4	2.10	44.10	4.19	
	CLA *D3*	3.0	0.802	18.9	7.2			(G)	
	D4								
31	FCL *D1A*	0.8	0.803	19.1	7.3				
	FCL *D1B*	1.0	0.803	18.9	7.2				
	FCL *D2*	0.3	0.401	18.6	7.3	1.57	29.10	3.14	
	CLA *D3*	2.9	0.803	18.6	7.3			(G)	
	D4								
	Max					3.19	75.27	6.38	
	Min					1.06	10.86	2.13	
	Avg					2.14	43.44	4.28	
	SD					0.53	15.34	1.06	

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: January 10, 2020

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: 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	12/2	160	2.95	2.33	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		160.00	2.95	2.33	21.02		1.40			1.40
Max		160.00	2.95	2.33	21.02		1.40			1.40
Min		160.00	2.95	2.33	21.02		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	
160	2.95	2.33	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:

Certificate and Grade No.: WS0014046, B

Date: January 10, 2020

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: December Year: 2019

DAILY MINIMUM INACTIVATION

Reactor Range	SUMMARY DATA					Reactor Range	SUMMARY DATA				
	Date	Min Dose (mJ/cm^2)	Inactivation Credit Achieved Giardia Log	Virus Log	Crypto Log		Date	Min Dose (mJ/cm^2)	Min Inactivation Giardia Log	Virus Log	Crypto Log
1 to 3	1	0.00*	1.00	0.00	1.00	1 to 3	9	0.00*	1.00	0.00	1.00
	2	0.00*	1.00	0.00	1.00		10	4.72	1.93	0.00	1.00
	3	26.17	4.00	0.11	1.00		11	0.00*	1.00	0.00	1.00
	4	34.69	4.00	0.00	1.00		12	23.23	4.00	0.02	1.00
	5	22.42	4.00	0.00	1.00		13	28.01	4.00	0.17	1.00
	6	32.49	4.00	0.31	1.00		14	0.00*	1.00	0.00	1.00
	7	7.61	2.48	0.00	1.00		15	22.19	4.00	0.00	1.00
	8	6.58	2.28	0.00	1.00		16	4.83	1.94	0.00	1.00

DAILY MINIMUM INACTIVATION

Reactor Range	SUMMARY DATA					Reactor Range	SUMMARY DATA				
	Date	Min Dose (mJ/cm^2)	Min Inactivation Giardia Log	Virus Log	Crypto Log		Date	Min Dose (mJ/cm^2)	Min Inactivation Giardia Log	Virus Log	Crypto Log
1 to 3	17	0.00*	1.00	0.00	1.00	1 to 3	25	27.98	4.00	0.17	1.00
	18	0.00*	1.00	0.00	1.00		26	0.00*	1.00	0.00	1.00
	19	0.00*	0.00	0.00	1.00		27	30.59	4.00	0.25	1.00
	20	0.00*	0.00	0.00	1.00		28	0.00*	1.00	0.00	1.00
	21	2.21*	1.08	0.00	1.00		29	0.00*	1.00	0.00	1.00
	22	3.22	1.58	0.00	1.00		30	0.00*	1.00	0.00	1.00
	23	17.63	3.69	0.00	1.00		31	0.00*	1.00	0.00	1.00
	24	31.05	4.00	0.27	1.00						

Total volume of water treated by all CDA reactors:	23.06	MG
Total volume of off-spec water produced by all CDA reactors:	0.71	MG
Percentage of off-spec water produced by all CDA reactors:	3.09	%
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: 16, 18,

SUBMITTED BY: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B Date: January 10, 2020

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: 2019

VALIDATED OPERATIONAL CONDITIONS

VALIDATED PARAMETERS						PERFORMANCE REQUIREMENTS	
	Reactor Number					Crypto Log Inactivation	Required UV Dose (mJ/cm^2)
Parameters	UVCD1	UVCD2	UVCD3	UVCD4	UVCD5		
Max Validated Flow Rate (MGD)	5.080	5.080	5.080			1.0	2.50
Min Validated UVT (%)	69.20	69.20	69.20				

