

Draft 0.2

This is a draft update to CPPSIS6034 Conduct mining geology operations:
<https://training.gov.au/Training/Details/PPSIS6034>.

Code changed to CPPSSI6034.

Changed PCs to active voice.

PC 1.2 deleted

Changed 'person' to 'candidate' in PE for consistency.

Range of Conditions added to Knowledge Evidence.

I've added mapping info.

TAG will need to reassess this as unit is redeveloped.

Unit of Competency

CPPSI6034 Conduct mining geology operations

Modification history

Release	Comments
1	Replaces superseded equivalent CPPSI6034A Conduct mining geology operations. This version first released with CPP Property Services Training Package Version 3.
	Replaces superseded equivalent CPPSI6034 Conduct mining geology operations

Application

This unit specifies the skills and knowledge required to conduct mining geology operations. The unit covers analysing organisational priorities and specifications to identify projects; and planning projects to identify and document factors, such as objectives, deliverables, risks, constraints and equipment requirements, in order to comply with regulations and legislation applicable to the mining industry.

The unit also covers analysing mining geology to assess and recognise geological aspects of possible ore deposits, rock types and structures, and levels of rock stability and ground support; using surveying techniques to take measurements and reduce and manipulate spatial data to assist in analysing the geology of the mining operation. The unit requires the ability to implement management activities relating to scheduling, measuring, recording, monitoring and reporting work. It also requires the ability to evaluate project activities and outcomes for compliance with specifications. It requires knowledge of underground mining and mining geology operations.

This unit is suitable for surveyors operating at this level who will use broad theoretical and technical knowledge to analyse information as well as interpret and transmit solutions to unpredictable and sometimes complex surveying/spatial information problems. The unit supports surveyors of mine geology who work in a surveying team 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, regulations and legislation that apply to the workplace Licensing, legislative, regulatory or certification requirements apply to this unit in some states 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.

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

Prerequisite Unit

None

Unit Sector

Surveying and Spatial Information Services

Elements and Performance Criteria

1. Identify and plan project.	1.1 Determine enterprise priorities to identify project objectives and specifications.
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	<p>1.2 Plan and document project objectives, deliverables, schedules, constraints, environmental considerations and work activities according to enterprise requirements.</p> <p>1.3 Plan and implement project management mechanisms so that the project is completed within required timeframes and complies with specifications and standards.</p> <p>1.4 Detail mining regulations about management and safety according to legislative and enterprise requirements.</p> <p>1.5 Select and check equipment to ensure correct operation and functionality according to enterprise requirements.</p>
2. Analyse mining geology.	<p>2.1 Work safely, using personal protective equipment (PPE) when performing surveying tasks.</p> <p>2.2 Identify geological aspects of possible ore deposits by assessing the environment and verify information.</p> <p>2.3 Identify and analyse rock types and structures fundamental to mining operations according to project specifications.</p> <p>2.4 Observe levels of rock stability and ground support requirements according to project specifications.</p> <p>2.5 Identify and analyse ore and minerals fundamental to mining operations according to project specifications.</p> <p>2.6 Identify and analyse methods for obtaining ore and mineral samples according to project specifications.</p> <p>2.7 Conduct measurements and reduce and manipulate spatial data according to project specifications.</p>
3. Manage project.	<p>3.1 Identify and analyse pertinent legal and statutory requirements and standards to ensure compliance.</p> <p>3.2 Schedule, record and report progress of activities in relation to agreed timeframes and plans.</p> <p>3.3 Implement and maintain agreed communication processes between client and other appropriate persons.</p> <p>3.4 Devise and follow risk management and contingency strategies to ensure project complies with legal and statutory standards and enterprise requirements.</p> <p>3.5 Identify and resolve problems and non-conformances ,and manage contingencies and constraints according to enterprise requirements, standards, mining regulations and legislation.</p>
4. Finalise project.	<p>4.1 Evaluate mining geology project for compliance with project specifications and enterprise requirements.</p> <p>4.2 Notify appropriate persons of project results according to enterprise requirements.</p> <p>4.3 Complete documentation and store spatial data according to project and enterprise requirements.</p>

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

The Companion Volume Implementation Guide for the CPP Property Services Training Package is available at <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPSSI6034 Conduct mining geology operations

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by conducting and documenting an assessment of mining potential in two different geographical areas.

While conducting each assessment, the candidate must:

- report on:
 - geological aspects of potential ore deposits
 - rock types and structures
 - levels of rock stability and ground support
 - methods for obtaining ore and mineral samples.
- measure geological survey components using two of the following pieces of equipment:
 - current meter
 - echo sounder
 - global navigation satellite system (GNSS)
 - level
 - remote sensing
 - tape
 - Total Station.

Knowledge Evidence

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

- physical and chemical characteristics of common ore and mineral deposits
- methods for assessing the environment to recognise ore deposits
- methods for obtaining ore and mineral samples
- mineral exploration methods, including geophysical, geochemical and geological techniques
- calibration and programming methods for specialised surveying instruments
- mining methods for metalliferous and coal mines
- classification of economic mineral deposits and the process involved in presenting a schematic model
- graphical and technical information in specifications
- accuracy and precision requirements for mining geology surveying operations
- data capture and set-out techniques
- data reduction and manipulation techniques
- function and use of:
 - current meter
 - echo sounder
 - global navigation satellite system (GNSS)
 - level
 - remote sensing

- tape
- Total Station
- physical and chemical characteristics of rock types and structures fundamental to mining operations
- techniques for providing rock stability and ground support relating to underground mining
- techniques for scheduling, measuring and monitoring work progress and planning for risks and contingencies
- environmental considerations:
 - chemical leakage
 - coal fire
 - erosion
 - loss of biodiversity
 - sinkhole formation
 - soil, groundwater and surface water contamination.

Assessment Conditions

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

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to:

- PPE
- mining and surveying specifications, including relevant plans and drawings
- relevant legislation and regulations relating to mines safety.

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