SURFACE WATER MONTHLY OPERATING REPORT

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

Summary Page

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID No.: 20831

Report for the Month of: October 2018

I certify that I am familiar with the information contained in this report and that, to the best of my knowledge, the information is true, complete, and accurate.

Operator's Signature:

Certificate No. & Grade: WS0012772, B

Date: November 10, 2018

TREATMENT PLANT PERFORMANCE

Total number of turbidity readings:	89	Number of 4-hour periods when plant was off-line:	97
Number of readings above 0.10 NTU:	10	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: 3.5 (7B) Bin 3&4 Credits: 0.0 (7C)

Watershed Protection:	0.0	Conventional Treatment:	3.0	Second Stage Filtration:	0.0
Bank Filtration:	0.0	Enhanced Filter Performance:	0.5	UV:	0.0
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:	5.56
		Average log inactivation) (including UV) for viruses:	110.90
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:	6.69
		Number of days with pH below 7.0 in the last disinfection zone:	5.00
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:	54 (at least 31 required) (8)		
Average disinfectant residual value:	2.05	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 required because there was at least one treatment technique or monitoring/reporting violation 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: 10.35 NTU	Average turbidity value: 4.41 NTU		
	Minimum turbidity reading: 1.36 NTU	Standard deviation: 2.061 NTU		
	95th percentile value: 8.70 NTU			
IFE Stastical Summary	Maximum IFE turbidity reading: 0.00 NTU	Average IFE turbidity value: 0.03 NTU		
	Minimum IFEturbidity reading: 0.86 NTU	Standard deviation: 0.103 NTU		
	95th percentile IFE value: 0.10 NTU			
CFE Stastical Summary	Maximum CFE turbidity reading: 0.20 NTU	Average CFE turbidity value: 0.09 NTU		
	Minimum CFE turbidity reading: 0.02 NTU	Standard deviation: 0.031 NTU		
	95th percentile CFE value: 0.13 NTU			

STATISTICAL ANALYSIS OF pH DATA

Last Zone pH Stastical Summary	Maximum pH reading: 7.31 pH	Average pH value: 7.13 pH
	Minimum pH reading: 6.69 pH	Standard deviation: 0.141 pH
	95th percentile value: 7.30 pH	

SURFACE WATER MONTHLY OPERATING REPORT

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

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.)
Summary Page Addendum (Violations and Public Notices)

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

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

PUBLIC NOTICES

VIOLATION TYPE	DESCRIPTION OF VIOLATION	VIOLATION OCCURRED?	NOTICE TO TCEQ ■ DATE OF NOTICE	NOTICE TO CUSTOMER * DATE OF NOTICE	NOTICE TO CUSTOMER * PENDING	VIOLATION DATES
TREATMENT TECHNIQUE	Were more than 5.0% of the turbidity readings above the acceptable level? - see (1) on the *Summary Page*	No				
	Were there any days with turbidity readings above 1.0 NTU? - see (2) on the *Summary Page*	No				
	Were there any days with turbidity readings above 5.0 NTU? - see (3) on the *Summary Page*	No				
	Were there any periods when the plant failed to meet inactivation requirements (including UV) for more than 4.0 consecutive hours? - see (4) on the Summary Page	No				
	Were there any periods when the residuals leaving the plant fell below the acceptable level for more than 4.0 consecutive hours? - see (5) on the *Summary Page*	No				
	Were more than 5.0% of the residuals in the distribution system below the acceptable level for two months in a row? - see (6A) and (6B) on the *Summary Page*	No				
	Was Cryptosporidium removal credit less than required based on Bin Classification? - see (7A), (7B), and (7C) on the *Summary Page*	Yes	11/01/18	12/01/18		1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,
MONITORING & REPORTING	Were there any days when the plant failed to report all of the required Combined Filter Effluent (CFE) turbidity readings? - see the *Turbidity Data Page*	No				
	Were there any days when the plant failed to report all the CT data needed to evaluate the level of microbial inactivation achieved? - see the *Disinfection Data Page*	No				
	Were there any days when the plant failed to report the minimum disinfectant residual entering the distribution system? - see the *Turbidity Data Page*	No				
	Did the system fail to collect enough samples in the distribution system to meet the minimum disinfectant monitoring requirements? - see (8) on the *Summary Page*	No				
	Were there any days when the plant failed to report the maximum individual filter effluent (IFE) turbidity level produced by each filter? - see the *Filter Data Page*	No				
	Were there any days when the plant failed to report the IFE turbidity level 4-hours after beginning a filter run? - see the *Filter Data Page*	Not Applicable				
	Did the plant fail to submit a Filter Profile Report if one was required? - see (9) on the *Summary page*	No				
	Did the plant fail to submit a Filter Assessment Report if one was required? - see (10) on the *Summary Page*	No				
	Did the plant fail to submit a Comprehensive Performance Evaluation Request if one was required? - see (11) on the *Summary Page*	No				
	Did the plant fail to collect at least one Total Organic Carbon sample set? - *see TOCMOR Page*	No				

■ Treatment technique violation notices are due no later than the end of the next business day. Please include a copy if possible.
* Copies of each Public Notice must accompany this report if they have already been issued.