PERFORMANCE DATA

Date	Reactor	Total Product. (MG)	Max. Flow Rate (MGD)	Min UV Trans. (%)	Minimum Meas'd UV Dose (mJ/cm^2)	Sensor CF	Adjusted Minimum UV Dose (mJ/cm^2)	Total Off-Spec Product. (MG)	Consec. Off-Spec Hours (hr)
		OPERATIONAL DATA							
1	1	0.352	0.680	88.96	35.46	1.00	35.46	0.000	0.25
	2	0.473	0.914	88.96	17.09	1.00	17.09	0.000	
	3	0.005	0.292	88.96	0.00	1.00	0.00	0.003	
	4								
	5								
2	1	0.353	0.813	71.74	0.00	1.00	0.00	0.011	0.25
	2	0.472	1.062	71.74	0.00	1.00	0.00	0.014	
	3	X	X	X	X	X	X	X	
	4								
	5								
3	1	0.306	0.779	81.22	32.89	1.00	32.89	0.000	0.000
	2	0.366	0.955	81.22	26.17	1.00	26.17	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
4	1	0.299	0.600	87.25	40.53	1.00	40.53	0.000	0.000
	2	0.377	0.790	87.25	34.69	1.00	34.69	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
5	1	0.329	0.614	87.32	22.42	1.00	22.42	0.000	0.000
	2	0.437	0.817	87.32	29.38	1.00	29.38	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
6	1	0.341	0.660	86.93	37.88	1.00	37.88	0.000	0.000
	2	0.454	0.873	86.93	32.49	1.00	32.49	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
7	1	0.339	0.697	75.20	7.61	1.00	7.61	0.000	0.000
	2	0.445	0.923	75.20	30.63	1.00	30.63	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
8	1	0.338	0.673	87.93	6.58	1.00	6.58	0.000	0.000
	2	0.446	0.894	87.93	30.79	1.00	30.79	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								

PERFORMANCE DATA

Date	Reactor	Total Product. (MG)	Max. Flow Rate (MGD)	Min UV Trans. (%)	Minimum Meas'd UV Dose (mJ/cm^2)	Sensor CF	Adjusted Minimum UV Dose (mJ/cm^2)	Total Off-Spec Product. (MG)	Consec. Off-Spec Hours (hr)
		OPERATIONAL DATA							
9	1	0.354	0.727	89.59	0.00	1.00	0.00	0.006	0.25
	2	0.472	0.967	89.59	0.00	1.00	0.00	0.008	
	3	X	X	X	X	X	X	X	
	4								
	5								
10	1	0.304	0.934	89.20	4.72	1.00	4.72	0.000	0.000
	2	0.401	1.247	89.20	23.59	1.00	23.59	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
11	1	0.336	0.697	87.37	0.00	1.00	0.00	0.005	0.25
	2	0.437	0.882	87.37	0.00	1.00	0.00	0.007	
	3	X	X	X	X	X	X	X	
	4								
	5								
12	1	0.317	0.903	88.96	23.23	1.00	23.23	0.000	0.000
	2	0.420	1.167	88.96	24.56	1.00	24.56	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
13	1	0.303	0.705	88.98	29.59	1.00	29.59	0.000	0.000
	2	0.390	0.849	88.98	28.01	1.00	28.01	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
14	1	0.323	0.646	81.05	0.00	1.00	0.00	0.006	0.25
	2	0.423	0.880	81.05	27.80	1.00	27.80	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
15	1	0.386	0.651	88.93	22.19	1.00	22.19	0.000	0.000
	2	0.492	0.863	88.93	30.81	1.00	30.81	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
16	1	0.326	0.677	91.55	4.83	1.00	4.83	0.000	0.000
	2	0.430	0.920	91.55	29.13	1.00	29.13	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								

SUBMITTED BY: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B Date: January 10, 2020

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: 2019

TRUE

VALIDATED OPERATIONAL CONDITIONS

VALIDATED PARAMETERS						PERFORMANCE REQUIREMENTS	
	Reactor Number						
Parameters	UVCD1	UVCD2	UVCD3	UVCD4	UVCD5	Crypto Log Inactivation	Required UV Dose (mJ/cm^2)
Max Validated Flow Rate (MGD)	5.080	5.080	5.080			1.0	2.50
Min Validated UVT (%)	69.20	69.20	69.20				

