Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Laboratory Inspection Checklist - VELAP Chapter 45

Laboratory Name: _____ DCLS ID: _____

Assessor Name: _____ Inspection Date: _____

AIR TESTING

Y N N/A

SOP

1601 ☐ ☐ ☐ 818 C — If supplied or used by the laboratory, procedures for field equipment decontamination shall be developed and their use documented.

SAMPLES

1584 ☐ ☐ ☐ 811 A 2 — Collection efficiency: Sampling trains consisting of one or more multiple sections (e.g., filters, sorbent tubes, impingers) that are received intact by the laboratory shall be separated into "front" and "back" sections if required by the client. Each section shall be processed and analyzed separately and the analytical results reported separately.

DEMONSTRATION OF CAPABILITY

1591 ☐ ☐ ☐ 813 1 — Method Evaluation. Demonstration of capability shall be performed prior to analysis of any samples and with significant change in instrument type, personnel, quality system matrix, or test method.

INITIAL CALIBRATION

1592 ☐ ☐ ☐ 813 2 — Method Evaluation. Calibration. Calibration protocols specified in 1VAC30-45-740 shall be followed. (See Quality System checklist.)

LOD/LOQ

1593 ☐ ☐ ☐ 814 — Limit of detection. The requirements of 1VAC30-45-771 shall apply.

SELECTIVITY

1598 ☐ ☐ ☐ 817 — The laboratory shall develop and document acceptance criteria for test method selectivity such as absolute and relative retention times, wavelength assignments, mass spectral library quality of match, and mass spectral tuning.

BLANK

1581 ☐ ☐ ☐ 811 A 1 — Negative control.
Method blanks shall be performed at the frequency of at least one per batch of 20 environmental samples or less per sample preparation method.

1582 ☐ ☐ ☐ 811 A 1 — Negative control.
The results of the method blank analysis shall be used to evaluate the contribution of laboratory provided sampling media and analytical sample preparation procedures to the amount of analyte found in each sample.

1583 ☐ ☐ ☐ 811 A 1 — Negative control.
If the method blank result is greater than the limit of quantitation and contributes greater than 10% of the total amount of analyte found in the sample, the source of the contamination shall be investigated and measures taken to eliminate the source of contamination. If contamination is found, the data shall be qualified in the report.

LCS

1585 ☐ ☐ ☐ 811 B — Positive controls (LCS): Laboratory control samples (LCS) shall be analyzed at the rate of at least one per batch of 20 or fewer samples per sample preparation method for each analyte.

1586 ☐ ☐ ☐ 811 B — Positive controls (LCS): If a spiking solution is not available, a calibration solution whose concentration approximates that of the samples shall be included in each batch and with each lot of media.

1587 ☐ ☐ ☐ 811 B — Positive controls (LCS): The concentration of the LCS shall be relevant to the intended use of the data and either at a regulatory limit or below it.

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SURROGATES

1588 ☐ ☐ ☐ 811 C — Surrogates shall be used as required by the test method.

MATRIX SPIKE

1589 ☐ ☐ ☐ 811 D — Matrix spikes shall be used as required by the method.

1590 ☐ ☐ ☐ 812 — Matrix spike duplicates (MSDs) or laboratory duplicates shall be analyzed at a minimum of one in 20 samples per sample batch. The laboratory shall document their procedures to select the use of appropriate types of spikes and duplicates. The selected sample(s) shall be rotated among sampling points or sampling locations so that various sample matrix problems may be noted and/or addressed. Poor performance in the spikes and duplicates may indicate a problem with the sample composition and shall be reported to the client.

QC

1600 ☐ ☐ ☐ 818 B — The laboratory shall document that all sampling equipment, containers, and media used or supplied by the laboratory meet required test method criteria.

EQUIPMENT

1599 ☐ ☐ ☐ 818 A — The laboratory shall assure that test instruments consistently operate within the specifications required of the application for which the equipment is used.

SUPPORT EQUIPMENT

1602 ☐ ☐ ☐ 818 D — The laboratory shall have a documented program for calibration and verification of sampling equipment such as pumps, meter boxes, critical orifices, flow measurement devices, and continuous analyzers, if these equipment are used or supplied by the laboratory.

REAGENTS & MEDIA

1595 ☐ ☐ ☐ 816 A — Quality of standards and reagents: The source of standards shall comply with 1VAC30-45-740 C.(See Quality Systems checklist.)

1596 ☐ ☐ ☐ 816 B — Quality of standards and reagents: the purity of each analyte standard and each reagent shall be documented by the laboratory through certificates of analysis from the manufacturer/vendor, manufacturer/vendor specifications, and/or independent analysis.

1597 ☐ ☐ ☐ 816 C — Quality of standards and reagents: In methods where the purity of reagents is not specified, analytical reagent grade or higher quality, if available, shall be used.

DATA ANALYSIS

1594 ☐ ☐ ☐ 815 — Data reduction. The procedures for data reduction, such as use of linear regression, shall be documented.