SUMITTED BY: Tomas Sanchez Jr. Certificate No. and Grade: WS0012772, B Date: November 10, 2018

SURFACE WATER MONTHLY OPERATING REPORT

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

Summary Page Addendum (Violations and Public Notices)

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

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

PUBLIC NOTICES

VIOLATION TYPE	DESCRIPTION OF VIOLATION	VIOLATION OCCURRED?	NOTICE TO TCEQ ▣ DATE OF NOTICE	NOTICE TO CUSTOMER * DATE OF NOTICE	NOTICE TO CUSTOMER * PENDING	VIOLATION DATES
MONITORING & REPORTING FOR ALTERNATIVE TECHNOLOGIES	Were there any days when the plant failed to report all of the data required to evaluate its watershed protection program?	Not Applicable				
	Were there any days when the plant failed to report all of the data required to evaluate its bank filters? - see the Prefilters worksheet	Not Applicable				
	Were there any days when the plant failed to report all of the data needed to evaluate its presedimentation basin? - see the Prefilters worksheet	Not Applicable				
	Were there any days when the plant failed to report all of the data needed to evaluate its two stage softening process? - see the Prefilters worksheet	Not Applicable				
	Were there any days when the plant failed to report all of the data needed to evaluate its bag or cartridge filters? - see the Bag, Cartridge worksheet	Not Applicable				
	Were there any days when the plant failed to report all of the data needed to evaluate its 2nd stage filters? - see the 2ndStageFilters worksheet	Not Applicable				
	Were there any days when the plant failed to report all of the data needed to evaluate its membrane filters? - see the membrane worksheets	Not Applicable				
	Were there any days when the plant failed to report all of the data needed to evaluate its UV reactors? - see the UV-ISA and UV-CDA worksheets	No				
	Did the plant fail to report the data needed to evaluate its UV sensors or UV Transmittance analyzers? - see the UV-Sensors and UVT worksheets	No				
	Were there any days when the plant failed to report all the CT data needed to evaluate the level of *Crptosporidium* inactivation achieved? - see the Crypto CT worksheet	Not Applicable				
	Were there any days when the plant failed to report all of the data required by the Demonstration of Performance approval letter issued by the TCEQ?	Not Applicable				

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SUMITTED BY: Tomas Sanchez Jr. **Certificate No. and Grade:** WS0012772, B **Date:** November 10, 2018

SURFACE WATER MONTHLY OPERATING REPORT

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

Turbidity Data Page

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 **Plant ID No.:** 20831 **Connections:** 1,932

Month: October **Year:** 2018 **Population:** 6,762

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	0.785	0.507	53	120	8.5	2.2					X	X	X	0.10	0.10	X	1.3	
2	0.928	0.499	39	120	2.4	2.1					X	X	X	X	0.10	0.09	1.4	
3	0.690	0.447	21	120	2.3	3.5					X	X	X	0.10	0.10	X	1.1	
4	0.845	0.455	18	140	3.1	1.9					0.10	X	0.12	0.10	0.10	0.09	1.0	
5	0.756	0.528	22	140	2.2	1.4					X	X	X	0.08	0.08	0.07	1.5	
6	0.875	0.597	19	140	2.4	2.4					X	X	X	0.09	0.09	0.10	1.5	
7	0.767	0.510	38	140	2.1	1.6					X	X	X	0.10	0.10	0.10	1.8	
8	0.937	0.585	37	140	2.0	2.1					X	X	X	0.11	0.20	0.08	1.7	
9	1.010	0.551	28	140	2.5	2.3					X	X	X	0.11	0.10	0.10	1.7	
10	0.906	0.571	34	140	4.3	2.4					X	X	X	0.17	0.18	0.10	0.9	
11	1.116	0.527	41	120	8.7	3.5					0.10	X	X	0.09	0.10	0.10	1.3	
12	1.033	0.524	62	140	6.8	2.4					X	X	0.14	0.10	0.09	0.08	1.8	
13	0.876	0.544	64	140	7.9	3.6					X	X	X	0.08	0.06	0.06	1.7	
14	0.831	0.592	66	140	6.6	2.5					X	X	X	0.11	0.05	0.06	1.4	
15	0.786	0.409	79	140	5.3	2.4					0.05	X	X	X	0.05	0.05	1.1	
16	0.818	0.550	37	140	3.3	2.9					X	X	X	0.12	0.09	0.09	1.4	
17	0.826	0.493	36	140	4.1	4.4					X	X	X	0.09	0.08	0.10	1.7	
18	0.716	0.426	30	140	4.3	3.5					X	X	X	X	0.08	0.07	0.8	
19	0.701	0.328	41	140	5.1	5.1					X	X	X	X	0.07	0.08	1.4	
20	0.819	0.490	46	140	5.1	5.1					X	X	X	0.08	0.08	0.05	1.0	
21	0.714	0.471	41	140	9.0	9.0					X	X	X	X	0.07	0.06	0.6	
22	0.695	0.468	35	140	5.9	6.4					X	X	X	X	0.08	0.08	1.2	
23	0.789	0.451	31	140	10.4	6.0					X	X	X	0.10	0.10	0.09	1.8	
24	0.765	0.308	27	140	5.6	5.0					X	X	X	X	0.09	0.08	2.1	
25	0.763	0.483	33	140	5.4	5.3					X	X	X	0.10	0.08	0.08	1.3	
26	0.900	0.505	37	140	5.6	5.4					X	X	X	0.08	0.07	0.06	1.3	
27	0.804	0.482	27	160	5.4	5.3					X	X	X	X	0.04	0.03	1.4	
28	0.939	0.532	32	160	5.4	5.1					X	X	X	0.04	0.05	0.02	1.5	
29	0.812	0.549	36	140	4.2	4.3					0.03	X	X	0.08	0.08	0.02	1.4	
30	0.754	0.508	36	140	4.2	3.3					0.05	X	X	X	0.17	0.05	1.5	
31	0.799	0.494	40	140	5.8	5.2					X	X	X	0.10	0.10	0.10	1.5	
Total	25.755	15.384		Max	10.4	9.0												
Avg	0.831	0.496		Avg	5.0	3.8												
Max	1.116	0.597		95th %	8.9	6.2												
Min	0.690	0.308		Min	2.0	1.4												
				95th percentile based on data from all basins						8.7								

