



STATUS AND TREND QUALITY ASSURANCE/ QUALITY CONTROL

Rachael Dragon

Division of Environmental Assessment and Restoration/
Water Quality Monitoring Program
Florida Department of Environmental Protection

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Quality Assurance and Quality Control For Status and Trend

Presentation Topics

- Documentation - Sampling Manual Section 12.
- Field Collected Blanks - Sampling Manual Section 14.
- Field Audits - Sampling Manual Section 14.



Wakulla Springs



DOCUMENTATION

- Provides a complete history of any data collected from project initiation to completion.
- Includes **all** associated activities.
- Documentation should support a complete and independent reconstruction of the sampling event.



Source: Pexels



GENERAL DOCUMENTATION QA

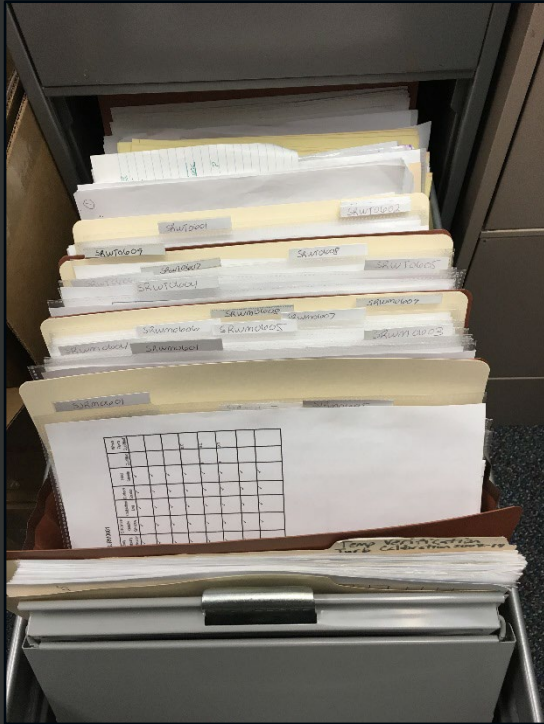
- Do not leave spaces blank!
- Corrections: single line with initials.

PARAMETER	VALUE	QUALIFIER(S)	RESULT COMMENT
Sample Collection Depth (m)	0.3		
Secchi Depth (m)	0.6 0.5 (SS)		
Total Depth (m)	5.7		
Temp (°C)	24.7		

- Use the “Comments” sections.
If in doubt, write it down!



DOCUMENTATION RETENTION



- Status and Trend “projects” are ongoing. All records must be kept indefinitely.
- Retain paper copies – scan and distribute as needed.

(Transfer information from paper field sheets to Survey123.)



DOCUMENTATION RETENTION

For electronic documents generated when submitting data to Survey123:

- Transfer Field Sheets and Custody Sheets from SharePoint to a more permanent storage space.
- If edits/signatures were added, remember to transfer the edited version of the document.



REQUIRED DOCUMENTATION FOR ALL STATUS & TREND PROJECTS

- QA Report
- Field Sheets
- Custody Sheets
- Calibration Log(s)
- Equipment Cleaning Log
- Equipment Maintenance Log
- Standards / Reagents Log



Sopchoppy River



QUALITY ASSURANCE (QA) REPORT

- **Purpose.**
 - Summarize QA activities for each project.
 - Report is used by Project Manager and Data Reviewers.
- **Requirements.**
 - Number of samples and blanks collected per project.
 - If samples collected $\neq$ samples scheduled, indicate why.
 - Indicate if any audits were conducted.
 - Describe any problems/QA issues.
 - Coordination/assistance received (e.g., multiple ROCs collecting samples for a single project).



- QA Report Template.
- Figure 39 Sampling Manual, page 174.

Quality Assurance Report for Status Network and Trend Network Projects

Instructions: Please include a completed report with each set of project paperwork sent to your Project Manager in the Watershed Monitoring Section (WMS). Multiple projects can be included in the same report if paperwork is being submitted at the same time (e.g. Surface Water and Ground Water Trend from the same month).

