

MODULE 9 TERMS AND ACRONYMS

TERM AND/OR ACRONYM	DEFINITION
AETB	Air Emission Testing Body
AETB Assessment	An onsite evaluation of a AETB for the purpose of conducting a technical systems audit to assess compliance with STAC accreditation requirements and technical competence to perform the testing for which the lab is seeking accreditation.
Air Emission Testing Body	An entity that tests, either at a fixed site, mobile facility or field operations facility.
ASTM	American Society for Testing and Materials
Acceptance Limits	Established mathematical data quality limits for analytical method performance.
Accreditation	A formal recognition that a facility meets STAC Policy Requirements to carry out specific tasks or specific types of tests. See also <u>Certification</u> .
Accredited AETB	An AETB that has been evaluated and granted accreditation covering a specified Method or Method Group, and for a specified period of time.
Accuracy	The degree of agreement between an observed value and an accepted reference value. Accuracy includes a combination of precision and bias. See <u>Precision</u> and <u>Bias</u> .
Aliquot	See <u>Subsample</u> .
Analysis	The qualitative or quantitative determination of a property or analyte in a substance or material.
Analytical Run	For chemical analyses, an analytical run consists of all samples processed continuously using an item of instrumentation or equipment. Such samples are analyzed applying the same set of standard calibration data.
Approved Signatory	Person who is recognized by a AETB as competent and authorized by AETB management to sign test reports.
Assessor	A person who conducts technical systems audits. The terms site visitor, auditor and assessor are often used interchangeably. See <u>Technical Systems Audit</u> .
BOD	STAC Board of Directors
Bias	A systematic error manifested as a consistent positive or negative deviation from the known true value.
Blind Sample	A sample submitted for analysis with a composition and identity known to the submitter, but unknown to the analyst, and used to evaluate proficiency in the execution of the measurement process.
CFR	Code of Federal Regulations
Calibration	A set of operations which establish, under specified conditions, the relationship between values indicated by a measuring instrument or system, or values represented by a material measure, and the corresponding known values of a standard
Calibration Curve	A graphical relationship between the known values for a series of calibration standards and instrument responses. The levels of the calibration standards should bracket the range of measurements.
Certification	Procedure by which a third party gives written assurance that the competence of a person, organization, or other entity to perform a function or service conforms to specified requirements. See <u>Accreditation</u> .
Certified Reference Material (CRM)	A reference material that has one or more of its property values established by a technically valid procedure, and is accompanied by or traceable to a certificate or other documentation issued by a certifying body. See <u>Reference</u>

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	<u>Material.</u>
Chain of Custody	Definitive evidence (a record) of the persons who had possession or custody of the sample(s) for all periods of time, as it moved from the point of collection to the final analytical result.
Client	Any person or organization that engages the services of a AETB.
Communications	Transmission of information by any means including verbal, mail, and electronic.
Control Chart	A graph of some measurement plotted over time or sequence of sampling, together with control limit(s) and, usually, a central line and warning limit(s).
Corrective Action (CA)	All activities taken, whether unsuccessful or not, to eliminate the cause(s) of an existing nonconformity or deficiency in order to prevent recurrence. See <u>Deficiency</u> and <u>Technical Systems Audit</u> .
Deficiency	A failure to comply with a requirement of the STAC Accreditation Program(s) or a AETB's own stated quality system requirements.
Determination	An analysis with a qualitative result.
Deviation	A departure from written procedures, test methods, contracts or any other standard operating procedure that is part of the AETB Quality Assurance System.
Duplicate Analyses or Measurements	The analyses or measurements of the variable of interest performed identically on two subsamples of the same sample. The results from duplicate analyses are used to evaluate analytical or measurement precision but not the precision of sampling, preservation or storage internal to the AETB.
Duplicate Samples	Two samples taken from and representative of the same population and carried through all steps of the sampling and analytical procedures in an identical manner. Duplicate samples are used to assess variance of the total method including sampling and analysis.
EPA	Environmental Protection Agency
Equipment	All physical items (including software and instruments) in the facility used in the performance of analytical testing.
Equipment Log	A chronological record of preventive and emergency maintenance performed on any equipment. The logs include a record of calls, service technician summaries, records of calibration by the manufacturer, routine user maintenance, and other information as required by these policies.
Facility	A fixed site, mobile or field operation established for the purpose of performing AETB testing and/or sampling.
Field Blank	An analyte-free matrix carried to the sampling site, exposed to the sampling conditions (e.g., bottle caps removed), returned to the AETB, treated as a sample, and carried through all steps of the analysis. For example, a sorbent tube or a clean filter could be used as a field blank. The field blank, which should be treated just like the sample, evaluates possible effects attributable to shipping and field handling procedures.
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectroscopy
GFAA	Graphite Furnace Atomic Absorption Spectroscopy
HPLC	High Performance Liquid Chromatography
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICP-AES	Inductively Coupled Plasma – Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma – Mass Spectroscopy
ICS	Inference Check Standard

