

Measurement Performance Specifications

The Nueces River Authority must meet the following specifications when conducting water quality sampling and analysis.

PARAMETER	UNITS	MATRIX	METHOD	PARAMETER CODE	AWRL	Limit of Quantitation (LOQ)	PRECISION (RPD of LCS/LCSD)	BIAS %Rec. of LCS	LOQ CHECK STANDARD %Rec	LAB
Field Parameters										
pH	pH/ units	water	EPA 150.1 and TCEQ SOP, V1	00400	NA*	NA	NA	NA	NA	Field
DO	mg/L	water	SM 4500-O G and TCEQ SOP, V1	00300	NA*	NA	NA	NA	NA	Field
Conductivity	uS/cm	water	EPA 120.1 and TCEQ SOP, V1	00094	NA*	NA	NA	NA	NA	Field
Salinity	ppt, marine only	water	SM 2520 and TCEQ SOP, V1	00480	NA*	NA	NA	NA	NA	Field
Temperature	B C	water	SM 2550 B and TCEQ SOP V1	00010	NA*	NA	NA	NA	NA	Field
Secchi Depth	meters	water	TCEQ SOP V1	00078	NA*	NA	NA	NA	NA	Field
Days since last significant rainfall	days	NA	TCEQ SOP V1	72053	NA*	NA	NA	NA	NA	Field
Maximum pool width***	meters	water	TCEQ SOP V2	89864	NA*	NA	NA	NA	NA	Field
Maximum pool depth***	meters	water	TCEQ SOP V2	89865	NA*	NA	NA	NA	NA	Field
Pool length***	meters	water	TCEQ SOP, V2	89869	NA*	NA	NA	NA	NA	Field
% pool coverage***	%	water	TCEQ SOP V2	89870	NA*	NA	NA	NA	NA	Field
Total water depth	meters	water	TCEQ SOP V2	82903	NA*	NA	NA	NA	NA	Field
Flow	cfs	water	TCEQ SOP V1	00061	NA*	NA	NA	NA	NA	Field
Flow measurement method	1-gage 2-electric 3-mechanical 4-weir/flume 5-doppler	water	TCEQ SOP V1	89835	NA*	NA	NA	NA	NA	Field
Flow severity	1-no flow, 2-low, 3-normal, 4-flood, 5-high, 6-dry	water	TCEQ SOP V1	01351	NA*	NA	NA	NA	NA	Field
Air Temperature	EC	Air	TCEQ SOP	00020	NA	NA	NA	NA	NA	Field
Wind Direction	1-north, 2-south, 3-east, 4-west, 5-northeast 6-southeast, 7-northwest, 8-southwest	Air	TCEQ SOP	00020	NA	NA	NA	NA	NA	Field
Wind Intensity	1-calm, 2-slight, 3-moderate, 4-strong	Air	TCEQ SOP	89965	NA*	NA	NA	NA	NA	Field
Present Weather	1-clear, 2-partly cloudy, 3-cloudy, 4-rain	Air	TCEQ SOP	89966	NA*	NA	NA	NA	NA	Field
Water Color	1-brown, 2-reddish, 3-green, 4-black, 5-clear, 6-other	Air	TCEQ SOP	89969	NA*	NA	NA	NA	NA	Field

PARAMETER	UNITS	MATRIX	METHOD	PARAMETER CODE	AWRL	Limit of Quantitation (LOQ)	PRECISION (RPD of LCS/LCSD)	BIAS %Rec. of LCS	LOQ CHECK STANDARD %Rec	LAB
Field Parameters (cont.)										
Water Odor	1-sewage, 2-oily/ chemical, 3-rotten eggs, 4-musky, 5-fishy, 6-none, 7-other	Air	TCEQ SOP	89971	NA*	NA	NA	NA	NA	Field
Water Surface	1-calm, 2-ripples, 3-waves, 4-white caps	Air	TCEQ SOP	89968	NA*	NA	NA	NA	NA	Field
Turbidity	1-low, 2-medium, 3-high	Air	TCEQ SOP	88842	NA*	NA	NA	NA	NA	Field
Tide Stage, marine only	1-low, 2-falling, 3-slack, 4-rising, 5-high	water	TCEQ SOP	89972	NA*	NA	NA	NA	NA	Field
Rainfall in 1 day prior to sample	inches	NA	TCEQ SOP	82553	NA*	NA	NA	NA	NA	Field
Rainfall in 7 days prior to sample	inches	NA	TCEQ SOP	82554	NA*	NA	NA	NA	NA	Field

