

**Amendment # 1
to the Red River Authority of Texas'
Clean Rivers Program FY 2014-2015 QAPP**

**Prepared by the Red River Authority of Texas
In Cooperation with the
Texas Commission on Environmental Quality (TCEQ)**

Questions concerning this QAPP should be directed to:

**Red River Authority of Texas
Allen M. Pappas
Clean Rivers Program Project Manager
3000 Hammon Road
P.O. Box 240
Wichita Falls, Texas 76307-0240
(940) 723-8697
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Effective: Immediately Upon Approval by all parties

JUSTIFICATION

The requested changes are in response to the Authority's desire to collect additional reservoir information during routine water quality monitoring events, specifically "Reservoir Storage," parameter code 00054, and "Dissolved Iron," parameter code 01046. The Authority is also adding "Nitrite plus Nitrate," parameter code 00630. Additionally, the North Texas Municipal Water District has added an additional staff member to serve as a back-up to their CRP Project Manager and Quality Assurance Officer.

DETAIL OF CHANGES

Section A4 – Project/Task Organization

Section A4 was modified to incorporate Katie McElroy under the North Texas Municipal Water District staff.

Section B9 – Acquired Data

Section B9 was modified to incorporate additional language allowing the use of data from the Texas Water Development Board (TWDB) for the reporting of Reservoir Storage (TCEQ parameter code 00054).

Table A7.1 – Measurement Performance Specifications

Field Parameters (Table A7.1-A)

Table A7.1 will be modified to incorporate the following reservoir-related parameters:

Description	TCEQ ID
Reservoir Storage	Parameter Code 00054

Conventional Parameters (Table A7.1-C)

Table A7.1 will be modified to incorporate the following parameters:

Description	TCEQ ID
Nitrite plus Nitrate	Parameter Code 00630

Conventional Parameters (Table A7.1-J)

Table A7.1 will be modified to incorporate the following metals parameters:

Description	TCEQ ID
Dissolved, Iron	Parameter Code 01046

Appendix D – Field Data Sheets

The Lake/Reservoir Field Data Reporting Forms used by all entities were modified to include parameter code 00054.

DISTRIBUTION

QAPP Amendments/Revisions to Appendices will be distributed to all personnel on the distribution list maintained by the Authority.

These changes will be incorporated into the FY 2014-15 QAPP document and TCEQ, the Authority and all program participants will acknowledge and accept these changes by signing this amendment.

Red River Authority of Texas

Signed Electronically, Effective January 17, 2014

Allen M. Pappas, Date
Red River Authority Project Manager

Signed Electronically, Effective January 17, 2014

Allen M. Pappas, Date
Red River Authority CRP QA Officer

Red River Authority of Texas Environmental Services Laboratory

Signed Electronically, Effective January 17, 2014

Jill Simpson, Date
Red River Authority Laboratory Supervisor

Signed Electronically, Effective January 17, 2014

Allen M. Pappas, Date
Red River Authority Laboratory QA Officer

City of Sherman

Signed Electronically, Effective January 17, 2014

Wayne Kuse, Date
City of Sherman CRP Project Manager

Signed Electronically, Effective January 17, 2014

Nathan Whiddon, Date
City of Sherman CRP QA Officer

City of Sherman Laboratory

Signed Electronically, Effective January 17, 2014

Nathan Whiddon, Date
City of Sherman Laboratory Supervisor

City of Sherman Laboratory (continued)

Signed Electronically, Effective January 17, 2014

Nicole Moseley, Date
City of Sherman Laboratory QA Officer

North Texas Municipal Water District

Signed Electronically, Effective January 17, 2014

Jerry Allen, Date
NTMWD CRP Project Manager

Signed Electronically, Effective January 17, 2014

Wayne Gilliland, Date
NTMWD CRP QA Officer

North Texas Municipal Water District Laboratory

Signed Electronically, Effective January 17, 2014

Ray Cotton, Date
NTMWD Laboratory Manager

Signed Electronically, Effective January 17, 2014

Russell Moody, Date
NTMWD Laboratory QA Officer

Lower Colorado River Authority, ELS

Signed Electronically, Effective January 17, 2014

Alicia Gill, Date
LCRA ELS Laboratory Manager

Lower Colorado River Authority, ELS (continued)

Signed Electronically, Effective January 17, 2014

Roland Garcia, Date
LCRA ELS Quality Director

Texas Commission on Environmental Quality

Signed Electronically, Effective January 17, 2014

Allison Fischer, Date
CRP Project Manager
CRP Project QAS

Signed Electronically, Effective January 17, 2014

Patricia Wise, Date
CRP Group Leader

Signed Electronically, Effective January 17, 2014

Daniel R. Burke, Date
CRP Lead QAS

North Texas Municipal District

Collects and analyzes specific water quality samples required for their specific operations. Data which are submitted to the Authority, as identified in **Appendix A, Table A7.1** for use in the CRP, will be collected and analyzed under the guidelines set forth by this QAPP.

