



Australian Government

Assessment Requirements for MSS024008

Recognise common geological landforms and samples

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSS024008A Recognise common geological landforms and samples

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- recognising and accurately describing the geological landforms and associated geological processes for at least two (2) different sites
- identifying and accurately describing the common rocks, minerals and soil types associated with at least two (2) different sites
- planning and organising resources for efficient field work
- following legislative requirements, standard methods, workplace procedures and/or instructions governing geological sampling and in-field testing
- interpreting topographical maps and aerial photos; simple geological maps; classification charts and tables for rocks, minerals and soils
- recognising common geological landforms and explaining their formation
- identifying handheld specimens of common rocks and minerals
- obtaining and classifying samples of common soils
- collecting, collating and accurately recording simple geological information for a site
- relating local geology to the flora and fauna present and land-use at the site
- seeking advice when issues/problems are beyond scope of competence/responsibility
- reporting field data in the required formats and expected timeframe
- safely using, maintaining, transporting and storing equipment and/or materials and disposing of waste
- following procedures for working safely, minimising environmental impacts and responding to emergency incidents and accidents.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- an overview of major fields of geology
- basic structure of the earth, including the core, crust and major components
- basic geomorphology and landforms, including agents of erosion and transportation, stability of rocks and minerals in different environments and depositional processes
- regolith, including physical and chemical weathering, climactic effects, stability of minerals, weathering processes, soil formation, common soil types and composition
- rock cycle
- introduction to igneous rocks, including origin of magma, movement of magma, volcanic, plutonic, types of volcanoes and simple tectonic setting
- introduction to sedimentary rocks, including clastic, chemical, organic types, grain size and composition, sorting, roundness, lithification, sedimentary structures and environments of deposition
- introduction to metamorphic rocks, including regional, contact, dynamic metamorphic zones, rock textures and fabrics
- structural geology concepts including: folds, faults, tilts and uplifts
- overview of geological time, including eras, periods, relative time, stratigraphic methods for establishing relative ages of strata, and radiometric dating
- introduction to palaeontology, including preservation of fossils and their role in dating strata
- introduction to the links between local geology, climate, topography and living components of ecosystems
- geological sampling and in-field test methods routinely used in job role, including:
 - pre-use checks and safe operating procedures for sampling/test equipment
 - sampling procedures
 - purpose, principles and measurement steps of test
 - calculation steps to give results in appropriate units and precision
 - expected values for sample type
- relevant hazards; health, safety and environment requirements.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace, or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).
- Holistic assessment methods include:
 - review of geological site reports generated by the candidate, including details of the landforms present, geological processes involved and relationship of local geology to other ecosystem components
 - review of the accuracy of identification/classification records generated by the candidate for rocks, minerals and soils
 - feedback from supervisors that the candidate is able to organise and safely conduct basic field work; identify common rocks, minerals and soils; recognise common landforms and evidence of geological processes at sites and relate these to other ecosystem components
 - oral and/or written questions to assess the candidate's knowledge of basic sampling and in-field testing of common rocks, mineral and soils; identification/classification procedures, and the ability to 'read the landscape.'
- Access is required to all instruments, equipment, materials, workplace documentation, procedures, and specifications associated with this unit including, but not limited to:
 - access to suitable sites and vehicle
 - suitable survey, sampling and testing equipment
 - documentation including: maps and aerial photos; classification charts and tables for rocks, minerals and soils; user manuals, workplace safety procedures, test/survey methods, workplace procedures governing geological sampling and in-field testing.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR

- having consulted with an organisation providing environmental monitoring, management or technology related services about performing the competency being assessed within the last twelve months.

Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>