

QAPP Amendment Form

PROGRAM: Delta Regional Monitoring Program (DRMP)
PROJECT: Constituents of Emerging Concern (CEC)
QAPP VERSION: Version 2.0
PREPARED BY: MLJ Environmental
DATE SUBMITTED: January 20, 2022

Title: Amendment to the Suspended Sediment Concentration (SSC) Quality Control Sample Requirements

Section of QAPP affected:

Table 14-2. Measurement quality objectives for laboratory measurements.

Reason for Changes:

The Suspended Sediment Concentration (SSC) analysis run by ASTM D3977-97 measures the solid-phase material in the water column of the sample collected by filtration and drying of the filtrate. The element of the SSC analysis that differentiates it from other measurements of aqueous solids (e.g., Total Suspended Solids or TSS) is that the method specifically requires that the whole volume collected be used in the analysis. Studies have indicated that the use of the entire sample volume has the potential to reduce bias in the analysis, especially for samples with higher percentages of sand-sized particles relative to other suspended material. Due to the requirement of using the entire collected volume for the analysis, the laboratory is unable to perform a laboratory duplicate within the requirements of the method. The ASTM method does not contain any required quality control; however, a negative control and positive control are required for an assessment of laboratory performance for this project. In addition to a positive and negative control, the current QAPP requires a laboratory duplicate to assess laboratory precision. For reference, the requirements of the California State Water Resource Control Board (SWRCB) Surface Water Ambient Monitoring Program (SWAMP) includes only that a blank sample be generated by the laboratory for SSC analyses ([SWMAP Quality Control and Sample Handling Guidelines for Solid Parameters in Fresh and Marine Water](#)).

Because the implementation of a laboratory duplicate is a deviation from the referenced ASTM SSC method, the requirement for a laboratory duplicate is being removed from the Delta RMP CEC QAPP. The QAPP will still require a positive and negative control which is more than is required by SWAMP. A field duplicate is also required and is a control to inform the precision of both field and laboratory activities. Therefore, information about laboratory precision is still required by the QAPP.

This form is to document the updated quality control sample requirements for the SSC method.

Detail of Changes:

Changes have been made to Table 14-2 to remove the laboratory duplicate quality control sample requirement, as indicated below.

Table 14-1. Measurement quality objectives for laboratory measurements.

Method	Sample type	Matrix	Frequency	Acceptable limits (MQO)
Ancillary – Suspended Sediment Concentration				
ASTM D3977-97	Field Blank	Water	1 per 20 samples (with one coming from each field collection crew)	Less than the MDL for target analytes
ASTM D3977-97	Field Duplicate	Water	1 per 20 samples (with one coming from each field collection crew)	RPD ≤ 35%; n/a if concentration of either sample < MDL
ASTM D3977-97	Laboratory Blank	Water	1 per batch	Less than the MDL for target analytes
ASTM D3977-97	Lab Duplicate	Water	1 per batch	RPD ≤ 35%; n/a if concentration of either sample < MDL
ASTM D3977-97	Laboratory Control Sample	Water	1 per batch	70-130% recovery if certified; otherwise, 50-150% recovery

Approval:

The amendment(s) detailed within this document shall be effective upon signature completion of all parties listed below. By signing this amendment, all parties listed below acknowledge and accept these changes. A copy of this document shall be distributed to all parties within the QAPP distribution list and shall be included and/or attached to all distributed copies of the original QAPP.

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