Name of Person Completing Report: _____ Date: _____

Project	Number of Samples Scheduled	Number of Samples Collected*	Number of Field Blanks Collected	Number of Equipment Blanks Collected

*If number of samples collected $\neq$ number of samples scheduled, please explain:

Were any internal audits conducted by your team during these projects? Y / N
Were any external audits conducted by WMS or other entities during these projects? Y / N
If audits were conducted, list project(s) and date(s): _____
Describe any cross-sampling or other collaborative efforts that occurred during these projects:

Describe any quality assurance issues, corrective actions, or other notable circumstances that affect data collected for these projects (e.g. equipment malfunctions, calibration verification failures, deviations from established sampling procedures):



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Rock Springs / Kelly Park



Oct 2023 Groundwater
Jan 2026 Surface Water

Field ID: _____ Project Name: _____ Date: _____

Water Sampling Equipment: ☐ Direct Grab with Sample Container

Van/Dern: ☐ # of Grabs: _____ Equipment ID: _____

Collection Method: ☐ Wading / ☐ From Shore or Structure / ☐ Canoe or Kayak / ☐ Air Boat /

☐ Boat - Gasoline Motor / ☐ Boat - Electric Motor / ☐ Other _____

Field Meter ID: _____

Data Measurement Device: ☐ Field Meter Listed Above / ☐ Other _____

DATA COLLECTION DEPTHS: Total depth < 0.1 m → no data collection. Total depth > 0.1m and < 0.6m → surf. meas. & sample at mid-depth. Total depth > 0.6m and < 1.5 m → surface meas. & sample at 0.1m. Total depth > 1.5 m → surface meas. & sample at 0.1m, bottom meas. 0.3 m above bottom.

PRIMARY (SURFACE) SAMPLE Collection Time (24 hr): _____ ☐ ETZ / ☐ CTZ

☐ Check here if Secchi depth visible on bottom (S qualifier needed).

☐ Check here if bottom measurements not collected because total depth < 1.5 m.

PARAMETER	VALUE	QUALIFIER(S)	RESULT COMMENT
D.O. (mg/L)			
D.O. (% SAT)			
Temp (°C)			
pH (SU)			
Sample Collection Depth (m)			
Secchi Depth (m)			
Total Depth (m)			
Sp. Cond. (umhos/cm)			

BOTTOM SAMPLE (FIELD MEAS. ONLY) Collection Time (24 hr): _____ ☐ ETZ / ☐ CTZ

PARAMETER	VALUE	QUALIFIER(S)	RESULT COMMENT
D.O. (mg/L)			
D.O. (% SAT)			
Temp (°C)			
pH (SU)			
Sample Collection Depth (m)			
Sp. Cond. (umhos/cm)			

SAMPLE COMMENTS

PRIMARY (SURFACE):

BOTTOM:

OFFICE USE ONLY

Reviewed By: _____ Date: _____

WIN ID: _____ SBIO-Vlat: _____ HA ID: _____ RPS-ID: _____ Macro-ID: _____



RQ-2020

Collected By (Agency Code):

Lab Page: 1

Project Name:

Customer: AMBIENT

Sampler Name:

Lab Project ID:

SW-TREND / ☐ **STATUS** ☐ **BMA**

Place
Station
Label
Notes

Comments:

Sulfidic Acid Lot #:

Nitric Acid Lot #:

Matrix: ☐ **W-SURF-FRESH** / ☐ **W-SURF-SALT** ☒ Grab

Date Collected	Time Collected	ID.O. (%SAD)	Temp (°C)	pH (SU)	Sample Depth (m)	Sp. Cond. (µmhos/cm)	
Check Boxes For Each Container Submitted to Lab Lab Test Codes Status Code Lab Test Codes Special Projects				Preservation (Must be completed within 15 min of sample collection)			Bottles sent to Lab
Parameter Suite:				Bottle Group			
Tracers (W-50002)				☐ W-50011-021 W-50011-002			
Isotopes (W-50003)				☐ W-50009-20 W-50010-2			
Chlorophyll (W-50004)				☐ CHL-001-W			
Nitrogen (W-50005)				☐ W-50001 W-50002-10 W-50009-20 W-50010-2			
Phosphorus (W-50006)				☐ W-50001 W-50002-10 W-50009-20 W-50010-2			
Alkalinity / Acidity (W-50007)				☐ ALKALINITY TURBIDITY W-COLOR W-COLOR W-CO2ND			
Total (W-50008)				☐ W-50001-AA W-50002-AA			
Fluorescent Nucleotides (W-50009)				☐ W-50001-AA W-50002-AA			
Nucleotides (W-50010)				☐ W-50001-AA W-50002-AA			
Microbiology (W-50011)				☐ W-50001-AA W-50002-AA			
Microbiology (W-50012)				☐ W-50001-AA W-50002-AA			