Jerry Allen

NTMWD CRP Project Manager and CRP Field Supervisor

Responsible for overall project direction. As CRP Project Manager, is responsible for all CRP related activities conducted by NTMWD. As CRP Field Supervisor, is responsible for ensuring that field samples and measurements are collected and recorded according to methodologies detailed in **Appendix A, Table A7.1**. The Field Supervisor role will have primary responsibility for initiating corrective actions in the field in support of data completeness goals of 90%. The Field Supervisor will ensure proper use of CRP Field Data Sheets, field notebooks, proper calibration of equipment and that chain-of-custody forms are correctly completed and received by the laboratory. The Field Supervisor will also oversee submittal of water quality samples to the contract laboratory, as appropriate, and will be responsible for confirming that requested analyses are carried out.

Wayne Gilliland

NTMWD CRP Quality Assurance Officer

Responsible for coordinating the implementation of the CRP QA program. Responsible for maintaining the CRP QAPP and monitoring its implementation. Responsible for maintaining records of QAPP distribution, including appendices and amendments. Responsible for maintaining written records of sub-tier commitment to requirements specified in this QAPP. Responsible for identifying, receiving, and maintaining project quality assurance records. Responsible for coordinating with the TCEQ QAS to resolve QA-related issues. Notifies the CRP Project Manager of particular circumstances which may adversely affect the quality of data. Coordinates with the CRP Project Manager to monitor deficiencies and corrective action. Coordinates and maintains records of data verification and validation. Coordinates the research and review of technical QA material and data related to water quality monitoring system design and analytical techniques. Conducts monitoring systems audits on project participants to determine compliance with project and program specifications, issues written reports, and follows through on findings. Ensures that field staff are properly trained and that training records are maintained

Katie McElroy

NTMWD CRP Backup to the Field Supervisor and Quality Assurance Officer

Assists and serves as a backup to carry out the functions and responsibilities of the Field Supervisor or Quality Assurance Officer. See description of responsibilities for the Field Supervisor and Quality Assurance Officer.

Ray Cotton

NTMWD Laboratory Manager

Serves as primary laboratory contact. Responsible for ensuring that all samples received in the NTMWD Environmental Laboratory are within the allotted time, and that the chain-of-custody has been observed. Ensures that the samples are analyzed in accordance with standard accepted methods as described in the SOP manual. Ensures all analysis results are correctly performed and properly recorded on the laboratory data sheets and in the appropriate analytical log books. Responsible for the implementation of the QA program for the NTMWD Environmental Laboratory. Ensures laboratory staff is properly trained. Responsible for distribution of hardcopy and electronic reports to customers.

Kelly Harden**NTMWD CRP Laboratory Operations Manager**

Responsible for ensuring that all samples received in the NTMWD Environmental Laboratory are within the allotted time, and that the chain-of-custody has been observed. Ensures that the samples are analyzed in accordance with standard accepted methods as described in the SOP manual. Ensures all analysis results are correctly performed and properly recorded on the laboratory data sheets and in the appropriate analytical log books. Responsible for the implementation of the QA program for the NTMWD Environmental Laboratory. Ensures laboratory staff is properly trained. Generates laboratory reports.

Russell Moody**NTMWD CRP Laboratory Quality Assurance / Quality Control Officer**

Responsible for coordinating the implementation of the Laboratory QA program. Notifies NTMWD Laboratory Manager of particular circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies and corrective action. Coordinates and maintains records of data verification and validation. Coordinates the research and review of technical QA material and data related to water quality monitoring system design and analytical techniques. Conducts internal monitoring systems audits to determine compliance with project and program specifications related to laboratory analysis. Responsible for identifying, and maintaining Laboratory quality assurance records. Maintains laboratory training records.

