



Australian Government

CPPSSI6034 Conduct mining geology project research

Release: 1

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Modification History

Release 1 This version first released with CPP Property Services Training Package Release 12.0.

This unit supersedes and is equivalent to CPPSIS6034 Conduct mining geology operations.

Application

This unit specifies the skills and knowledge required to undertake research to support geological projects within a mining environment. It includes using surveying techniques to take measurements and reduce and manipulate spatial data to assist in assessing and identifying geological aspects of possible ore or coal deposits.

The unit also includes assessing the geological setting for the projects and requires knowledge of basic geological concepts, exploration techniques and ore-forming processes, as well as open pit or underground mining activities and mining methods.

This unit is suitable for surveyors who use broad theoretical and technical knowledge to analyse information as well as interpret and provide solutions to unpredictable and sometimes complex surveying/spatial information problems. This unit supports surveyors who work in a mining environment.

All work must be carried out to comply with workplace procedures, in accordance with relevant state/territory regulations that govern surveying work, as well as work health and safety (WHS) legislation and regulations that apply to the workplace.

Cadastral surveying must be undertaken under the supervision of a registered surveyor. Users must check with the relevant regulatory state/territory authority before delivery.

Licensing, legislative or certification requirements apply to this unit in some states/territories where mining surveying must be undertaken under the supervision of a registered surveyor. Relevant state and territory regulatory authorities should be consulted to confirm those requirements.

Pre-requisite Unit

Nil.

Unit Sector

Surveying and Spatial Information Services

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Plan and prepare for project.

- 1.1 Determine project objectives and specifications in consultation with appropriate persons.
- 1.2 Document project objectives, deliverables and work activities according to organisational requirements.
- 1.3 Evaluate constraints and environmental considerations according to organisational requirements.
- 1.4 Identify hazards and assess risks of work activities and implement control measures.
- 1.5 Apply relevant legislative requirements and industry standards applicable to project work.
- 1.6 Develop project schedule and methods for recording and reporting progress of activities to meet agreed timeframes and organisational requirements.

2 Investigate the geology relevant to mining project.

- 2.1 Apply WHS requirements when performing project tasks.
- 2.2 Assess the environment to identify geological aspects of possible ore deposits.
- 2.3 Examine rock types and structures fundamental to mining operations according to project specifications.
- 2.4 Assess levels of rock stability and ground support requirements according to project specifications.
- 2.5 Identify and evaluate ore and mineral types fundamental to mining project.
- 2.6 Identify methods for obtaining ore and mineral samples according to project specifications.
- 2.7 Conduct measurements and reduce and manipulate spatial data according to project specifications.

3 Administer project.

- 3.1 Implement and maintain agreed communication

processes between project and other relevant persons.

- 3.2 Resolve problems and implement contingencies according to project requirements.
- 3.3 Compile project findings and write up report according to organisational requirements
- 3.4 Evaluate mining geology project for compliance with project specifications.
- 3.5 Notify appropriate persons of project results according to organisational requirements.
- 3.6 Complete documentation and store spatial data according to project and organisational requirements.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS6034 Conduct mining geology operations.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPSSI6034 Conduct mining geology project research

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Performance Evidence

To demonstrate competency a candidate must meet the performance criteria of this unit by conducting and documenting two different projects to measure geological survey components.

For each project, the candidate must:

- report on:
 - geological aspects of potential ore or coal deposits
 - rock types and structures
 - levels of rock stability and ground support
 - methods for obtaining ore and mineral samples
 - potential environmental impacts
- use two of the following pieces of equipment:
 - global navigation satellite system (GNSS)
 - level
 - remote sensing technology
 - tape
 - total station.

Knowledge Evidence

To be competent in this unit a candidate must demonstrate knowledge of:

- common types of ore and mineral deposits and their physical and chemical characteristics
- mineral exploration methods, including geophysical, geochemical and geological techniques
- methods for obtaining ore and mineral samples
- classification of economic ore or mineral deposits
- physical and chemical characteristics of rock types and structures fundamental to mining operations
- mining methods for metalliferous and/or coal mines

- techniques for providing rock stability and ground support relating to surface and underground mining
- function and use of specialised surveying instruments
- data capture and set-out techniques
- accuracy and precision requirements for mining geology surveying operations
- data reduction and manipulation techniques
- techniques for scheduling, measuring and monitoring work progress, undertaking risk assessment and planning to mitigate risks.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting where these skills and knowledge would be performed.

Candidates must have access to:

- personal protective equipment (PPE)
- appropriate surveying equipment
- surveying specifications, including relevant plans and drawings
- relevant mines safety legislation and regulations for the jurisdiction.

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