DoD Environmental Data Quality Workgroup Memorandum

Subject: EPA Method 1633 Sequence Requirements

June 18, 2025

NOTE: This memorandum supersedes the previous DoD EDQW Memorandum, *EPA Method 1633 Sequence Requirements*, dated March 19, 2025.

Version 6.0 of the DoD/DOE Quality Systems Manual for Environmental Laboratories (QSM) defines an analytical sequence (analytical batch) as samples using the same instrument calibration and bracketed by passing calibration verifications. EPA Method 1633 (multiple versions) does not identify an analytical sequence the same as the QSM. Laboratories accredited by the DoD Environmental Laboratory Accreditation Program shall follow the EPA Method 1633 definition of an analytical sequence when using the method.

The EPA and DoD EDQW have agreed to accept the immediate implementation of the change noted below, which will be included in the next revision of EPA Method 1633:

13.3 *After a successful initial calibration has been completed, the analytical sequence for a batch of samples analyzed during the same time period is as follows. The volume injected for field samples and QC samples must be identical to the volume used for calibration (Section 10.3.2). Standards and sample extracts **must** be brought to room temperature and vortexed prior to aliquoting into an instrument vial in order to ensure homogeneity of the extract.*

Analytical Sequence

1. *Instrument Blank*
2. *Calibration Verification Standard **or** Instrument Sensitivity Check*[1]
3. *Qualitative Identification Standards*
4. *Instrument Blank*
5. *Method Blank*[2]
6. *Low-level OPR (LLOPR)*[2]
7. *OPR*[2]
8. *Bile salt interference check standard (Section 7.5)*[3]
9. *Injections of sample extracts and diluted extracts (10 or fewer extracts)*
10. *Calibration Verification Standard **or** Instrument Sensitivity Check*[1]
11. *Instrument Blank*
12. *Injections of sample extracts and diluted extracts (10 or fewer extracts)*
13. *Calibration Verification Standard **or** Instrument Sensitivity Check*[1]
14. *Instrument Blank*

[1] *In Sequence number 2, 10, and 13, the laboratory has the option to alternate between the Instrument Sensitivity Check and the Calibration Verification, analyzing one of the two every 10 sample extracts (each one shall be analyzed at a minimum of once every 20 sample extracts).*

[2] *If the only extracts being analyzed in the sequence are extract reanalyses or diluted extracts, then the Method Blank, LLOPR, and OPR QC samples are not required because the relevant extraction batch QC samples were already analyzed in a previous analytical sequence. However, if the analytical sequence of 20 or fewer samples contains any newly extracted samples, then the Method Blank, LLOPR, and OPR QC samples associated with those newly extracted samples **must** be analyzed as part of the analytical sequence*.

[3] *The bile salt interference check standard shall be analyzed at least once per analytical sequence.*

If the closing Calibration Verification results or Instrument Sensitivity Check (#13 above) are acceptable, then that Calibration Verification or Instrument Sensitivity Check may be used as the opening solution for the next analytical sequence, starting at Sequence number 2 above.