



**Australian Government**

# **Assessment Requirements for MSS025022 Perform sampling and testing of soils**

**Release: 1**

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## Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

## Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- collected, preserved and labelled a set of representative soil samples for at least 1 site in accordance with a given sampling plan
- prepared soil samples and conducted at least 1 chemical test and 1 physical test in the field using given test methods
- prepared soil samples and conducted at least 1 chemical test and 1 physical test in a laboratory using given test methods.

## Knowledge Evidence

There must be evidence the candidate has knowledge of:

- scientific terminology used in job role covering soil sampling and testing
- fundamentals of soil morphology, including soil profiles, horizons, structure and texture, and mineralogy
- chemical and physical soil testing
- (Australian) soil classification system
- fundamentals of soil formation
- land use and soil systems (interactions and impacts), including plant-soil interactions, soil fertility, soil contamination and remediation
- fundamentals of geomorphology, including erosion and mass wasting; transportation and deposition, sedimentation; fluvial, aeolian, hillslope and weathering processes
- fundamentals of soil chemistry, soil salinity
- physical, engineering soil properties, including:
  - colour (Munsell chart)
  - liquid and plastic limits
  - linear shrinkage
  - soil particle density
  - particle size distribution
  - dispersion and Emerson class number
- fundamentals of sampling, including:
  - sampling plans and site selection

- principles of representative samples
- principles and procedures for random, systematic, stratified and composite sampling; consistency of sampling procedures
- preservation of the integrity of samples
- maintaining identification of samples relative to their source, workplace and legal traceability requirements
- cost-effectiveness of sampling
- characteristics of soils to be sampled and likely contaminants
- materials for sampling and different types of samples
- sampling tools and equipment
- testing equipment and instruments
- links between quality control, quality assurance, quality management systems and sampling procedures
- workplace procedures dealing with legislative requirements for the handling, labelling and transport of hazardous goods
- site hazards, links between safe work procedures and personal and environmental safety, particularly at high risk sites.

## Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
  - vehicle transport, soil sampling equipment, field test equipment, digital camera, containers, reagents, consumables
  - equipment and instruments for laboratory based soils testing
  - safe work procedures and safety equipment
  - workplace procedures, work program, maps, site plans, site sampling plans and test methods, and equipment manuals.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

## Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>