Matrix: **SEDIMENT**

Parameter Suite:

Metals & Nutrients
(W-50013)

Date Collected:

Time Collected: ☐ **ETZ** / ☐ **CTZ**

Check Boxes For Each Container Submitted to Lab

Lab Test Codes
Status Code

Lab Test Codes
Special Projects

Preservation
(Must be completed within 15 min of sample collection)

Bottles sent to Lab

Bottle Group

Date Collected	Time Collected	ID.O. (%SAD)	Temp (°C)	pH (SU)	Sample Depth (m)	Sp. Cond. (µmhos/cm)	
Check Boxes For Each Container Submitted to Lab Lab Test Codes Status Code Lab Test Codes Special Projects				Preservation (Must be completed within 15 min of sample collection)			Bottles sent to Lab
Parameter Suite:				Bottle Group			
Tracers (W-50002)				☐ W-50001-021 W-50001-002			
Isotopes (W-50003)				☐ W-50009-20 W-50010-2			
Chlorophyll (W-50004)				☐ CHL-001-W			
Nitrogen (W-50005)				☐ W-50001 W-50002-10 W-50009-20 W-50010-2			
Phosphorus (W-50006)				☐ W-50001 W-50002-10 W-50009-20 W-50010-2			
Alkalinity / Acidity (W-50007)				☐ ALKALINITY TURBIDITY W-COLOR W-COLOR W-CO2ND			
Total (W-50008)				☐ W-50001-AA W-50002-AA			
Fluorescent Nucleotides (W-50009)				☐ W-50001-AA W-50002-AA			
Nucleotides (W-50010)				☐ W-50001-AA W-50002-AA			
Microbiology (W-50011)				☐ W-50001-AA W-50002-AA			
Microbiology (W-50012)				☐ W-50001-AA W-50002-AA			

Matrix: **BIOLOGICAL DATA**

Parameter Suite:

Metals & Nutrients
(W-50013)

Date Collected:

Time Collected: ☐ **ETZ** / ☐ **CTZ**

Check Boxes For Each Container Submitted to Lab

Lab Test Codes
Status Code

Lab Test Codes
Special Projects

Preservation
(Must be completed within 15 min of sample collection)

Bottles sent to Lab

Bottle Group

Date Collected	Time Collected	ID.O. (%SAD)	Temp (°C)	pH (SU)	Sample Depth (m)	Sp. Cond. (µmhos/cm)	
Check Boxes For Each Container Submitted to Lab Lab Test Codes Status Code Lab Test Codes Special Projects				Preservation (Must be completed within 15 min of sample collection)			Bottles sent to Lab

	RQ-2020-_____	Collected By (Agency): _____	Lab Page _____ of _____
	Project Name: _____	Sampler Name: _____	
	Customer: _____	Lab Project ID: _____	☐ SW-TREND / ☐ STATUS / ☐ BM
Place QA/QC Blank ID Label Here	Comments: Sulfuric Acid Lot #: _____ Nitric Acid Lot #: _____		
Matrix: ☐ W-Field Blank / ☐ W-Equipment-Blank ☒ Grab			
Date Collected		Blank Collection Time	
		☐ ETZ ☐ CRTZ	
Check Boxes for Each Container Submitted to Lab			
Parameter Suite	Lab Test Codes Trend Code	Lab Test Codes Status Code	Lab Test Codes Special Notes
Preservation (Must be completed within 15 min. of sample collection)			
# Bottles sent to Lab			
Bottle Closures			
Errors (P-510MCL)			☐ W-2011-045 ☐ W-2011-046
Periodic (P-510MCL)			☐ W-2012-72 ☐ W-2012-73
Nutrients (P-510MCL)	☐ W-2011 ☐ W-2012M1 W-6-F-P ☐ W-TEN W-TDC	☐ W-2011 ☐ W-2012M1 W-6-F-P ☐ W-TEN W-TDC	☐ Ice
Metals (P-510MCL)	☐ W-BARD W-62-F ☐ W-CPM1	☐ W-BARD W-62-F ☐ W-CPM1	☐ 3MIL H ₂ O ₂ pH < 2 Ice ☐ 2MIL H ₂ O ₂ pH < 2 Ice
Active Pests Aggregates (P-511)	☐ ALKALINITY ☐ TURBIDITY W-CLO-2 ☐ W-COLOR W-CO-20 ☐ W-P-CO-20 W-173	☐ ALKALINITY ☐ TURBIDITY W-CLO-2 ☐ W-COLOR W-CO-20 ☐ W-P-CO-20 W-173	☐ Ice
Toxins (P-510MCL & P-520MCL)	☐ W-ACUTY-AA / ☐ W-ACUTY-M3	☐ W-ACUTY-AA / ☐ W-ACUTY-M3	☐ Ice
Filtered Nutrient (P-510MCL)	☐ W-2014-18-Q7	☐ W-2014-18-Q7	☐ Field Filtered w/ syringe Ice ☐ 0.45 mm PES Filter Ice
Microbiology (P-510MCL)			☐ Ice