B9 ACQUIRED DATA

Non-directly measured data, secondary data, or acquired data involves the use of data collected under another project, and collected with a different intended use than this project. The acquired data still meets the quality requirements of this project, and is defined below. The following data source(s) will be used for this project:

USGS gage station data will be used throughout this project to aid in determining gage height and flow. Rigorous QA checks are completed on gage data by the USGS and the data is approved by the USGS and permanently stored at the USGS. This data will be submitted to the TCEQ under parameter code 00061 Flow, Instantaneous or parameter code 74069 Flow Estimate depending on the proximity of the monitoring station to the USGS gage station.

Reservoir stage data are collected every day from the United States Geological Survey (USGS), International Boundary and Water Commission (IBWC), and the United States Army Corps of Engineers (USACE) websites. These data are preliminary and subject to revision. The Texas Water Development Board (TWDB) derives reservoir storage (in acre-feet) from these stage data (elevation in feet above mean sea level), by using the latest rating curve datasets available. These data are published at the TWDB website at <http://waterdatafortexas.org/reservoirs/statewide>. The web application uses real time gauged observations 7 A.M. reading each day (or closest reading available) from 119 major reservoirs to approximate daily storage for each reservoir, as well as daily total storage for water planning regions, river basins and the state of Texas. These instantaneous data are updated to mean daily data for all previous days. Data obtained from the TWDB website will be submitted to the TCEQ under parameter codes 00052 – Reservoir Stage, 00053 – Reservoir Percent Full and 00054 – Reservoir Storage.

Table A7.1-A Measurement Performance Specifications

Parameter	Units	Matrix	Method	Parameter Code	AWRL	Limit of Quantitation (LOQ)	LOQ Check Standard %Rec	Precision (RPD of LCS/LCSD)	Bias % Rec. of LCS	Lab
FIELD PARAMETERS										
Days Since Precipitation Event (days)	Days	Other	TCEQ SOP V1	72053	NA ³	NA	NA	NA	NA	Field
Depth of Bottom of Water Body at Sample Site	Meters	Water	TCEQ SOP V2	82903	NA ³	NA	NA	NA	NA	Field
Dissolved Oxygen (mg/L)	mg/L	Water	TCEQ SOP V1, SM 4500-O G	00300	NA ³	NA	NA	NA	NA	Field
Evidence of Primary Contact Recreation	1 – observed 0 – not observed	Other	NA	89979	NA ³	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 ³	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 ³	NA	NA	NA	NA	Field
Maximum Pool Width at Time of Study (Meters)	Meters	Other	TCEQ SOP V2	89864	NA ³	NA	NA	NA	NA	Field
Maximum Pool Depth at Time of Study (Meters)	Meters	Other	TCEQ SOP V2	89865	NA ³	NA	NA	NA	NA	Field
pH (Standard Units)	Standard Units	Water	TCEQ SOP V1, EPA 150.1	00400	NA ³	NA	NA	NA	NA	Field
% Pool Coverage in 500 Meter Reach ¹	%	Other	TCEQ SOP V2	89870	NA ³	NA	NA	NA	NA	Field
Pool Length, Meters ¹	Meters	Other	TCEQ SOP V2	89869	NA ³	NA	NA	NA	NA	Field
Present Weather	1 – clear 2 – ptly cldy 3 – cloudy 4 – rain 5 – other	Other	NA	89966	NA ³	NA	NA	NA	NA	Field
Primary Contact Observed Activity	# of people observed	Other	NA	89978	NA ³	NA	NA	NA	NA	Field
Reservoir Access Not Possible Level Too Low Enter 1 if Reporting	NS	Other	TCEQ Drought Guidance	00051	NA ³	NA	NA	NA	NA	Field
Reservoir Percent Full ²	% Reservoir Capacity	Water	TWDB	00053	NA ³	NA	NA	NA	NA	Field
Reservoir Stage (Feet Above Mean Sea Level) ²	FT Above MSL	Water	TWDB	00052	NA ³	NA	NA	NA	NA	Field
Reservoir Storage (Acre-Feet)	Acre-Feet	Water	TWDB	00054	NA ³	NA	NA	NA	NA	Field
Secchi Depth (m)	meters	Water	TCEQ SOP V1	00078	NA ³	NA	NA	NA	NA	Field