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:** November 10, 2018

SURFACE WATER MONTHLY OPERATING REPORT

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

Filter Data Page

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 **Plant ID No.:** 20831 **Month:** October **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		0.18		0.10		0.07													
2	0.07		0.19		0.09		0.09													
3	0.08		0.21		0.10		0.05													
4	0.06		0.21		0.09		0.05													
5	0.06		0.17		0.08		0.05													
6	0.10		0.17		0.17		0.05													
7	0.06		0.22		0.08		0.07													
8	0.14		0.23		0.09		0.08													
9	0.11		0.17		0.05		0.06													
10	0.27		0.25		0.08		0.25													
11	0.09		0.15		0.09		0.19													
12	0.06		0.21		0.09		0.10													
13	0.05		0.18		0.10		0.07													
14	0.06		0.16		0.08		0.07													
15	0.26		0.08		0.08		0.86													
16	0.06		0.05		0.08		0.06													
17	0.06		0.05		0.06		0.08													
18	0.04		0.04		0.06		0.06													
19	0.04		0.05		0.04		0.05													
20	0.05		0.13		0.05		0.07													
21	0.05		0.06		0.04		0.07													
22	0.04		0.06		0.05		0.07													
23	0.04		0.06		0.05		0.07													
24	0.04		0.06		0.04		0.05													
25	0.04		0.06		0.04		0.05													
26	0.06		0.61		0.03		0.05													
27	0.04		0.06		0.04		0.14													
28	0.08		0.07		0.04		0.28													
29	0.11		0.20		0.05		0.10													
30	0.06		0.14		0.05		0.21													
31	0.13		0.14		0.04		0.06													