CUSTODY SHEET COVER PAGE

Use the most recent
version
October 2020.

Lab Page 1 of ____

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Status & Trend Networks - Chain of Custody Form - October 2020 version

Date Shipped: _____ Collected By (Agency Code): _____
Customer: AMBIENT Sampler Names: _____

(Place RQ Label Here)

Lab Project ID (circle one): STATUS / SW-TREND /
GW-TREND / BMAP

Coolers Shipped: _____

RQ - _____ Shipping Method (circle one): FedEx / UPS /
Project Name: _____ Greyhound / Hand Delivered

Instructions:

- Print this form, affix labels to form and place documentation in zipper bag taped to inside lid of cooler.
- Please return the original of this form to the lab along with sample inventory portion of field sheet for each station & blank sampled.
- Affix labels below for all samples & blanks submitted under this RQ for this collection date.

Relinquished by (signature): _____ Date: _____ Time: _____ ☐ ETZ
☐ CTZ

THIS SECTION IS TO BE COMPLETED BY THE LABORATORY

Received/ Inspected By (signature): _____ Date: _____ Time: _____ ETZ



REQUIRED DOCUMENTATION FOR ALL STATUS & TREND PROJECTS

- ✓ QA Report
- ✓ Field Sheets
- ✓ Custody Sheets
- Calibration Log(s)
- Equipment Cleaning Log
- Equipment Maintenance Log
- Standards / Reagents Log



Apalachicola National Forest



Field Meter Calibration Log

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID: RQ: Project:

- Notes:** (1) Always wait for meter to stabilize before recording any readings.
(2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification: _____

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.											P / F	L / F
ICV											P / F	L / F
CCV											P / F	L / F
CCV											P / F	L / F

DO Acceptance criteria from Table ± 0.3 mg/L.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. **Steady-state & Galvanic Sensors:** DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.								P / F	L / F
ICV								P / F	L / F
CCV								P / F	L / F
CCV								P / F	L / F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.						7.				P / F	L / F
Calibr.						4.				P / F	L / F
Calibr.						10.				P / F	L / F
ICV										P / F	L / F
CCV										P / F	L / F
CCV										P / F	L / F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ; mV pH 4 Range $+180 \pm 50$; mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 _____, slope from 4 to 7 _____ (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: _____

If NO, what will be used? (circle one) **Secchi Disk Line / Sonar** Unique ID: _____; Date of last verification: _____

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air						P / F	L / F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS:



Turbidity Calibration Log

(only needed for groundwater projects)

Turbidity Calibration Log (DEP SOPs FT1000 & FT1600) Regional Operations Centers

Meter ID: _____ Date of Last Calibration: _____ Project Name: _____

Quarterly Calibration

Sampler Name: _____ Date: _____ Time: _____ ETZ / CTZ (circle one)

Standard Value (Use Primary Formazin Standards)	Exp. Date	Lot #	Type of Information Displayed During Calibration? (circle one)	Value Displayed NTU	Calibration Pass / Fail (circle one)
NTU			Meter Reading / Next Value		P / F
NTU			Meter Reading / Next Value		P / F
NTU			Meter Reading / Next Value		P / F
NTU			Meter Reading / Next Value		P / F

Initial Calibration Verification (ICV) (Only perform ICV immediately after quarterly calibr. Do not use < 0.1 NTU standard for ICV.)

