



Australian Government

RIINHB316D Conduct underground in-seam directional drilling

Release: 2

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Modification History

Release	Comment
1	This unit replaces RIINHB316A Conduct underground in-seam directional drilling
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 describes a participant's skills and knowledge required to conduct underground in-seam directional drilling in Coal mining and Drilling.

This unit is appropriate for those working in operational roles.

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

Unit Sector

Coal mining

Drilling

Elements and Performance Criteria

1. Plan and prepare for underground in-seam directional drilling	1.1 Access, interpret and apply conduct underground in-seam directional drilling, documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Identify and address potential risks, hazards and environmental issues and implement control measures 1.4 Select and wear personal protective equipment appropriate for work activities 1.5 Communicate and coordinate activities with others throughout the work activity 1.6 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency
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2. Calibrate and operate survey tool	2.1 Carry out pre-start and start up procedures 2.2 Calibrate survey tool 2.3 Set up the orientation of the survey tool and the down-hole motor 2.4 Take the first survey reading, with regard to the standpipe length and composition and use the result to adjust the orientation of the down-hole motor 2.5 Conduct on-going surveys at intervals in accordance with the drill plan and use the result to adjust the orientation of the down-hole motor 2.6 Monitor and maintain the survey tool power supply and basic consumable items
3. Drill hole	3.1 Prepare for drilling in accordance with the drill plan 3.2 Choose drill bits appropriate to the geology 3.3 Issue clear and timely instructions to drill team members and others involved 3.4 Identify, select and apply rig operational controls 3.5 Carry out the drilling 3.6 Monitor and adjust drilling technique according to conditions 3.7 Identify and remedy operational problems 3.8 Reorientate the down-hole motor when branching is required to achieve required deviation of the hole 3.9 Continually monitor hazards and risks , and ensure safety of self, other personnel, plant and equipment
4. Complete documents and report	4.1 Maintain drill log and plot drilling data 4.2 Download survey instrument data system and upload data to site and/or work computer system 4.3 Report data and drilling plots
5. Complete equipment maintenance and housekeeping	5.1 Carry out shutdown procedures and secure equipment 5.2 Ensure that the drill rods are inspected for wear and damage and that threads are dressed and greased in accordance with standard procedures or that rods are replace as required 5.3 Monitor all drill equipment and hoses and ancillary equipment and carryout remedial action 5.4 Monitor wear on drill bit and reamers and take appropriate action

	5.5	Ensure all drilling equipment is cleaned and maintained
	5.6	Ensure that drill fluids are appropriately contained and disposed of appropriately
	5.7	Ensure housekeeping activities are completed
	5.8	Process records

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

RIINHB316A Conduct underground in-seam directional drilling

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 RIINHB316D Conduct underground in-seam directional drilling

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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 documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of conducting of underground in-seam directional drilling including:
 - applying safe manual handling practices
 - operating survey equipment
 - using drill bit, down-hole motor, and survey tool
 - conducting inspection and monitoring
 - conducting equipment maintenance
 - reading, interpreting and applying drill plans
 - operating ancillary equipment operating
- works effectively with others to undertake and complete the conducting of underground in-seam directional drilling that meets all of the required outcomes including:
 - complying with written and verbal reporting requirements and procedures
 - communicating clearly and concisely with others to receive and clarify work instructions
 - communicating clearly and concisely with others to resolve coordination requirements prior to commencing and during work activities

- demonstrates completion of conducting of underground in-seam directional drilling that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - calibrating survey tool
 - setting up the orientation of the survey tool and the down-hole motor
 - conducting on-going surveys at intervals in accordance with the drill plan and use the result to adjust the orientation of the down-hole motor
 - choosing drill bits appropriate to the geology
 - identifying, selecting and applying rig operational controls
 - monitoring and adjusting drilling technique according to conditions
 - reorienting the down-hole motor when branching is required to achieve required deviation of the hole

Knowledge Evidence

The candidate must demonstrate knowledge in conducting underground in-seam directional drilling through:

- accessing, interpreting and applying the organisation and site requirements and procedures for:
 - work, health and safety
 - environmental issues
 - operating drill rig
 - housekeeping
- identifying the potential underground directional drilling hazards
- principles of underground in-seam directional drilling operations
- complying with the manufacturer's requirements and procedures
- specific handling requirements for underground drilling equipment
- basic geology types and their impact on underground in-seam directional drilling operations
- appropriate drill bits for different geology types
- appropriate reamers for different geology types
- importance and functions of the standpipe
- understanding the maximum radius of curvature for drill string
- understanding the types of drill fluid and their applications
- being prepared for fire/accident/emergency

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 must be assessed in the context of this sector's work environment; 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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