



BULLETIN

August 13, 2025

THE REQUIREMENT FOR SITE-SPECIFIC MATRIX SPIKE/MATRIX SPIKE DUPLICATES FOR SOLID SAMPLES SUBMITTED FOR METALS ANALYSIS

Purpose

DEEP has received inquiries from both laboratories and Environmental Professionals (EP) regarding the new requirement included in the 2024 Reasonable Confidence Protocols (RCPs) for Matrix Spike/Matrix Spike Duplicates (MS/MSDs) for **solid** samples analyzed for metals using SW-846 6010, 6020, 7000/7010, 7196 and/or 7470/7471.

When Did the Requirement Change Occur?

The new requirement for MS/MSDs in **solid** samples analyzed for metals was added to the RCPs in the 2024 update. The language can be found in Section 1.4.2 General Quality Control Requirements in the applicable RCPs (i.e., 6010, 6020, 7000/7010, 7196, and 7470/7471).

The specific language reads:

“The use of site-specific MS/MSDs samples are required for solids samples (soil/sediment). However, site-specific MS/MSD or MS/MD samples are strongly recommended from each site and for each matrix type sampled. Evaluation of sample matrix effects on element recovery is key to making informed decisions. Percent recovery data from site-specific samples allow the environmental professional (“EP”) to make informed decisions regarding contamination levels at the site. Batch MS/MSD or MS/MD results do not give any indication of site-specific matrix interferences or analytical problems related to the specific site matrices. Field, rinsate, or other blanks should not be used for MS/MSD/MDs. A laboratory may substitute a MS/MSD duplicate in lieu of the MS/MD.”

What is the Purpose of the Change?

MS/MSD data is regularly used to evaluate the absence/presence of possible sample matrix interferences. Metal analyses in complex matrices, such as soils and sediments, are particularly susceptible to matrix interferences. DEEP incorporated the requirement to ensure that EPs have the data necessary to evaluate matrix interferences.

When Should an EP Request an MS/MSD?

A site-specific MS/MSD should be requested by the EP for at least every 20 field samples, and at least 1 per each soil type present in the investigation area. EPs should consider variations in soil texture and composition when selecting MS/MSDs that are representative of each soil type.

What are the Responsibilities of the Parties?

The EP is responsible for ensuring a site-specific MS/MSD is provided to the laboratory for analysis.

Laboratories are **not** required to monitor whether site-specific MS/MSDs are submitted or analyzed on solid samples.

How to Fill Out the RCP Laboratory Certification Form

- *Question 1:* If a site-specific MS/MSD for solid samples analyzed for metals is not included in a data packet, this does **NOT** trigger a “No” response. Lack of a site-specific MS/MSD for solid samples does not necessarily affect Reasonable Confidence.
- *Question 7:* If any MS/MSD data is included in a data packet, Question 7 should be checked “Yes”.

How to Address Data Quality/Usability if a Site-Specific MS/MSD was not Requested

Lack of a site-specific MS/MSD introduces a data gap that requires further consideration. The EP is responsible for evaluating the potential for matrix interference/bias has been adequately characterized for their investigation purposes.