Sampler Name: _____ Date: _____ Time: _____ ETZ / CTZ (circle one)

Standard Value (Use A Primary Formazin Standard)	Exp. Date	Lot #	Meter Reading NTU	Pass / Fail (circle one)
NTU				P / F

Secondary Gel Standard Quarterly Verification (perform gel standard verification immediately after quarterly calib. and ICV)

Sampler Name: _____ Date: _____ Time: _____ ETZ / CTZ (circle one)

Standard Value Range NTU	Previous Value Assigned NTU	Exp. Date	Lot #	Meter Reading NTU (new value assigned)	Acceptable Range, NTU (Calculate using new value assigned & acceptance criteria*)
0 – 10					
10 – 100					
100 - 1000					

Daily Continuing Calibration Verification (CCV) (required every day that meter is used)

Date	Time (24hr) CT-ET	Sampler Name	Standard Type (circle one)	Standard Value NTU	Exp. Date	Lot #	Meter Reading NTU	Pass / Fail
			Formazin / Gel					P / F
			Formazin / Gel					P / F
			Formazin / Gel					P / F
			Formazin / Gel					P / F
			Formazin / Gel					P / F
			Formazin / Gel					P / F
			Formazin / Gel					P / F
			Formazin / Gel					P / F

Comments:

*Acceptance Criteria: 0.1-10 NTU → ± 10 %; 11-40 NTU → ± 8 %; 41-100 NTU → ± 6.5 %; >100 NTU → ± 5 %;

Acceptable ranges for common standards: 20 NTU (18.4 - 21.6 NTU); 100 NTU (93.5 - 106.5 NTU); 800 NTU (760 - 840 NTU)

Form Effective October 1, 2017



QUARTERLY TEMPERATURE VERIFICATION LOG



Quarterly Temperature Verification Log - DEP Regional Operation Centers

DEP SOP FT 1400. Acceptance Criteria for Temp. $\pm 0.5^{\circ}\text{C}$.

Record all digits displayed for temperature readings. Do not round before reporting measurements.

CCV = Continuing Calibration Verification. Target temperature for cold CCV is 0 - 10 ($^{\circ}\text{C}$). Target temperature for hot CCV is 30 - 40 ($^{\circ}\text{C}$).

Time Zone (circle one): **ETZ** / CTZ

Field Meter ID	Field Meter Serial Number	NIST Reference Device ID	Activity Date	Cold CCV Time	Cold CCV Field Meter Temp ($^{\circ}\text{C}$)	Cold CCV NIST Temp ($^{\circ}\text{C}$)	Cold CCV Result (circle one)	Hot CCV Time	Hot CCV Field Meter Temp ($^{\circ}\text{C}$)	Hot CCV NIST Temp ($^{\circ}\text{C}$)	Hot CCV Result (circle one)	Activity Performed By (Staff Name)	Comments
							P / F				P / F		
							P / F				P / F		
							P / F				P / F		
							P / F				P / F		
							P / F				P / F		
							P / F				P / F		
							P / F				P / F		



SOP - Status and Trend Networks Sampling Manual and ROC Training Manual.

Acceptance criteria for electronic device verification $\pm 5\%$. Acceptance criteria for analog device incremental markings check $\pm 10\%$. Acceptance criteria for analog device total length of line verification $\pm 5\%$.

Time Zone (circle one): ETZ / CTZ

[illegible]



EQUIPMENT CLEANING LOG

Equipment Cleaning Log
Regional Operation Centers

Equipment	Unique ID	Date	Time (24 hr)	Location (Lab / Field)	Liquinox Wash (Y/N)	Luminox Wash (Y/N)	Tap Water Rinse (Y/N)	10% HCl Rinse (Y/N)	DI Water Rinse X3 (Y/N)	Other (Describe)	Sampler Name
Submersible pump	Diver	10/31/22	0430	Lab	Y	N	Y	N	Y		K. Collins
Van Dorn	#1	4/12/19	1320	Lab	N	Y	Y	Y	Y		R. Dragon

- For all equipment and supplies document all cleaning procedures.
 - If groundwater pump tubing is changed before each site, document on the cleaning log.
- Cleaning logs can be found here [Watershed Monitoring Information Center](#) under the Log Books section.
- Contracted sampling teams may use their own cleaning logs as long as all the information is recorded.