Table A7.1-A Continued Measurement Performance Specifications

Parameter	Units	Matrix	Method	Parameter Code	AWRL	Limit of Quantitation (LOQ)	LOQ Check Standard %Rec	Precision (RPD of LCS/LCSD)	Bias % Rec. of LCS	Lab
FIELD PARAMETERS										
Specific Conductance, Field (µS/cm @ 25°C)	µS/cm	Water	TCEQ SOP V1, SM 2510 B, EPA 120.1	00094	NA ³	NA	NA	NA	NA	Field
Stream Flow, Estimate (CFS)	cfs	Water	TCEQ SOP V1	74069	NA ³	NA	NA	NA	NA	Field
Stream Flow, Instantaneous (CFS)	cfs	Water	TCEQ SOP V1	00061	NA ³	NA	NA	NA	NA	Field
Temperature, Water (Degrees Celsius)	°C	Water	TCEQ SOP V1 SM 2550 B	00010	NA ³	NA	NA	NA	NA	Field
Water Clarity	1 – excellent 2 – good 3 – fair 4 – poor	Water	NA	20424	NA ³	NA	NA	NA	NA	Field
Water Color	1 – brownish 2 – reddish 3 – greenish 4 – blackish 5 – clear 6 – other	Water	NA	89969	NA ³	NA	NA	NA	NA	Field
Water Odor	1 – sewage 2 – chemical 3 – rotten egg 4 – musky 5 – fishy 6 – none 7 – other	Water	NA	89971	NA ³	NA	NA	NA	NA	Field
Water Surface	1 – calm 2 – ripples 3 – waves 4 – white cap	Water	NA	89968	NA ³	NA	NA	NA	NA	Field
Wind Intensity	1 – calm 2 – slight 3 – moderate 4 – strong	Other	NA	89965	NA ³	NA	NA	NA	NA	Field

¹ To be routinely reported when collecting data from perennial pools.

² As published by the Texas Water Development Board on their website <http://waterdatafortexas.org/reservoirs/statewide>.

³ Reporting to be consistent with SWQM guidance and based on measurement capability.

References:

1. TCEQ SOP, V1 - TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, 2012 (RG-415).
2. TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Community and Habitat Data, 2007 (RG-416)

Table A7.1-C Measurement Performance Specifications

Parameter	Units	Matrix	Method	Parameter Code	AWRL	Limit of Quantitation (LOQ)	LOQ Check Standard %Rec	Precision (RPD of LCS/LCSD)	Bias % Rec. of LCS	Lab
CONVENTIONAL PARAMETERS										
Alkalinity, Total (mg/L as CaCO ₃)	mg/L	Water	SM 2320 B	00410	20	20	NA	20	NA	RR,
Carbon, Total Organic, NPOC (TOC) (mg/L)	mg/L	Water	SM 5310 B	00680	2	1	70-130	20	80-120	RR
Chemical Oxygen Demand, 0.025N K ₂ CR ₂ O ₇ (mg/L)	mg/L	Water	HACH 8000	00335	10	10	70-130	20	80-120	RR
Chloride (mg/L as Cl)	mg/L	Water	EPA 300.0	00940	5	10 ¹	70-130	20	80-120	RR
Chlorophyll-A, Fluorometric Method, (ug/L)	ug/L	Water	EPA 445.0	70953	3	2	NA	20	80-120	RR
Chlorophyll-A, Spectrophotometric Acid Method, (ug/L)	ug/L	Water	EPA 446.0	32211	3	2	NA	20	80-120	RR ²
Nitrate Nitrogen, Total (mg/L as N)	mg/L		EPA 300.0	00620	0.05	0.05	70-130	20	80-120	RR
Nitrite Plus Nitrate-N, Total One Lab Determined Value (mg/L as N)	mg/L	Water	EPA 353.2	00630	0.05	0.05	70-130	15	90-110	RR
Nitrogen, Ammonia, Total (mg/L as N)	mg/L	Water	SM 4500-NH3D	00610	0.1	0.1	70-130	20	80-120	RR
Pheophytin-A, Fluorometric Method, (ug/L)	ug/L	Water	EPA 445.0	32213	3	2	NA	NA	NA	RR
Pheophytin-A, Spectrophotometric Acid Method, (ug/L)	ug/L	Water	EPA 446.0	32218	3	2	NA	NA	NA	RR ²
Phosphorus, Total, Wet Method (mg/L as P)	mg/L	Water	SM 4500 P E	00665	0.06	0.06	70-130	20	80-120	RR
Residue, Total Dissolved, Unspec. Calculation Based on Conductivity (mg/L)	mg/L	Water	Calculation	70294	NA	NA	NA	NA	NA	RR
Residue, Total Filterable (Dried at 180°C) (mg/L)	mg/L	Water	SM 2540 C	70300	10	10	NA	20	80-120	RR
Residue, Total Non-Filterable (mg/L)	mg/L	Water	SM 2540 D	00530	4	2.5	NA	20	NA	RR
Residue, Volatile Non-Filterable (mg/L)	mg/L	Water	EPA 160.4	00535	4	2.5	NA	NA	NA	RR
Sulfate (mg/L as SO ₄)	mg/L	Water	EPA 300.0	00945	5	10 ¹	70-130	20	80-120	RR
Turbidity, Lab Nephelometric Turbidity Units (NTU)	NTU	Water	SM 2130 B	82079	0.5	0.5	70-130	20	80-120	RR