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:** November 10, 2018

SURFACE WATER MONTHLY OPERATING REPORT

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

Disinfection Data Page

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 **Plant ID No.:** 20831 **Month:** October **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*	1.7	0.852	26.0	7.3	5.96	173.45	11.93 (G)	
	FCL *D1B*	1.5	0.852	25.6	7.3				
	FCL *D2*	2.0	0.426	25.8	7.4				
	CLA *D3*	2.6	0.825	26.2	7.3				
	D4								
2	FCL *D1A*	1.4	0.844	26.1	7.2	5.25	132.18	10.50 (G)	
	FCL *D1B*	1.4	0.844	26.0	7.2				
	FCL *D2*	1.3	0.422	26.6	7.2				
	CLA *D3*	2.5	0.844	27.5	7.1				
	D4								
3	FCL *D1A*	0.7	0.833	26.5	7.2	2.76	57.44	5.52 (G)	
	FCL *D1B*	0.7	0.833	25.8	7.2				
	FCL *D2*	0.6	0.416	24.9	7.5				
	CLA *D3*	2.9	0.833	27.2	7.1				
	D4								
4	FCL *D1A*	0.6	0.797	26.9	7.3	4.38	110.15	8.75 (G)	
	FCL *D1B*	0.7	0.797	26.5	7.4				
	FCL *D2*	1.2	0.398	26.1	7.3				
	CLA *D3*	2.3	0.797	25.6	7.2				
	D4								
5	FCL *D1A*	1.0	0.785	25.1	7.6	5.44	142.20	10.89 (G)	
	FCL *D1B*	1.1	0.785	26.0	7.2				
	FCL *D2*	1.5	0.392	26.1	7.2				
	CLA *D3*	2.5	0.785	26.1	7.2				
	D4								
6	FCL *D1A*	1.2	0.769	25.6	7.4	5.14	131.20	10.29 (G)	
	FCL *D1B*	1.8	0.769	26.0	7.3				
	FCL *D2*	1.3	0.384	25.6	7.3				
	CLA *D3*	2.5	0.769	25.2	7.2				
	D4								
7	FCL *D1A*	1.1	0.509	27.1	7.4	10.36	280.22	20.72 (G)	
	FCL *D1B*	1.3	0.509	28.3	7.1				
	FCL *D2*	1.8	0.254	27.0	7.3				
	CLA *D3*	2.9	0.509	27.1	7.3				
	D4								
8	FCL *D1A*	1.4	0.796	26.5	7.4	5.86	157.28	11.71 (G)	
	FCL *D1B*	1.2	0.796	27.1	7.3				
	FCL *D2*	1.6	0.398	25.6	7.4				
	CLA *D3*	3.3	0.796	27.4	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*	1.9	0.804	27.0	7.3	5.80	148.81	11.60 (G)	
	FCL *D1B*	1.5	0.804	26.7	7.3				
	FCL *D2*	1.4	0.402	26.1	7.3				
	CLA *D3*	3.0	0.804	26.5	7.3				
	D4								
10	FCL *D1A*	1.1	0.793	25.8	7.3	1.05	11.68	2.10 (G)	
	FCL *D1B*	0.1	0.793	24.3	7.2				
	FCL *D2*	0.1	0.396	23.9	7.4				
	CLA *D3*	2.2	0.793	25.2	7.2				
	D4								
11	FCL *D1A*	1.4	0.801	27.3	7.4	5.85	147.63	11.71 (G)	
	FCL *D1B*	1.2	0.801	27.3	7.4				
	FCL *D2*	1.3	0.400	27.6	7.4				
	CLA *D3*	4.0	0.801	27.3	7.3				
	D4								
12	FCL *D1A*	1.6	0.787	27.9	7.4	5.84	155.74	11.67 (G)	
	FCL *D1B*	1.4	0.787	28.1	7.3				
	FCL *D2*	1.3	0.393	27.3	7.4				
	CLA *D3*	2.5	0.787	27.5	7.3				
	D4								
13	FCL *D1A*	1.6	0.801	27.6	7.4	3.39	77.13	6.78 (G)	
	FCL *D1B*	1.3	0.801	27.7	7.4				
	FCL *D2*	0.5	0.400	26.8	7.5				
	CLA *D3*	3.0	0.801	26.8	7.2				
	D4								
14	FCL *D1A*	1.6	0.812	28.4	7.4	5.12	142.58	10.23 (G)	
	FCL *D1B*	1.5	0.812	28.7	7.3				
	FCL *D2*	1.3	0.406	26.0	7.3				
	CLA *D3*	1.4	0.812	28.3	7.3				
	D4								
15	FCL *D1A*	0.8	0.818	25.3	7.0	3.97	82.62	7.94 (G)	
	FCL *D1B*	0.8	0.818	25.9	7.0				
	FCL *D2*	0.9	0.409	24.7	6.9				
	CLA *D3*	2.4	0.818	26.5	7.0				
	D4								
16	FCL *D1A*	1.4	0.843	21.2	7.3	3.24	68.82	6.47 (G)	
	FCL *D1B*	1.4	0.843	20.6	7.3				
	FCL *D2*	0.8	0.421	21.7	7.3				
	CLA *D3*	4.0	0.843	22.7	7.1				
	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:** November 10, 2018

SURFACE WATER MONTHLY OPERATING REPORT

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

Disinfection Data Page (cont.)

