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St. Johns River Water Management District
Quality Assurance Procedure
For Preserving the Chain of Evidence
in Water Samples

By

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The primary objective of these procedures is to create a written record documenting custody of a sample from collection to its introduction as evidence. These procedures should be followed whenever the results of water quality analysis are of critical importance and may be submitted as evidence. Under such circumstances, the collector will be so advised by the staff attorney.

Guidelines for Preserving the Chain of Evidence in Water Samples

A. General

- 1) Involve a minimum number of persons in sample collection and handling
- 2) Follow current EPA procedures for sample collection, preservation, storage, and analysis (Table 1)
- 3) A sample is considered to be in "custody" when it is:
 - a) In actual physical possession; or
 - b) In view after being in possession; or
 - c) In physical possession because it is locked up; or
 - d) In a secured area, restricted to authorized personnel

B. Technician

1. Take sample and preserve according to recommended EPA procedures (Table 1)
2. Immediately mark sample container with:
 - a) Sample number (14 digit alphanumeric)

ID DATE TIME

e.g. BCCA8207041624

3. Using Waterproof ink, mark "EPA Official Sample Seal" (Fig. 1) with:
 - a) Sample number
 - b) Date
 - c) Printed name and title
 - d) Signature
4. Mark "Chain of Custody Tag" (Fig. 2) with:
 - a) Sample number (14 digit alphanumeric)
 - b) Sample source (applicant's name, sample site description)
 - c) Analysis required
 - d) Date taken
 - e) Time
 - f) Preservative
 - g) Remarks or observations pertinent to sampling conditions.
 - h) Sampled by
 - i) Signature
 - j) Witness
5. Place sample in transparent plastic bag
6. Seal bag with "EPA Sample Seal" so that seal must be broken in order to open bag and so that seal attaches "Chain of Custody Tag" to bag
7. Store according to recommended EPA procedures (Table 1)
8. Fill out "Analysis Request and Report Form" (Fig. 4)
 - a) Permit #
 - b) Permittee
 - c) Section/Township/Range
 - d) Name of technician who collected sample

- e) Sample number (14 digit alphanumeric)
 - f) Analysis requested (circle parameters)
 - g) Sample site description
 - h) Comments or observations
 - i) Person to whom results will be sent
9. Transport sample and forms to laboratory within time limits specified by EPA (Table 1). Sample should be kept "in the technician's custody" until such delivery is made.
10. If sample custody must be transferred, the requirements for documenting the chain of custody should be explained to the person receiving the sample, and the back of the chain of custody tag (Transfer of Custody, Fig. 3) should be marked with:
- a) Printed name and signature of person receiving custody
 - b) Time and date of transfer
11. If samples must be shipped, they should be carefully packed and the shipping container sealed with an EPA sample seal. The shipping container should be accompanied by a Chain of Custody Tag signed by the person picking up the delivery. All records and receipts of shipment shall be retained with the samples.
12. Store sample in refrigerator
13. If the above procedures cannot be followed, a thorough description of the procedures used should be included.

C. Chemist

1. Break the seal on the bag but leave the broken seal on the bag
2. Mark the broken seal with:
 - a) Initials of chemist breaking seal
 - b) Date seal broken
3. Open the container and extract the amount of contents needed for test
4. Close sample container
5. Place sample container back into bag and reseal bag with the new EPA sample seal
 - a) The new seal should be placed next to but not over the old seal
 - b) Mark new seal with date and initial
6. Start requested test
7. Fill out Analysis Request and Report Form (Fig. 4)
 - a) Name of chemist
 - b) Parameter analyzed
 - c) Date and time test began
 - d) Date and time test completed
 - e) Results
8. Deliver Analysis Request and Report Form to the person listed at the bottom of the form
9. Sealed bag and container shall be stored until either:
 - a) Sample has deteriorated, as determined by the chemist in consultation with the staff attorney; or
 - b) It is certain that the information is no longer required, as determined by the staff attorney.

TABLE I

Containers, Preservation and Holding Times

<u>Measurement</u>	<u>Container*</u>	<u>Preservative</u>	<u>Max. Holding Time</u>
Alkalinity	P,G	Cool to 4°C	14 Days
Ammonia	P,G	Cool to 4°C, H ₂ SO ₄ to pH <2	28 Days
BOD	P,G	Cool to 4°C	48 Hours
Chloride	P,G	None	28 Days
Color	P,G	Cool to 4°C	48 Hours
Hardness	P,G	HNO ₃ to Ph <2	6 Months
TKN	P,G	Cool to 4°C, H ₂ SO ₄ to PH <2	28 Days
Metals	P,G	HNO ₃ to Ph <2	6 Months
NO _x	P,G	Cool to 4°C, H ₂ SO ₄ to PH <2	28 Days
Orthophosphate	P,G	Filter on site, Cool to 4°C	48 Hours
Total Phosphorus	P,G	Cool to 4°C, H ₂ SO ₄ to PH <2	28 Days
TDS	P,G	Cool to 4°C	14 Days
TSS	P,G	Cool to 4°C	7 Days
Sulfate	P,G	Cool to 4°C	28 Days
Turbidity	P,G	Cool to 4°C	48 Hours
Chlorophyll	P,G	Cool to 4°C	24 Hours
Silica	P	Cool to 4°C	28 days

* Polyethylene (P), Glass (G); should be cleaned according to approved methods

CHAIN-OF-CUSTODY TAG	
SAMPLE ID NUMBER	
SAMPLE SOURCE	
ANALYSES REQUIRED	
DATE TAKEN	TIME
PRESERVATIVE	
REMARKS	
SAMPLED BY	
SIGNED	
WITNESSED	
DER Form PERM 21-3 (Mar 78)	

FIGURE 2

TRANSFER OF CUSTODY	
TRANSFERRED TO	
DATE	TIME
SIGNATURE	
RECEIVED BY	
DATE	TIME
SIGNATURE	
RECEIVED BY	
DATE	TIME
SIGNATURE	
DISPATCH OF SAMPLE	
METHOD	
DATE	TIME

FIGURE 3


 <p>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICIAL SAMPLE SEAL</p>	SAMPLE NO.	DATE	SEAL BROKEN BY	DATE	EPA FORM 7500-(R7-75)
	SIGNATURE				
	PRINT NAME AND TITLE <i>(Inspector, Analyst or Technician)</i>				

FIGURE 1

