

## 3745-4-06 Appendix B Guidelines for laboratory quality assurance plans.

All laboratories that perform chemical analysis under a level 3 study plan shall implement a quality assurance program and ~~shall~~ document all elements of the program in a quality assurance manual (QAM) or quality assurance plan (QAP). ~~The elements covered in the QAM or QAP should, at a minimum, that include~~includes the following:

- (1) Title page with authorization signatures and dates.
- (2) Table of contents.
- (3) Statement of quality assurance policy.
- (4) Laboratory organization and responsibility, including the following:
  - (a) Organizational tables.
  - (b) Position descriptions for all personnel.
  - (c) Training, education, and experience of laboratory personnel.
  - (d) Training procedures.
  - (e) Description of records retained by the laboratory on employee training and performance.
- (5) Data quality objectives for accuracy, precision, and reporting limits for each test, target analyte, and sample matrix.
- (6) Analytical methods variances, including justifications for method steps deviating from published methods.
- (7) Laboratory equipment and instrument lists.
- (8) Sample receipt and chain-of-custody procedures. This section should include procedures for the following:
  - (a) Receiving samples.
  - (b) Sample login.
  - (c) Sample security.
  - (d) Sample storage.
  - (e) Sample tracking.
  - (f) Sample disposal.

- (9) Laboratory standard operating procedures (SOPs) with dates of last revision. This section should include procedures for the following:
- (a) Glassware preparation.
  - (b) Sample preparation.
  - (c) Sample cleanup.
  - (d) Sample analysis.
  - (e) A description of quality control procedures ~~that are required and followed for~~ each method.
- (10) Calibration procedures. This section should describe the following:
- (a) The type of calibration used for each method.
  - (b) The criteria for acceptance or verification.
  - (c) The frequency of calibration.
- (11) Preventive maintenance and documentation. This section should describe the following:
- (a) The location of instrument manuals.
  - (b) Schedules for performance of routine equipment maintenance.
  - (c) Availability of instrument spare parts in the laboratory.
  - (d) Maintenance contracts in place.
- (12) Internal quality control checks, frequency, and criteria for acceptability. This section may reference laboratory SOPs, and should include the frequency and acceptability of method detection limit (MDL) calculations.
- (13) Data reduction, review, and reporting. This section could include discussion of the process used to do data assessment, evaluation of data completeness, comparability, and trends.
- (14) Standard corrective action procedures for quality control failures.

- (15) External and internal audits, accreditations, and certifications. This section should list all laboratory accreditations and certifications, and participation in inter and intra laboratory studies.
- (16) Reports to management. This section should describe the various types of reports and meetings and their frequencies with management.
- (17) Document retention and control. In this section, the lab should discuss its document retention schedule, storage, and retrieval procedures, including procedures for review and approval of revised lab documents (i.e., QAP and SOPs).
- (18) Procedures for procurement and process control. This section should describe the laboratory's policy and procedures for the selection and purchasing of equipment and supplies it uses that affect the quality of the environmental tests and calibrations.