PERFORMANCE DATA

Date	Reactor	Total Product. (MG)	Max. Flow Rate (MGD)	Min UV Trans. (%)	Minimum Meas'd UV Dose (mJ/cm^2)	Sensor CF	Adjusted Minimum UV Dose (mJ/cm^2)	Total Off-Spec Product. (MG)	Consec. Off-Spec Hours (hr)
		OPERATIONAL DATA							
17	1	0.266	0.675	74.28	0.00	1.00	0.00	0.006	0.25
	2	0.345	0.897	74.28	0.00	1.00	0.00	0.007	
	3	X	X	X	X	X	X	X	
	4								
	5								
18	1	0.322	0.725	87.54	0.00	1.00	0.00	0.013	0.25
	2	0.377	0.895	87.54	0.00	1.00	0.00	0.008	
	3	X	X	X	X	X	X	X	
	4								
	5								
19	1	0.313	0.847	79.41	0.00	1.00	0.00	0.278	9.75
	2	0.388	1.039	79.41	26.46	1.00	26.46	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
20	1	0.258	0.827	90.54	0.00	1.00	0.00	0.257	9.50
	2	0.338	1.107	90.54	0.00	1.00	0.00	0.001	
	3	X	X	X	X	X	X	X	
	4								
	5								
21	1	0.343	0.868	82.68	31.01	1.00	31.01	0.000	0.25
	2	0.455	1.164	82.68	2.21	1.00	2.21	0.009	
	3	X	X	X	X	X	X	X	
	4								
	5								
22	1	0.298	0.789	79.21	3.22	1.00	3.22	0.000	0.000
	2	0.347	0.949	79.21	27.07	1.00	27.07	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
23	1	0.301	0.644	83.66	39.34	1.00	39.34	0.000	0.000
	2	0.379	0.850	83.66	17.63	1.00	17.63	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
24	1	0.335	0.656	83.80	37.41	1.00	37.41	0.000	0.000
	2	0.433	0.864	83.80	31.05	1.00	31.05	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								

PERFORMANCE DATA

Date	Reactor	Total Product. (MG)	Max. Flow Rate (MGD)	Min UV Trans. (%)	Minimum Meas'd UV Dose (mJ/cm^2)	Sensor CF	Adjusted Minimum UV Dose (mJ/cm^2)	Total Off-Spec Product. (MG)	Consec. Off-Spec Hours (hr)
		OPERATIONAL DATA							
25	1	0.353	0.629	82.90	33.78	1.00	33.78	0.000	0.000
	2	0.460	0.845	82.90	27.98	1.00	27.98	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
26	1	0.327	0.713	76.38	0.00	1.00	0.00	0.006	0.25
	2	0.419	0.941	76.38	0.00	1.00	0.00	0.008	
	3	X	X	X	X	X	X	X	
	4								
	5								
27	1	0.349	0.697	88.71	37.43	1.00	37.43	0.000	0.000
	2	0.446	0.915	88.71	30.59	1.00	30.59	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
28	1	0.352	0.730	85.51	37.77	1.00	37.77	0.000	0.25
	2	0.445	0.995	85.51	0.00	1.00	0.00	0.010	
	3	X	X	X	X	X	X	X	
	4								
	5								
29	1	0.348	0.730	87.64	0.00	1.00	0.00	0.005	0.25
	2	0.459	0.980	87.64	0.00	1.00	0.00	0.007	
	3	X	X	X	X	X	X	X	
	4								
	5								
30	1	0.294	0.740	88.62	0.00	1.00	0.00	0.006	0.25
	2	0.390	0.981	88.62	0.00	1.00	0.00	0.017	
	3	X	X	X	X	X	X	X	
	4								
	5								
31	1	0.292	0.695	93.18	0.00	1.00	0.00	0.006	0.25
	2	0.380	0.929	93.18	0.00	1.00	0.00	0.008	
	3	X	X	X	X	X	X	X	
	4								
	5								

SUBMITTED BY: Adolfo Vasquez
Certificate No. and Grade: WS0014046, B
Date: January 10, 2020