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ICV	Initial Calibration Verification
IEC	International Electrotechnical Commission
IR	Infra-Red
ISE	Ion Selective Electrode
ISO	International Organization for Standardization
Instrument	A device used for observation or measurement or chemical analysis that yields test results.
Instrument Drift	The existing difference in instrument response compared to the initial calibration and a reference value after a period of operation of an instrument.
Internal Quality Control	Routine activities and checks, such as periodic calibrations, duplicate analyses and matrix spikes that are included in routine internal procedures to control the accuracy and precision of measurements.
LC	Liquid Chromatography
Matrix	The component or substrate (e.g., soil, air or charcoal tube) that contains the analyte of interest.
Method	An orderly arrangement of steps to accomplish sample analysis.
Method Blank	An unexposed sampling media or reagent(s), not taken to the field or shipped, but carried through the complete sample preparation and analytical procedure. The blank is used to assess possible background contamination from the analytical process.
Method Detection Limit (MDL)	The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero.
Method Performance	A general term used to document the characteristics of a method. These characteristics usually include method detection limits, linearity, precision, accuracy and bias and uncertainty of measurement. See <u>Acceptance Limits</u> .
NACLA	National Cooperation for Laboratory Accreditation
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NVLAP	National Voluntary Laboratory Accreditation Program
Nonconformance	Noncompliance with any quality assurance policy, procedure, or specification. Nonconforming work results from an analysis event in which the QC results are not within acceptance limits and/or method specifications are not met.
OSHA	Occupational Safety and Health Administration
PM	Preventive Maintenance, Particulate Matter
PT	Proficiency Testing
Policy	An organization's written statement of commitment to implement a management program element.
Precision	The degree to which a set of observations or measurements of the same property, usually obtained under similar conditions, conform to themselves. Precision is often expressed as standard deviation, variance or range, in either absolute or relative terms.
Preventive Action (PA)	A planned activity to identify, recognize and control potential sources of nonconformance and to introduce needed improvements.
Procedure	A written set of instructions that describe how to implement a policy requirement, or how to carry out a specific task.
Proficiency Analytical Testing (PAT)	Refers to any proficiency analytical testing program(s), such as the programs established under the Analytical Quality Programs. See <u>InterAETB Comparisons</u> .

