

Draft 0.2

This is a draft update to CPPSIS6021 Conduct open pit mine surveys:
<https://training.gov.au/Training/Details/PPSIS6021>.

Code changed to CPPSSI6021.

Changed PCs to active voice.

PCs reordered and moved across Elements 1 and 2.

PCs reworded for clarity.

Range of Conditions added to Knowledge Evidence.

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

Unit of Competency

CPPSI6021 Conduct open pit mine surveys

Modification history

Release	Comments
1	Replaces superseded equivalent CPPSIS6021A Conduct open mine pit surveying. This version first released with CPP Property Services Training Package Version 3.
	Replaces superseded equivalent CPPSIS6021 Conduct open pit mine surveys

Application

This unit specifies the skills and knowledge required to conduct open pit surveying operations. The unit also covers presenting schematic models of areas that may have mineral deposits to identify projects and organising resources and planning to support an open pit mine surveying operation. The unit includes implementing open pit mine surveying operations using specialist equipment to measure identified components of an open pit mine; capturing and reducing data; creating mine drawings; and complying with standards, legislation and regulations applicable to the mining industry.

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 those who work in a technical management role in an open pit mine 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. The unit supports those who work in a technical management role in an underground mining environment.

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, 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.

Prerequisite Unit

None

Unit Sector

Surveying and Spatial Information Services

Elements and Performance Criteria

1. Prepare for open pit mine survey.	<p>1.1 Interpret relevant plans to identify open pit mine survey objectives, specifications, deliverables, and constraints in consultation with appropriate persons.</p> <p>1.2 Determine and document work activities and surveying resource and equipment needs, according to contract requirements.</p> <p>1.3 Schedule project activities and confirm methods for monitoring, recording, reporting and managing risks and contingencies according to enterprise requirements.</p>
--------------------------------------	---

	1.4 Agree communication processes between client and other appropriate persons.
2. Plan open pit mine survey.	2.1 Plan survey processes and procedures involved in exploring mineral deposits to meet contract requirements. 2.2 Detail methods for accessing mine and handling mine waste according to project requirements. 2.3 Comply with legal and statutory requirements and industry standards relevant to open pit mining.
3. Carry out open pit mine surveying tasks.	3.1 Work safely, using personal protective equipment (PPE) when performing surveying tasks. 3.2 Measure or set out identified spatial components of open pit mine according to project specifications. 3.3 Reduce measured spatial data to project reference system for comparison with design. 3.4 Create mine drawings to meet project specifications. 3.5 Use captured data to calculate mine volumes according to project specifications. 3.6 Validate and record measurements according to enterprise requirements. 3.7 Resolve problems and manage contingencies according to enterprise requirements.
4. Report open pit mine survey outcomes.	4.1 Finalise and check project meets specifications and legal requirements. 4.2 Notify appropriate persons of project results according to enterprise requirements. 4.3 Complete documentation and store spatial data according to project and enterprise 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 CPPSIS6061 Conduct open pit mine surveys

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 CPPSSI6021

Modification history

Release	Comments
1	Replaces superseded equivalent CPPSI6021A Conduct open mine pit surveying. This version first released with CPP Property Services Training Package Version 3.

Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by conducting open pit mine surveys for two different projects.

For each open pit mine survey, the candidate must:

- plan for:
 - blasting
 - drainage and dewatering
 - dumps and stockpiles.
- measure survey components using two of the following pieces of surveying equipment:
 - Global Navigation Satellite System (GNSS)
 - remote sensing
 - laser scanner
 - UAV
 - sonar
 - Total Station.

Knowledge Evidence

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

- terminology applicable to surface mining
- mineral exploration methods, including geophysical, geochemical and geological techniques
- basic characteristics of common ore deposits
- mining methods and ancillary techniques for open pit mines:
 - developing roads and ramps
 - drilling
 - removing interburden
 - pre-stripping
 - stockpiles, dumps and safety berms
 - tailings dams.
- techniques for wall monitoring to derive a suitable pit wall slope, including:
 - batter stakes
 - measuring and recording ground cracks
 - required prism locations
 - toe and batter checks.
- explosives, blasting and blasting practices applicable to mining operations
- functions and use of specialised surveying equipment for open pit mine
- accuracy and precision requirements for surveying data
- data capture and set-out techniques
- data reduction and manipulation techniques.

- graphical and technical information in mining and engineering plans
- calculations relating to height, depth, dimension, direction, position and volumes.

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
- enterprise procedures and documentation relating to work health and safety
- relevant mines safety legislation and regulations for the jurisdiction
- surveying specifications, including relevant plans and drawings.

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>