REQUIRED DOCUMENTATION

FOR ALL STATUS & TREND PROJECTS

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- ✓ Equipment Cleaning Log
- **Equipment Maintenance Log**
- **Standards / Reagents Log**



Hammock Sink at Leon Sinks Geological Area



EQUIPMENT MAINTENANCE LOG

Equipment Maintenance Log
Regional Operation Centers

Equipment	Serial #	Unique ID #	Date	Time	Procedure	Reason	Comments	Sampler Name
YSI	06H1520 AA	Betty Boop	6/19/15	10:42	Replace DO membrane	Routine maintenance		Natalie Ayala
Ekman sediment dredge	N/A	1	3/3/16	10:43	Changed cables connecting jaws	Old cables failed		Thomas Wippick
Exo 3	19J105467	Sea Cow	1/25/23	11:52	Replaced Conductivity/Temp Probe	Replace broken probe		Victoria Schwartz

(Figure 26 -
Sampling
Manual)

- Specific piece(s) of equipment.
- Name of person performing maintenance.
- Date.
- Procedure.

[link to FDEP Sharepoint](#)



STANDARDS LOG

Standard and Reagent Log
Regional Operation Centers

Standard/ Reagent	Manufacturer	Quantity / Concentration / Grade	Lot #	Date of Receipt	Expiration Date	Date Opened & Sampler Name	Location	Date discarded or verification if used passed expiration date
pH Buffer	Exaxol	20L/pH 10	220608A	6/20/2024	6/25	7/1/2024 GS	SW ROC	Discarded 7/1/2024
Conductivity Standard	Fisher	20L /Conductivity 1000	212209B	9/10/2025	8/26		SW ROC	

- Manufacturer.
- Standard value.
- Lot number.
- Date received.
- Expiration date.
- Date opened/initials.

[link to FDEP SharePoint](#)

(Figure 25 - Sampling
Manual)



DOCUMENTATION QA

DATA QUALIFIERS

- Add data qualifiers when necessary (per Chapter 62-160, Florida Administrative Code (F.A.C.)).
 - Document on field sheets (Survey123).
 - Always indicate which parameter qualifiers are associated with.
 - Always add a comment describing why qualifier is needed. (Required per standard operating procedures (SOPs)).

(Sampling Manual - Table 7, p. 134).



DOCUMENTATION QA

DATA QUALIFIERS

Common data qualifiers added by samplers.

* All Qualifiers need to have a comment.

“S” - Secchi disk visible on bottom.

“J” - Estimated value with detailed comment.

- Field meter verification failure or bracketing problem.
- Interference present that may reduce measurement accuracy.
- Deviation from standard field protocols.

“O” - Measurement scheduled but not performed.

“?” - Data are rejected and should not be used.



FIELD BLANKS & EQUIPMENT BLANKS

- Help identify contamination in the sampling system.
- QA Officer tracks results.
- If analytes of interest are detected (value $\geq$ MDL) in field collected blanks, associated data will be “G” qualified if the value in the blank is $> 10\%$ of the value in the sample.



FIELD BLANKS AND EQUIPMENT BLANKS

- Collected, preserved and submitted in same manner as an actual sample.
- Analyte-free (DI) water.
- Filled **on-site**.
- One Blank collected for every five samples (20% frequency).
- Collect blanks to be representative of the sample collection.



FIELD BLANKS



- Required when **NO** equipment used.
(SW direct grab samples and GW wells with in-place plumbing).
- Fill sample bottles directly from DI water carboy.
- Collected on-site, in the field!



EQUIPMENT BLANKS

- Required if **any** equipment is used to collect samples.
- For each project, at least one equipment blank is required for each piece of equipment used.
- DI water from carboy is passed through equipment. Sample bottles filled with DI water from equipment.





EQUIPMENT BLANKS

Two types:

1. Pre-cleaned equipment blank.

- Equipment cleaned in-house prior to sampling.
- Blank is collected prior to sampling.

2. Field-cleaned equipment blank.

- Equipment cleaned in field.
- Blank is collected after sampling at a site.

BOTH are collected on-site in the field!



BLANK DOCUMENTATION

Document Blank Collection Information on Field Sheets (surface water and groundwater).