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Program	A structured plan consisting of requirements under which action may be taken to reach the goal (accreditation).
QSP(s)	Quality System Procedure(s)
Quality	The suitability of a product or service for use, as perceived by the user.
Quality Assurance (QA)	An integrated system of activities involving planning, quality control, quality assessment, reporting and quality improvement to ensure a product or service meets defined standards of quality within a stated level of confidence.
Quality Assurance Program	See <u>Quality Assurance</u> .
Quality Control (QC)	Technical activities whose purpose is to measure and control the quality of a product or service so that it meets the needs of users. The aim is to provide quality that is satisfactory, adequate, dependable and economical.
Quality Manual	A document stating the quality policy, quality system and internal quality control procedures of the AETB.
Quality System	See <u>Quality Assurance</u> .
Reference Material	A material or substance, one or more properties of which are sufficiently homogeneous and well established to be used to monitor instrument and method performance.
Reference Standard	A substance or reference material used to calibrate an instrument. Reference standards shall be NIST traceable or equivalent and of the highest quality available at the location.
Relative Percent Difference (RPD)	A term defined as $RPD = ((R_1 - R_2)/R) \times 100$ where $R_1 - R_2$ represents the absolute difference of two (2) values and R represents the average of the two (2) values.
Relevant Degree	A program of collegiate study that is appropriate to the applicable accreditation program.
Reporting Limit	The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty. This value is based on the low standard used for instrument calibration.
Reproducibility	The extent to which a method, test or experiment yields the same or similar results when performed on subsamples of the same sample by different analysts or laboratories.
Requirement	An essential criterion necessary for accreditation.
Revocation	The formal, permanent removal of a AETB's accreditation for noncompliance with STAC accreditation requirements.
Run	A set of consecutive measurements performed on different samples.
SA	Site Assessor
SI	International System of Units
Sample Log	A document where sample identification, date received, client, etc., are noted when samples arrive at the AETB. The log is part of the sample tracking system. See <u>Sample Tracking</u> .
Sample Tracking	A document system of following a sample from receipt at the AETB, through sample processing and analysis, to final reporting. The system includes unique numbering, or bar coding labels, and the use of a Sample Log.
SES	Source Evaluation Society
Source Emission Measurement Quality Assurance Program(s) (SEMQAP)	General term referring to any STAC program or programs established to maintain the highest possible standards of performance for analysts and/or laboratories analyzing samples and evaluating exposures to hazardous agents.
STAC	Source Testing Accreditation Council
Standard	A substance or material with properties believed to be known with sufficient accuracy to permit its use to evaluate the same property of another. In chemical measurements, it often describes a solution or substance commonly prepared by the

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	analyst to establish a calibration curve or the analytical response function of an instrument.
Standard Operating Procedure (SOP)	A written document that details the procedures of an operation; an analysis or action whose techniques and procedures are thoroughly prescribed, and which are accepted as the procedure for performing certain routine or repetitive tasks.
Standard Reference Material® (SRM®)	A certified reference material produced by the U.S. National Institute of Standards and Technology (NIST) and characterized for absolute content independent of analytical method. It is accompanied by a certificate that reports the results of the characterization and the intended use of the material.
Standardization	The process of establishing the quantitative relationship between a known mass of target material and the measurement system (example, instrument response). See <u>Calibration and Calibration curve</u> . The term may also refer to activities that establish provisions for common and repeated use of accreditation policies to achieve an optimum level of conformity.
Stock Solution	A concentrated solution of analyte(s) or reagent(s) prepared and verified by prescribed procedure(s), and used for preparing calibration standards. See <u>Calibration Standard</u> .
Subsample	A representative portion of a sample; a subsample may be taken from any location or a field sample; in analytical chemistry, an "aliquot."
Suggestion	Suggested activity or advice for improving AETB performance often made during a site assessment. A recommendation is not a requirement.
Suspension	A temporary removal of the accredited status of a AETB when it is found to be out of compliance with specific program requirements.
TA	Technical Assessor
TAB	Technical Assessment Board
TSCA	Toxic Substance Control Act
Technical Systems Audit	A thorough, systematic, onsite, qualitative evaluation of facilities, equipment, personnel, training, procedures, record keeping, data validation, data management and reporting aspects of a total quality system.
Test	A technical operation that consists of determining one or more elements in a sample according to a specified procedure.
Test Method	Specified technical procedure for performing a test. See <u>Standard Operating Procedure</u>
Traceability	The process of documenting the value of a reference material or standard as related to NIST standards or equivalent through an unbroken chain of comparisons with stated uncertainties.
UV-VIS	Ultra Violet-Visible
Uncertainty of Measurement	Result of the evaluation aimed at characterizing the range within which the true value of a test result is estimated to lie, generally within a given likelihood.
Validation	The process of confirming specified method performance criteria.
Verification	Confirmation by examination and provision of evidence that specified requirements have been met.
VOC	Volatile Organic Compound
XRD	X-Ray Diffraction
XRF	X-Ray Fluorescence