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

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

DISINFECTION PROCESS PARAMETERS

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

PERFORMANCE DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
17	FCL D1A	1.4	0.872	19.8	7.3	3.75	95.02	7.51 (G)	
	FCL D1B	1.6	0.872	19.7	7.2				
	FCL D2	1.5	0.436	21.0	7.3				
	CLA D3	3.3	0.872	20.2	7.1				
	D4								
18	FCL D1A	1.4	0.871	20.0	7.1	3.51	87.04	7.01 (G)	
	FCL D1B	1.6	0.871	20.0	7.1				
	FCL D2	1.4	0.435	20.0	7.1				
	CLA D3	2.3	0.871	20.0	6.9				
	D4								
19	FCL D1A	1.0	0.823	20.5	7.8	3.21	85.64	6.43 (G)	
	FCL D1B	1.1	0.853	20.6	7.3				
	FCL D2	1.4	0.426	20.7	7.4				
	CLA D3	2.8	0.853	21.2	7.2				
	D4								
20	FCL D1A	1.1	0.834	21.9	7.3	3.99	99.28	7.99 (G)	
	FCL D1B	1.2	0.834	22.1	7.3				
	FCL D2	1.3	0.417	23.0	7.3				
	CLA D3	3.1	0.834	22.7	7.2				
	D4								
21	FCL D1A	0.9	0.809	20.0	7.4	3.07	86.38	6.14 (G)	
	FCL D1B	0.9	0.809	20.0	7.3				
	FCL D2	1.5	0.404	19.7	7.2				
	CLA D3	0.5	0.809	20.1	7.1				
	D4								
22	FCL D1A	0.8	0.799	20.4	7.3	3.07	75.63	6.14 (G)	
	FCL D1B	1.1	0.799	20.6	7.2				
	FCL D2	1.2	0.399	20.2	7.2				
	CLA D3	2.0	0.799	20.1	7.2				
	D4								
23	FCL D1A	1.6	0.804	20.2	7.1	3.55	80.06	7.10 (G)	
	FCL D1B	1.4	0.804	20.1	7.0				
	FCL D2	1.0	0.402	20.6	7.1				
	CLA D3	3.1	0.804	19.7	7.0				
	D4								
24	FCL D1A	1.6	0.822	19.1	7.0	4.05	102.28	8.10 (G)	
	FCL D1B	1.5	0.822	19.1	7.0				
	FCL D2	1.7	0.411	19.6	7.1				
	CLA D3	2.7	0.822	19.2	6.9				
	D4								

PERFORMANCE DATA

Date	Disinfectant	C (mg/L)	Flow (MGD)	Temp (°C)	pH	Giardia Log	Virus Log	Inact. Ratio	Time=
25	FCL D1A	1.5	0.833	20.3	7.2	4.28	110.54	8.55 (G)	
	FCL D1B	1.6	0.833	20.1	7.2				
	FCL D2	1.7	0.416	20.7	7.2				
	CLA D3	3.0	0.833	20.7	7.0				
	D4								
26	FCL D1A	1.2	0.851	20.1	7.3	3.67	91.85	7.34 (G)	
	FCL D1B	1.1	0.851	20.3	7.2				
	FCL D2	1.5	0.425	20.4	7.2				
	CLA D3	2.9	0.851	20.3	7.1				
	D4								
27	FCL D1A	1.2	0.831	21.0	7.2	3.94	97.02	7.88 (G)	
	FCL D1B	1.3	0.831	21.4	7.4				
	FCL D2	1.5	0.415	20.3	7.2				
	CLA D3	3.3	0.831	21.7	7.2				
	D4								
28	FCL D1A	1.0	0.818	21.7	7.3	4.68	121.81	9.37 (G)	
	FCL D1B	1.2	0.818	21.7	7.2				
	FCL D2	1.9	0.409	21.8	7.2				
	CLA D3	3.2	0.818	22.4	7.1				
	D4								
29	FCL D1A	1.3	0.798	21.9	7.0	4.90	123.91	9.79 (G)	
	FCL D1B	1.3	0.798	22.0	7.1				
	FCL D2	1.7	0.399	21.9	7.2				
	CLA D3	3.1	0.798	21.5	7.1				
	D4								
30	FCL D1A	1.0	0.804	22.1	7.4	4.57	104.85	9.13 (G)	
	FCL D1B	1.4	0.804	22.6	6.9				
	FCL D2	1.5	0.402	21.7	7.0				
	CLA D3	3.6	0.804	21.8	6.7				
	D4								
31	FCL D1A	1.3	0.786	22.0	7.1	2.65	56.94	5.29 (G)	
	FCL D1B	1.4	0.786	22.0	7.3				
	FCL D2	0.5	0.393	22.0	7.1				
	CLA D3	2.3	0.786	22.0	6.9				
	D4								

Max	10.36	280.22	20.72
Min	1.05	11.68	2.10
Avg	4.40	110.88	8.79
SD	1.58	46.51	3.15

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:** November 10, 2018

MONTHLY TOTAL ORGANIC CARBON REMOVAL REPORT (TOCMOR)

FOR SURFACE WATER OR GROUND WATER UNDER THE INFLUENCE OF SURFACE WATER SYSTEMS

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID No.: 20831

Month: October

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	10/16	140	3.06	2.43	20.6	15	1.37			1.37
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	3.06	2.43	20.59		1.37			1.37
Max		140.00	3.06	2.43	20.59		1.37			1.37
Min		140.00	3.06	2.43	20.59		1.37			1.37

