Standard Operating Procedures (SOPs) Format

Technical SOPs are written instructions on how to perform a specific analytical method and/or task in the field or laboratory. SOPs are also used to explain how to collect a sample and preserve it to maintain the sample integrity. The SOP must explain all aspects associated with an analysis. More information concerning technical SOPs can be found at http://www.epa.gov/sites/production/files/2015-06/documents/g6-final.pdf.

Use the following format for developing a technical SOP. Include on the title page and in the header of each method the following information:

Laboratory Name:
SOP ID Number:

Revision Date:
Revision Number:
Issue Date:

Parameter Name
EPA Approved Method Reference

A. Scope and Applicability
Describes the purpose of the process or procedure, types of samples analyzed, and any organization or regulatory requirements, as well as any limits to the use of the procedure.

B. Summary of the Method
Provides a brief explanation of the procedure.

C. Definitions
Defines any acronyms, abbreviations, or specialized terms used in the methodology and SOP.

D. Health & Safety
Indicates operations and/or chemicals that could result in personal injury or loss of life and explains what will happen if the procedure is not followed or is followed incorrectly.

E. Interferences
Describes any component of the process that may interfere with the accuracy of the final product. Includes physical or chemical properties of the sample.

F. Sample Handling, Preservation, and Storage
Documents the sampling and collection requirements for each type of sample (NPDES, Drinking Water, and Solid and/or Hazardous Waste). Specifies the maximum required holding time from the time of collection along with the temperature and chemical preservative. Documents the storage conditions for samples before analysis.

G. Instrumentation and Equipment
Lists all instrumentation and equipment that are necessary to perform the analysis/test. Specifies the manufacturer and model number of all instruments.

H. Reagents, Standards, and Consumable Materials

Lists all reagents, standards, and materials needed to perform the analysis/test. Specifies the source by documenting the manufacturer, catalog number, concentration, and any other pertinent information.

I. Standard and/or Reagent Preparation

Documents the preparation procedure for all standards and reagents. Specifies the concentration at which all standards and/or reagents are prepared and the storage conditions and maximum holding times for all standards and reagents. Specifies the procedure for necessary standardization of reagents and the frequency performed.

J. Instrument Calibration Procedures

Documents the calibration procedures and frequency of calibration for each instrument. Includes initial calibration, and calibration verification procedures along with the acceptance criteria for a valid calibration.

K. Sample Analysis Procedures

Documents step-by-step procedures for analyzing routine and quality control samples.

L. Quality Control

Includes all laboratory quality control practices along with the frequency and acceptance criteria for all QC samples and calibration verifications. Describes the initial Demonstration of Capability (DOC) and on-going demonstration of capability for all analysts. Includes the procedures for the determination of Method Detection Limits (MDLs), if applicable.

M. Data Reduction, Validation, and Reporting

Describes data reduction, calculations, and reporting procedures.

N. References

Includes the references used to develop the SOP and any pertinent instrument manuals.

O. Waste Management

Provides information concerning proper waste disposal procedures for samples and/or reagents and supplies.

P. Revision History

Documents the section(s) that have been modified since the last revision. Provides an ongoing history of the SOP modifications.

SOP Revision #	Revision Date	Section Modified	Modification	Reason Changed

Q. Appendix

Includes all appendices, tables, diagrams, etc.