



Australian Government

RIISDM501D Conduct mine surveying operations

Release: 2

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Modification History

Release	Comment
1	This unit replaces RIISDM501A Conduct mine surveying operations
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit develops a participant's skills and knowledge required to conduct mine surveying operations in the Coal and Metalliferous mining.

This unit is appropriate for those working in management roles.

No licensing, legislation or certification requirements apply to this unit at the time of publication.

Unit Sector

Coal mining

Metalliferous mining

Elements and Performance Criteria

1. Plan and prepare to conduct mine survey operations	1.1 Access, interpret and apply documentation and procedures for conducting mine surveying operations and ensure the work activity is compliant 1.2 Identify and schedule key activities and time lines 1.3 Identify stakeholders and organise activities in consultation 1.4 Identify and plan survey work 1.5 Identify, address and report potential risks and hazards 1.6 Select and use personal protective equipment 1.7 Adhere to emergency procedures
2. Gather data for conducting mine survey	2.1 Operate equipment to gather spatial data

operations	2.2 Correctly measure identified spatial components 2.3 Validate and record measurements 2.4 Reduce measured spatial data to project spatial reference system for comparison against design parameters 2.5 Identify and record inconsistencies in information 2.6 Determine uses and limitations of base data
3. Organise and process data	3.1 Identify the outcomes and elements of systems 3.2 Develop systems standards and integrate into data management quality programs 3.3 Verify the integrity of base spatial and textual data and process and store data 3.4 Verify the integrity of processed data 3.5 Select database and collate relevant spatial and textual data in one system for transfer and integration into other systems 3.6 Convert and transfer data between systems and media 3.7 Administer databases by manipulating information and ensuring the security and maintenance of data
4. Analyse, evaluate and interpret data	4.1 Apply systems to analyse spatial data and information 4.2 Determine the accuracy and reliability of spatial data and information 4.3 Interpret data to ensure they meet client/stakeholder needs 4.4 Enhance or add value to data to increase quality and usability 4.5 Collate and relate data to specific areas of operations
5. Assemble data	5.1 Identify, clarify and satisfy stakeholder and operations personnel spatial data requirements 5.2 Create specific information from a number of databases to meet needs 5.3 Assemble data into useful sets of information 5.4 Compile and produce maps, plans and charts 5.5 Format data
6. Compile and produce survey records	6.1 Determine the application and limitations of base spatial data 6.2 Maintain records of original survey data 6.3 Identify, select and apply techniques and technology to present graphical and photographic records to meet client needs 6.4 Transfer spatial data between media to provide consolidated

	digital spatial information, ensuring the accuracy and reliability and maximum potential of the data 6.5 Integrate spatial data with other information to provide consolidated digital spatial information, ensuring the accuracy and reliability and maximum potential of the data 6.6 Create models of nature or cultural entities and phenomena 6.7 Create model files and integrate with other data 6.8 Transfer model files between media
7. Complete and present documentation	7.1 Record data accurately 7.2 Identify and resolve omissions and gaps in spatial data 7.3 Complete promptly and accurately all required documentation 7.4 Store all documentation 7.5 Prepare information and reports in a format and detail appropriate to the client/stakeholder 7.6 Employ appropriate communication and display techniques to present information and reports 7.7 Verify the accuracy and reliability of data which are to be certified 7.8 Certify and sign-off data and information
8. Maintain survey equipment	8.1 Check survey instruments and ensure accuracy and performance 8.2 Calibrate survey instruments to ensure correct and accurate measurements 8.3 Ensure safe storage and transport of equipment and survey instruments 8.4 Maintain equipment and survey instrument condition and cleanliness

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIISDM501A Conduct mine surveying operations

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIISDM501D Conduct mine surveying operations

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Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant legislation, documentation, policies and procedures
- works effectively with others to undertake and complete mine surveying operations tasks that meet all the required outcomes, including:
 - stakeholder consultation and management
 - communicating and presenting information to clients
- demonstrates completion of conducting mine surveying operations that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - identifying all aspects of mine surveying operations
 - identifying the full range of surveying equipment
 - using surveying equipment to gather meaningful spatial data
 - organising, processing and collating spatial and textual data into database
 - analysing spatial data and information
 - collating and relating data to specific areas of operations
 - assembly of data into useful sets of information
 - preparing information and detailed reports in a format and detail appropriate to the client/stakeholder
 - check and calibrate survey instruments to ensure correct and accurate measurements

Knowledge Evidence

The candidate must demonstrate knowledge in conducting mine surveying operations through:

- effective communication techniques
- strategic planning techniques
- professional judgment
- attention to detail
- effective observation techniques
- measurement techniques
- limitations of equipment, measuring and analysis guidelines
- map reading and spatial comprehension techniques
- mine operations
- cartographic principles
- surveying techniques
- spatial reference systems
- spatial data reduction and manipulation techniques
- GIS principles and techniques
- relevant standards, licenses and permits
- community / client / stakeholder expectations
- consultative strategies
- alternative documentation systems for procedures

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit is best assessed in the context of this sector's work environment;
- where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,

- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

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