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	3.06	2.43	20.6	NA	1.37

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: November 10, 2018

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

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

UV MONTHLY OPERATING REPORT

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

UV Calculated Dose Approach Reactors

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 **Plant ID No.:** 20831 **Month:** October **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	0.278	0.960	82.60	0.00	1.00	0.00	0.021	0.75
	2	0.371	1.308	82.60	0.00	1.00	0.00	0.009	
	3	X	X	X	X	X	X	X	
	4								
	5								
2	1	0.345	0.905	90.70	0.00	1.00	0.00	0.345	10.25
	2	0.472	1.186	90.70	18.70	1.00	18.70	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
3	1	0.240	0.674	91.10	0.00	1.00	0.00	0.240	8.25
	2	0.320	0.912	91.10	18.83	1.00	18.83	0.000	
	3	X	X	X	X	X	X	X	
	4								
	5								
4	1	0.333	0.670	89.30	0.00	1.00	0.00	0.333	11.00
	2	0.450	0.930	89.30	0.00	1.00	0.00	0.163	
	3	X	X	X	X	X	X	X	
	4								
	5								
5	1	0.286	0.632	88.00	0.00	1.00	0.00	0.286	12.25
	2	0.386	0.870	88.00	0.00	1.00	0.00	0.386	
	3	X	X	X	X	X	X	X	
	4								
	5								
6	1	0.326	0.609	90.30	0.00	1.00	0.00	0.326	14.25
	2	0.442	0.846	90.30	0.00	1.00	0.00	0.442	
	3	X	X	X	X	X	X	X	
	4								
	5								
7	1	0.288	0.623	90.80	0.00	1.00	0.00	0.288	12.25
	2	0.387	0.858	90.80	0.00	1.00	0.00	0.387	
	3	X	X	X	X	X	X	X	
	4								
	5								
8	1	0.352	0.870	85.30	0.00	1.00	0.00	0.352	14.00
	2	0.475	1.212	85.30	0.00	1.00	0.00	0.475	
	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	0.351	0.717	92.70	0.00	1.00	0.00	0.351	14.00
	2	0.407	1.500	92.70	0.00	1.00	0.00	0.407	
	3	X	X	X	X	X	X	X	
	4								
	5								
10	1	0.286	0.682	86.90	0.00	1.00	0.00	0.286	13.00
	2	0.401	0.945	86.90	0.00	1.00	0.00	0.401	
	3	X	X	X	X	X	X	X	
	4								
	5								
11	1	0.390	0.830	86.10	0.00	1.00	0.00	0.390	14.50
	2	0.453	1.149	86.10	0.00	1.00	0.00	0.453	
	3	X	X	X	X	X	X	X	
	4								
	5								
12	1	0.351	1.035	83.50	0.00	1.00	0.00	0.351	12.00
	2	0.354	1.460	83.50	0.00	1.00	0.00	0.354	
	3	0.091	0.672	83.50	44.45	1.00	44.45	0.000	
	4								
	5								
13	1	0.387	0.774	93.20	36.61	1.00	36.61	0.000	0.000
	2	X	X	X	X	X	X	X	
	3	0.368	0.736	93.20	6.21	1.00	6.21	0.000	
	4								
	5								
14	1	0.390	1.198	92.00	25.96	1.00	25.96	0.000	0.000
	2	X	X	X	X	X	X	X	
	3	0.352	0.753	92.00	40.07	1.00	40.07	0.000	
	4								
	5								
15	1	0.310	0.864	82.10	0.00	1.00	0.00	0.001	0.25
	2	X	X	X	X	X	X	X	
	3	0.295	0.821	82.10	0.00	1.00	0.00	0.002	
	4								
	5								
16	1	0.358	0.879	90.10	26.03	1.00	26.03	0.000	0.000
	2	X	X	X	X	X	X	X	
	3	0.342	0.816	90.10	32.45	1.00	32.45	0.000	
	4								
	5								

SUBMITTED BY: Tomas Sanchez Jr

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

UV MONTHLY OPERATING REPORT

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

UV Calculated Dose Approach Reactors (cont.)

