



The role of Accreditation in Assuring the Quality of Sampling

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Overview



- Results of testing are highly dependent on the sample supplied
- Poor sampling leads to unreliable data
- Sampling is influenced by the individual
- Accreditation reduces variables and contributes to quality to improve confidence
- Regulators and public bodies are increasingly looking for accreditation to provide this confidence

Accreditation by a National Accreditation Body



Examples of three different International Standards, used to accredit sampling activities, are detailed below:

- ISO/IEC 17025 – General requirements for the competence of testing and calibration laboratories
- ISO/IEC 17024 - Conformity assessment – General requirements for bodies operating certification of persons
- ISO/IEC 17020 – Conformity assessment – Requirements for the operation of various types of bodies performing inspection

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Key Requirements for Accreditation



Common Requirements:

- Quality Management System with documented policy and procedures
- Impartiality, integrity and confidentiality
- Internal audit (including witness audits of sampling staff)
- Complaints, nonconforming work, corrective action
- Management review

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Laboratories performing sampling (ISO/IEC 17025)



- ISO/IEC 17025 accreditation is held by the organisation by which the sampler is employed
- Technical processes key to obtaining a sample that is representative of the target and collected by a competent sampler aware of the purpose and requirements of the sampling
- Sample handling is key to obtaining an appropriate sample
- Storage, transport and chain of custody need to be considered
- Sampling plan (statistically derived or defined by regulation – locations, maps) and sampling method documented and detail the records required
- Management of sampling equipment, validation of processes, and training of samplers
- Sampling facilities must be appropriate. Is there a suitable sample point specification?

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Laboratories performing sampling (ISO/IEC 17025) cont.



- Proficiency testing for sampling is a relatively new concept
- Quality assurance is usually provided by internal audit
- Competence demonstrated via training records, objective evidence of competence (e.g. satisfactory internal audit performance, and satisfactory PT performance in *in-situ* testing).

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Certification bodies involved in personnel certification of sampling (ISO/IEC 17024)



- Sampling personnel certified by a Certification Body that is accredited to ISO/IEC 17024.
- Certified samplers can take the certification qualification with them when they move employment
- Sampling requirements and assessment of competence defined in a 'scheme' against which samplers are certified
- Accreditation of the certification body involves an assessment by the NAB of the technical competence of the CB

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Certification bodies involved in personnel certification of sampling (ISO/IEC 17024) cont.



- Elements of scheme developed by CB in conjunction with a regulator or scheme owner including scope of certification and required competence - specific criteria for initial certification and recertification including the assessment method
- Examination to verify knowledge and competence of the sampler - written, oral, practical ensuring the objective comparability of results and of pass/fail decisions
- Defined period of certification validity (typically 2 to 5 years). Recertification required thereafter

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Inspection bodies performing sampling (ISO/IEC 17020)



- Used to accredit organisations who undertake sampling for inspection purposes
- An example of this is accreditation of organisations undertaking sampling as part of Crime Scene Investigation (CSI). ILAC-G19 (Modules in a Forensic Science Process) also applicable in this example
- Statistical approach may not be appropriate – targeted approach

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Inspection bodies performing sampling (ISO/IEC 17020)



- Sampling strategy
- Sampling plan
- Sampling procedure
- Technical competence
- Management of equipment
- Control and retention of sampling records and sample management

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Common Benefits



(Whichever accreditation approach is used)

- Documented Protocol or Method
- Sampling Plan
- Training and Competence
- Assurance via Witnessing
- Records
- Sample Handling

(in some cases)

- Assurance via PT
- Sample point specification
- Management of Equipment
- Controlled Storage
- Chain of Custody

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