RR – Red River Authority of Texas

¹ The LOQ for chloride, sulfate and calcium is higher than the established AWRL since concentrations for these parameters are extremely high in both the Canadian and Red River Basins and values are typically not observed at concentrations below 10 mg/L.

² Listed as a backup in case instrument error would prevent samples from being analyzed within specified holding times

References:

1. United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
2. American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998. (Note: The 21st edition may be cited if it becomes available.)

3. TCEQ SOP, V1 - TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, 2012 (RG-415).
TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Community and Habitat Data, 2007 (RG-416)

Table A7.1-J Measurement Performance Specifications

Parameter	Units	Matrix	Method	Parameter Code	AWRL	Limit of Quantitation (LOQ)	LOQ Check Standard %Rec	Precision (RPD of LCS/LCSD)	Bias % Rec. of LCS	Lab
METALS IN WATER, DISSOLVED										
Aluminum, Dissolved (ug/L as Al)	ug/L	Water	EPA 200.8	01106	200	4	70-130	20	80-120	LC
			EPA 200.7	01106	200	50	70-130	20	80-120	LC
Arsenic, Dissolved (ug/L as As)	ug/L	Water	EPA 200.8	01000	5	2	70-130	20	80-120	LC
Copper, Dissolved (ug/L as Cu)	ug/L	Water	EPA 200.8	01040	1 for waters < 50 mg/L hardness	1	70-130	20	80-120	LC
					3 for waters ≥ 50 mg/L hardness					
Hardness, Total, Calculated (mg/L as CaCO ₃) ¹	mg/L	Water	SM 2340 B	82394	5	1.32	NA	20	80-120	LC
Iron, Dissolved (ug/L as Fe)	ug/L	Water	EPA 200.7	01046	50	50	70-130	20	80-120	LC
Nickel, Dissolved (ug/L as Ni)	ug/L	Water	EPA 200.8	01065	10	1	70-130	20	80-120	LC
Zinc, Dissolved (ug/L as Zn)	ug/L	Water	EPA 200.8	01090	5	5	70-130	20	80-120	LC

LC – Lower Colorado River Authority

¹ Hardness is not used for regulatory purposes but is used to assess metals in water at inland sites (estuarine sites do not require hardness analysis).

References:

1. United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
2. American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998. (Note: The 21st edition may be cited if it becomes available.)
3. TCEQ SOP, V1 - TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, 2012 (RG-415).
4. TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Community and Habitat Data, 2007 (RG-416)



**RED RIVER AUTHORITY OF TEXAS
LAKE / RESERVOIR
CRP FIELD DATA REPORTING FORM**



Date:		Station Location:			TCEQ Site ID:			
Time:		Basin/Reach/Segment:		HUA No.		RRA Tag No:		
County:		Monitoring Type:		QAO:		DE:		
RRA Laboratory ID #:				Total Depth (m):		Total Measurements:		
Chain of Custody #:				Time Start:		Time End:		
Tech(s): Print/Sign				Sample Depth (m)	Temp (°C)	pH (s. u.)	D.O. (mg/L)	Conductivity (uS/cm)
Parameter Code	Sample Collection Depth _____ Meters							
20424	Water Clarity 1 - Excellent 2 - Good 3 - Fair 4 - Poor							
89965	Wind Condition 1 - Calm 2 - Slight 3 - Moderate 4 - Strong Direction _____							
89966	Weather 1 - Clear 2 - Partly Cloudy 3 - Cloudy 4 - Rain 5 - Other*							
89968	Water Surface 1 - Calm 2 - Ripple 3 - Wave 4 - Whitecap							
89969	Water Color 1 - Brown 2 - Reddish 3 - Green 4 - Black 5 - Clear 6 - Other*							
89971	Water Odor 1 - Sewage 2 - Oily/Chem 3 - Rotten Eggs 4 - Musky 5 - Fishy 6 - None 7 - Other*							
00078	Transparency, Secchi Disk (m)							
72053	Significant Precip. (< or > Days)							
00021	Air Temperature (° Fahrenheit)							
00051	Reservoir Access Not Possible							
00052	Reservoir Stage (TWDB Website)							
00053	Reservoir Percent Full (TWDB Website)							
00054	Reservoir Storage (TWDB Website)							
82903	Depth Bottom of Water Body (m)							
89978	Primary Contact Observed Act. # of people observed 0 - 10 > 10							
89979	Evidence of Prim. Contact Rec. 0 - Not Observed 1 - Observed							
Comments and details/descriptions for parameter codes marked other*:								