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: October 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	0.377	0.889	93.20	30.52	1.00	30.52	0.000	0.000
	2	X	X	X	X	X	X	X	
	3	0.359	1.500	93.20	19.24	1.00	19.24	0.000	
	4								
	5								
18	1	0.273	0.788	93.10	0.00	1.00	0.00	0.004	9.75
	2	0.381	1.114	93.10	0.00	1.00	0.00	0.381	
	3	X	X	X	X	X	X	X	
	4								
	5								
19	1	0.266	0.775	86.00	0.00	1.00	0.00	0.001	9.75
	2	0.362	0.956	86.00	0.00	1.00	0.00	0.362	
	3	X	X	X	X	X	X	X	
	4								
	5								
20	1	0.361	0.808	90.80	0.00	1.00	0.00	0.010	0.25
	2	X	X	X	X	X	X	X	
	3	0.347	0.785	90.80	0.00	1.00	0.00	0.002	
	4								
	5								
21	1	0.321	0.793	82.00	4.87	1.00	4.87	0.000	0.000
	2	X	X	X	X	X	X	X	
	3	0.310	0.759	82.00	31.57	1.00	31.57	0.000	
	4								
	5								
22	1	0.311	0.792	89.80	9.08	1.00	9.08	0.000	0.000
	2	X	X	X	X	X	X	X	
	3	0.299	0.777	89.80	34.92	1.00	34.92	0.000	
	4								
	5								
23	1	0.364	0.834	88.20	0.00	1.00	0.00	0.004	0.25
	2	X	X	X	X	X	X	X	
	3	0.350	0.807	88.20	0.00	1.00	0.00	0.004	
	4								
	5								
24	1	0.350	0.847	88.90	29.92	1.00	29.92	0.000	0.000
	2	X	X	X	X	X	X	X	
	3	0.336	0.821	88.90	33.35	1.00	33.35	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)
25	1	0.337	0.883	89.60	0.00	1.00	0.00	0.002	0.25
	2	X	X	X	X	X	X	X	
	3	0.324	0.845	89.80	0.00	1.00	0.00	0.010	
	4								
	5								
26	1	X	X	X	X	X	X	X	0.25
	2	0.480	1.063	85.70	0.00	1.00	0.00	0.006	
	3	0.311	0.687	85.70	0.00	1.00	0.00	0.004	
	4								
	5								
27	1	X	X	X	X	X	X	X	0.25
	2	0.406	0.935	85.10	19.58	1.00	19.58	0.000	
	3	0.274	0.616	85.10	0.00	1.00	0.00	0.001	
	4								
	5								
28	1	X	X	X	X	X	X	X	0.000
	2	0.460	0.975	84.20	9.02	1.00	9.02	0.000	
	3	0.299	0.616	84.20	38.71	1.00	38.71	0.000	
	4								
	5								
29	1	X	X	X	X	X	X	X	0.25
	2	0.457	0.948	85.50	0.00	1.00	0.00	0.002	
	3	0.294	0.615	85.50	0.00	1.00	0.00	0.001	
	4								
	5								
30	1	X	X	X	X	X	X	X	0.25
	2	0.395	0.926	82.70	0.00	1.00	0.00	0.002	
	3	0.266	0.590	82.70	0.00	1.00	0.00	0.002	
	4								
	5								
31	1	X	X	X	X	X	X	X	0.25
	2	0.409	0.889	80.60	0.00	1.00	0.00	0.004	
	3	0.275	0.590	80.60	0.00	1.00	0.00	0.003	
	4								
	5								

SUBMITTED BY: Tomas Sanchez Jr.

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

UV MONTHLY OPERATING REPORT

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

UV Calculated Dose Approach - Daily Minimum Inactivation Summary Page

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 **Plant ID No.:** 20831 **Month:** October **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	0.00*	1.00	0.00	0.00	1 to 3	9	0.00*	0.00	0.00	0.00
	2	0.00*	0.00	0.00	0.00		10	0.00*	0.00	0.00	0.00
	3	0.00*	0.00	0.00	0.00		11	0.00*	0.00	0.00	0.00
	4	0.00*	0.00	0.00	0.00		12	0.00*	0.00	0.00	0.00
	5	0.00*	0.00	0.00	0.00		13	6.21	2.20	0.00	0.00
	6	0.00*	0.00	0.00	0.00		14	25.96	4.00	0.11	0.00
	7	0.00*	0.00	0.00	0.00		15	0.00*	1.00	0.00	0.00
	8	0.00*	0.00	0.00	0.00		16	26.03	4.00	0.11	0.00

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	19.24	3.80	0.00	0.00	1 to 3	25	0.00*	1.00	0.00
	18	0.00*	0.00	0.00	0.00		26	0.00*	1.00	0.00
	19	0.00*	0.00	0.00	0.00		27	0.00*	1.00	0.00
	20	0.00*	1.00	0.00	0.00		28	9.02	2.70	0.00
	21	4.87	1.95	0.00	0.00		29	0.00*	1.00	0.00
	22	9.08	2.71	0.00	0.00		30	0.00*	1.00	0.00
	23	0.00*	1.00	0.00	0.00		31	0.00*	1.00	0.00
	24	29.92	4.00	0.23	0.00					

Total volume of water treated by all CDA reactors:	21.99	MG
Total volume of off-spec water produced by all CDA reactors:	7.85	MG
Percentage of off-spec water produced by all CDA reactors:	35.71	%
Crypto Log-Inactivation Credit for treatment by CDA reactors:	0.00	log

Raw water pumpage and total production by all UV reactors differ by more than 15% on these days: 1, 3, 9, 10, 11, 12, 15, 27, 28,

SUBMITTED BY: Tomas Sanchez Jr.

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

UV MONTHLY OPERATING REPORT

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

UV Sensor Calibration for Calculated Dose Reactors

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

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

Month: October **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	92	38	66.40	65.40	1.02	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	10/1/18	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 2	Previous Month's Sensor CF	1	44	38	60.40	61.90	0.98	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	10/1/18	7							
	New Sensor CF	8							
		9							
	1.00	10							
UVCD No. 3	Previous Month's Sensor CF	1	39	38	120.60	114.30	1.06	NA	1.00
		2							
		3							
	1.00	4							
	Calibration Date	5							
		6							
	10/1/18	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: November 10, 2018

UV MONTHLY OPERATING REPORT

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

UV Sensor Calibration for Calculated Dose Reactors (cont.)