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Conventional and Bacteriological Parameters										
TSS	mg/L	water	SM 2540 D	00530	4	1	20	80-120	NA	LCRA
VSS	mg/L	water		00535	4	1	20	80-120	NA	LCRA
TDS, dried at 180 degrees C	mg/L	water	SM 2540C	70300	10	10	20	80-120	NA	LCRA
Alkalinity	mg/L	water	SM2320B	00410	20	10	20	NA	NA	LCRA
Sulfate	mg/L	water	EPA 300.0, Rev. 2.1 (1993)	00945	5	5	20	80-120	70-130	LCRA
Chloride	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00940	5	5	20	80-120	70-130	LCRA
Chlorophyll-a, spectrophotometric method	ug/L	water	EPA 446.0	32211	3	2	20	80-120	NA	LCRA
Pheophytin, spectrophotometric method	ug/L	water	EPA 446.0	32218	3	2	20	NA	NA	LCRA
E. coli	CFU/100mL	Water	EPA 1103.1	31648	1	1	0.5****	NA	NA	TAMU CC
E. coli, IDEXX Colilert	MPN/100 mL	water	SM 9223-B	31699	1	1	.5****	NA	NA	SARA
Enterococcus	CFU/100mL	Water	EPA 1600	31649	1	1	0.5****	NA	NA	TAMU CC
Fecal coliform	CFU/100mL	Water	SM 9222D	31616	1	1	0.5****	NA	NA	TAMU CC
Ammonia-N, total	mg/L	water	EPA 350.1 Rev. 2.0 (1993)	00610	0.1	0.02	20	80-120	70-130	LCRA
Hardness, total (as CaCO3)	mg/L	water	SM 2340 B or C	00900	5	1.32	20	80-120	NA	LCRA
Nitrate/nitrite-N, total	mg/L	water	SM 4500-NO ₃ E	00630	.05	0.02	20	80-120	70-130	LCRA
TOC	mg/L	water		00680	2.0	0.5				LCRA
O-phosphate-P, field filter <15 min.	mg/L	water	EPA 300.0 Rev 2.1 (1993)	00671	.04	0.02	20	80-120	70-130	LCRA
Total phosphorus-P	mg/L	water	EPA 365.4	00665	.06	0.06	20	80-120	70-130	LCRA
Turbidity	NTU	Water		82079	0.5	0.5	NA	NA	NA	LCRA

24-hour Dissolved Oxygen Monitoring Parameters										
Parameter	Units	Matrix	Method	Parameter Code	AWRL	Reporting Limit	Recovery at RL	Bias % Rec LCS	Precision RPD LCS/LCS	Lab***
24-Hr D.O. Avg.	mg/l	water	TCEQ SOP, V1	89857	NA	NA	NA	NA	NA	field
Max Daily DO	mg/l	water	TCEQ SOP, V1	89856	NA	NA	NA	NA	NA	field
Min Daily DO	mg/l	water	TCEQ SOP, V1	89855	NA	NA	NA	NA	NA	field
# DO measurements during 24-Hrs	# meas.	NA	TCEQ SOP, V1	89858	NA	NA	NA	NA	NA	field
24-Hr Avg. water Temperature	B Celsius	water	TCEQ SOP, V1	00209	NA	NA	NA	NA	NA	field
Max Daily water Temperature	B Celsius	water	TCEQ SOP, V1	00210	NA	NA	NA	NA	NA	field
Min Daily water Temperature	B Celsius	water	TCEQ SOP, V1	00211	NA	NA	NA	NA	NA	field
# water temp measurements during 24-Hrs.	# meas.	NA	TCEQ SOP, V1	00221	NA	NA	NA	NA	NA	field
24-Hr Avg. Spec Conductance	uS/cm	water	TCEQ SOP, V1	00212	NA	NA	NA	NA	NA	field
Max Spec Conductance	uS/cm	water	TCEQ SOP, V1	00213	NA	NA	NA	NA	NA	field
Min Spec Conductance	uS/cm	water	TCEQ SOP, V1	00214	NA	NA	NA	NA	NA	field
# Spec Conductance measurements during 24-Hrs.	# meas.	NA	TCEQ SOP, V1	00222	NA	NA	NA	NA	NA	field
Max Daily pH	Standard units	water	TCEQ SOP, V1	00215	NA	NA	NA	NA	NA	field
Min Daily pH	Standard units	water	TCEQ SOP, V1	00216	NA	NA	NA	NA	NA	field
# pH measurements during 24-Hrs.	# meas.	NA	TCEQ SOP, V1	00223	NA	NA	NA	NA	NA	field
24-Hr Salinity Avg	ppt	water	TCEQ SOP, V1	00218	NA	NA	NA	NA	NA	field
Max Daily Salinity	ppt	water	TCEQ SOP, V1	00217	NA	NA	NA	NA	NA	field
Min Daily Salinity	ppt	water	TCEQ SOP, V1	00219	NA	NA	NA	NA	NA	field
# salinity measurement during 24-Hrs	# meas.	water	TCEQ SOP, V1	00220	NA	NA	NA	NA	NA	field