- Sample type — Field Blank or Equipment Blank.
 - If Equipment Blank:
 - Field-cleaned or lab-cleaned.
 - Equipment ID.
- Blank collection time (must be different than sample collection time for water/sediments/invert samples).
- Person responsible for collecting blank.



REMINDER FOR SHARED PROJECTS

- If multiple DEP ROCs or WMD field offices are collecting data for a single project, each office must collect at least one blank for that project.
 - Please coordinate blank collection when performing combined sampling events.



DI SOURCE BLANKS



- Not a field collected blank.
- Scheduled as needed to help investigate detections in field blanks and equipment blanks.
- Collected at field lab/office, directly from DI source used to fill large carboys.
- Do not use any carboys or equipment.



FIELD AUDITS

- WMS QA Officer conducts field audit for each sample collection agency at least once every 18 months.
- Audits are designed to promote consistency throughout the state.
- Managers or team leads are encouraged to conduct internal audits.



- Current version of Field Audit Form is June 2025.
 - Narrative summary.
 - Checklist of items observed/discussed.
 - Audit summary table.

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General Sampling Procedures (ITS 1006, ITS 2000, Mine Site use)	Yes	No	NA
1. Spectrometers, replicates and equipment were assembled before going into the field			
2. Most recent section of field sheets and outcrop sheets was used			
3. Sampling started only in the morning (before 10:00 a.m., if applicable)			
4. Sampling equipment & bottles were clean & appropriate. Equipment was in working order			
5. Washed from water was less than 1 week old tap water			
6. Samples were collected in the same order on the reverse of the outcrop sheet			
7. Water was taken in correct order (from the top of the outcrop sheet)			
8. Samples were addressed and changed in sequence			
9. Containers were not pretreated, cleaned, or pre-equilibrated			
10. Samples were properly preserved within 15 minutes			
11. All work was properly recorded, including sample size, inserted into bottle			
12. Personal protective equipment was worn when working with acids and preservatives			
13. Samples were properly labeled & necessary			
14. Handpump was left in all sample containers and all samples were filled with appropriate amount of sample			
15. Samples were packed properly			
16. All samples placed together in large bag, protected from ice			
17. Obviously dirty, contaminated, heaped and placed in separate			
18. On least one sampler on site has attached Sampler Training Worksheet			

Surface Water Sampling (ITS 1100)

	Yes	No	NA
1. Samples were collected at least 100 m from the shoreline, if applicable			
2. Samples were collected on bottom side of edge (unless bottom sampling location for benthic invertebrates)			
3. Samples collected different sampling date, but a least without disturbing the sediments			
4. Water samples were collected prior to the sediment samples (1 m)			
5. Intermediate collection devices were well rinsed with sample water, rinse water was discarded away from sample site			
6. Inactive containers collected in grab samples OR collected from an intermediate collection device without intervention of the flow			
7. Sample containers were submerged neck first, inverted into flow, slowly filled and returned to surface (if sample containers were used as collection devices)			
8. Samples collected from intermediate collection devices using technique that minimized swirling of particulates			
9. Total phosphorus were measured at appropriate depth(s)			
10. Water depth was at least 1 m			
11. Water samples were collected at the appropriate depth and corresponded with field parameters measured depth			
12. Sample was collected in collection container in waterbody			
13. Total depth, secchi, depth, and sample collection depths were measured to nearest 0.1 m or nearest 0.01 m (1 mm depth < 0.01)			
14. Secchi depth was measured on shaded side of 'body' and sunglasses were removed			

*COMMENTS:

[illegible]



FIELD AUDITS

Audit Timeline:

1. Auditor sends audit report within 90 days.
2. Sampling team completes “response” column in summary table within 45 days.
3. Auditor reviews response within 15 days.



FIELD AUDITS

Audit Summary Table – Example

Completed by Auditor				Completed by Field Staff	Completed by Auditor
Finding #	SOP Reference	Audit Finding	Required or Suggested Corrective Action	Response	Approved by Auditors
1	FD 4100 Sec. 2.3 & 2.5.	Date, time, and sampler name not documented for turbidity meter ICV on 1/5/2017.	Complete all sections of DEP ROC turbidity calibration log form for each calibration or verification event.	All sections of turbidity log will be filled out completely and correctly.	12/04/2017



QUESTIONS?



THANK YOU

Rachael Dragon

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection

Contact Information:

850-245-7544

Rachael.Dragon@FloridaDEP.gov