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

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

Month: October **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: November 10, 2018

UV MONTHLY OPERATING REPORT

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

PUBLIC WATER SYSTEM NAME: Webb County Water Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022

Plant ID 20831

NA

Month: October

Year: 2018

CALIBRATION DATA

Benchtop UVT Analyzer Serial Number: P0108955

UVT Analyzer Number	Week	Calibration Date	On-line UVT Analyzer Serial #	On-line Reading (% UVT)	Grab Sample Reading (% UVT)	Difference (% UVT)	Recalibration Performed? (if Diff > 2%)	Other Action Taken
UVT No. 1	1	10/1/18	78713	94.10	92.70	1.40	NA	NA
	2	10/8/18	78713	93.80	93.00	0.80	NA	NA
	3	10/15/18	78713	94.30	92.90	1.40	NA	NA
	4	10/22/18	78713	94.40	92.40	2.00	NA	NA
	5	10/29/18	78713	91.90	90.60	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: P0108955

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

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Certificate No. and Grade: WS0012772, B

Date: Novemb

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 Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: October 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										0.00		
2					2.50										0.00		
3					2.50										0.00		
4					2.50										0.00		
5					2.50										0.00		
6					2.50										0.00		
7					2.50										0.00		
8					2.50										0.00		
9					2.50										0.00		
10					2.50										0.00		
11					2.50										0.00		
12					2.50										0.00		
13					2.50										0.00		
14					2.50										0.00		
15					2.50										0.00		
16				0.50	2.50						0.50				0.00		
17					2.50										0.00		
18					2.50										0.00		
19					2.50										0.00		
20					2.50										0.00		
21					2.50										0.00		
22					2.50										0.00		
23					2.50										0.00		
24					2.50										0.00		
25					2.50										0.00		
26					2.50										0.00		
27					2.50										0.00		
28					2.50										0.00		
29					2.50										0.00		
30					2.50										0.00		
31					2.50										0.00		
MIN				0.5	2.5						0.5				0.00		

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 Utility

PLANT NAME OR NUMBER: Rio Bravo

PWS ID No.: 2400022 Plant ID No.: 20831 Month: October 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	3.50					3.50	0.00					0.00	6.96					6.96	173.45					173.45
2	3.50					3.50	0.00					0.00	5.96					5.96	132.18					132.18
3	3.50					3.50	0.00					0.00	2.76					2.76	57.44					57.44
4	3.50					3.50	0.00					0.00	4.38					4.38	110.15					110.15
5	3.50					3.50	0.00					0.00	5.44					5.44	142.20					142.20
6	3.50					3.50	0.00					0.00	5.14					5.14	131.20					131.20
7	3.50					3.50	0.00					0.00	10.36					10.36	280.22					280.22
8	3.50					3.50	0.00					0.00	5.86					5.86	157.28					157.28
9	3.50					3.50	0.00					0.00	5.80					5.80	148.81					148.81
10	3.50					3.50	0.00					0.00	1.05					1.05	11.68					11.68
11	3.50					3.50	0.00					0.00	5.85					5.85	147.63					147.63
12	3.50					3.50	0.00					0.00	5.84					5.84	155.74					155.74
13	3.50					3.50	0.00					0.00	5.59					5.59	77.13					77.13
14	3.50					3.50	0.00					0.00	9.12					9.12	142.69					142.69
15	3.50					3.50	0.00					0.00	4.97					4.97	82.62					82.62
16	3.50					3.50	0.00					0.00	7.24					7.24	68.93					68.93
17	3.50					3.50	0.00					0.00	7.56					7.56	95.02					95.02
18	3.50					3.50	0.00					0.00	3.51					3.51	87.04					87.04
19	3.50					3.50	0.00					0.00	3.21					3.21	85.64					85.64
20	3.50					3.50	0.00					0.00	4.99					4.99	99.28					99.28
21	3.50					3.50	0.00					0.00	5.02					5.02	86.38					86.38
22	3.50					3.50	0.00					0.00	5.78					5.78	75.63					75.63
23	3.50					3.50	0.00					0.00	4.55					4.55	80.06					80.06
24	3.50					3.50	0.00					0.00	8.05					8.05	102.52					102.52
25	3.50					3.50	0.00					0.00	5.28					5.28	110.54					110.54
26	3.50					3.50	0.00					0.00	4.67					4.67	91.85					91.85
27	3.50					3.50	0.00					0.00	4.94					4.94	97.02					97.02
28	3.50					3.50	0.00					0.00	7.38					7.38	121.81					121.81
29	3.50					3.50	0.00					0.00	5.90					5.90	123.91					123.91
30	3.50					3.50	0.00					0.00	5.57					5.57	104.85					104.85
31	3.50					3.50	0.00					0.00	2.65					2.65	56.94					56.94
MIN	3.50					3.50	0.00					0.00	1.05					1.05	11.68					11.68
AVG	3.50					3.50	0.00					0.00	5.53					5.53	110.90					110.90
MAX	3.50					3.50	0.00					0.00	10.36					10.36	280.22					280.22