**CITY OF SHERMAN
LAKE / RESERVOIR
CRP FIELD DATA REPORTING FORM**



Date:		Station Location:			TCEQ Site ID:			
Time:		Basin/Reach/Segment:		HUA No.		RRA Tag No:		
County:		Monitoring Type: <i>RT</i>		QAO:		DE:		
COS Laboratory ID #:				Total Depth (m):		Total Measurements:		
Chain of Custody #:				Time Start:		Time End:		
Tech(s): Print/Sign				Sample Depth (m)	Temp (°C)	pH (s. u.)	D.O. (mg/L)	Conductivity (uS/cm)
Parameter Code	Sample Collection Depth _____ Meters							
20424	Water Clarity 1 - Excellent 2 - Good 3 - Fair 4 - Poor							
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89966	Weather 1 - Clear 2 - Partly Cloudy 3 - Cloudy 4 - Rain 5 - Other*							
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89969	Water Color 1 - Brown 2 - Reddish 3 - Green 4 - Black 5 - Clear 6 - Other*							
89971	Water Odor 1 - Sewage 2 - Oily/Chem 3 - Rotten Eggs 4 - Musky 5 - Fishy 6 - None 7 - Other*							
00078	Transparency, Secchi Disk (m)							
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89978	Primary Contact Observed Act. # of people observed 0 - 10 > 10							
89979	Evidence of Prim. Contact Rec. 0 - Not Observed 1 - Observed							
Comments and details/descriptions for parameter codes marked other*:								

MEASUREMENT COMMENTS AND FIELD OBSERVATIONS

Biological Activities:	
Aquatic Vegetation:	
Terrestrial Vegetation:	
Aquatic Animals:	
Terrestrial Animals:	
Aquatic Insects:	
Terrestrial Insects:	
Watershed Activities:	
Water Body Uses Observed:	
Specific Sample Info:	
Missing Parameters:	
Notes:	

Revision 122013 – (RRACRPLFDS-004)



**NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE / RESERVOIR
CRP FIELD DATA REPORTING FORM**



Date:		Station Location:			TCEQ Site ID:			
Time:		Basin/Reach/Segment:		HUA No.		RRA Tag No:		
County:		Monitoring Type:		QAO:		DE:		
NM Laboratory ID #:				Total Depth (m):		Total Measurements:		
Chain of Custody #:				Time Start:		Time End:		
Tech(s): Print/Sign				Sample Depth (m)	Temp (°C)	pH (s. u.)	D.O. (mg/L)	Conductivity (uS/cm)
Parameter Code	Sample Collection Depth _____ Meters							
20424	Water Clarity 1 - Excellent 2 - Good 3 - Fair 4 - Poor							
89965	Wind Condition 1 - Calm 2 - Slight 3 - Moderate 4 - Strong Direction _____							
89966	Weather 1 - Clear 2 - Partly Cloudy 3 - Cloudy 4 - Rain 5 - Other*							
89968	Water Surface 1 - Calm 2 - Ripple 3 - Wave 4 - Whitecap							
89969	Water Color 1 - Brown 2 - Reddish 3 - Green 4 - Black 5 - Clear 6 - Other*							
89971	Water Odor 1 - Sewage 2 - Oily/Chem 3 - Rotten Eggs 4 - Musky 5 - Fishy 6 - None 7 - Other*							
00078	Transparency, Secchi Disk (m)							
72053	Significant Precip. (< or > Days)							
00021	Air Temperature (° Fahrenheit)							
00051	Reservoir Access Not Possible							
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Comments and details/descriptions for parameter codes marked other*:								