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: December Year: 2019

NA

CALIBRATION DATA

Benchtop UVT Analyzer Serial Number: UVT08-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	12/1/19	78713	91.40	93.00	1.60	NA	NA
	2	12/9/19	78713	92.00	93.00	1.00	NA	NA
	3	12/16/19	78713	91.90	92.40	0.50	NA	NA
	4	12/23/19	78713	90.60	92.00	1.40	NA	NA
	5	12/30/19	78713	92.80	92.70	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: UVT08-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: Adolfo Vasquez

Certificate No. and Grade: WS0014046, B

Date: January 10, 2020

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: 2019

CALIBRATION DATA

CDA Reactor Number	UV Sensor Calibration Report for Calculated Dose Reactors								
	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	69.10	69.10	1.00	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	12/1/19	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 2	Previous Month's Sensor CF	1	38	44	76.70	75.00	1.02	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	12/1/19	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 3	Previous Month's Sensor CF	1	39	44	91.80	81.00	1.13	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	12/1/19	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

CDA Reactor Number	UV Sensor Calibration Report for Calculated Dose Reactors								
	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: January 10, 2020

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: 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/cm^2)	Ref Sensor Reading (mJ/cm^2)	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/cm^2)	Ref Sensor Reading (mJ/cm^2)	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: Adolfo Vasquez
Certificate No. and Grade: WS0014046, B
Date: January 10, 2020

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:** 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						Minimum
1	4.50					4.50	1.00					1.00	2.76					2.76	29.94					29.94
2	4.50					4.50	1.00					1.00	2.76					2.76	47.72					47.72
3	4.50					4.50	1.00					1.00	6.17					6.17	38.34					38.34
4	4.50					4.50	1.00					1.00	7.02					7.02	58.41					58.41
5	4.50					4.50	1.00					1.00	7.19					7.19	75.27					75.27
6	4.50					4.50	1.00					1.00	6.07					6.07	40.44					40.44
7	4.50					4.50	1.00					1.00	4.96					4.96	52.37					52.37
8	4.50					4.50	1.00					1.00	4.88					4.88	53.68					53.68
9	4.50					4.50	1.00					1.00	3.41					3.41	50.74					50.74
10	4.50					4.50	1.00					1.00	4.59					4.59	58.97					58.97
11	4.50					4.50	1.00					1.00	3.04					3.04	43.38					43.38
12	4.50					4.50	1.00					1.00	6.56					6.56	58.15					58.15
13	4.50					4.50	1.00					1.00	6.23					6.23	43.93					43.93
14	4.50					4.50	1.00					1.00	3.00					3.00	37.02					37.02
15	4.50					4.50	1.00					1.00	6.22					6.22	43.06					43.06
16	4.50					4.50	1.00					1.00	3.78					3.78	32.13					32.13
17	4.50					4.50	1.00					1.00	3.55					3.55	59.27					59.27
18	4.50					4.50	1.00					1.00	2.64					2.64	32.27					32.27
19	4.50					4.50	1.00					1.00	2.57					2.57	60.33					60.33
20	4.50					4.50	1.00					1.00	1.64					1.64	32.22					32.22
21	4.50					4.50	1.00					1.00	2.64					2.64	30.02					30.02
22	4.50					4.50	1.00					1.00	4.32					4.32	64.47					64.47
23	4.50					4.50	1.00					1.00	6.50					6.50	68.68					68.68
24	4.50					4.50	1.00					1.00	6.00					6.00	41.07					41.07
25	4.50					4.50	1.00					1.00	6.30					6.30	47.89					47.89
26	4.50					4.50	1.00					1.00	2.67					2.67	31.19					31.19
27	4.50					4.50	1.00					1.00	5.21					5.21	16.20					16.20
28	4.50					4.50	1.00					1.00	2.06					2.06	10.86					10.86
29	4.50					4.50	1.00					1.00	2.19					2.19	16.75					16.75
30	4.50					4.50	1.00					1.00	3.10					3.10	44.10					44.10
31	4.50					4.50	1.00					1.00	2.57					2.57	29.10					29.10
MIN	4.50					4.50	1.00					1.00	1.64					1.64	10.86					10.86
AVG	4.50					4.50	1.00					1.00	4.28					4.28	43.48					43.48
MAX	4.50					4.50	1.00					1.00	7.19					7.19	75.27					75.27

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:** 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					2.50										1.00		
MIN				0.5	2.5						0.5				1.00		