Australian Government

# RIINHB302X Carry out reaming

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**Release: 1**

# RIINHB302X Carry out reaming

## Modification History

| Release | Comments |
|---|---|
| 1 | This unit of competency was first released in RII Resources and Infrastructure Industry Training Package Release 13.0. |

## Application

This unit describes the skills and knowledge required to carry out reaming in drilling. It includes planning and preparing for reaming, selecting reaming tools, reaming and back reaming, maintaining equipment, and diagnosing and responding to problems.

It applies to those working in operational roles. They generally perform tasks involving a broad range of skilled applications in a wide variety of contexts, which may involve some discretion and judgement in selecting equipment, services and contingency measures.

## Licensing/Regulatory Information

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of this unit.

## Pre-requisite unit(s)

No pre-requisite units

## Competency field(s)

N/A

## Unit sector(s)

Drilling

## Elements and Performance Criteria

| | |
|---|---|
| 1. Plan and prepare for reaming | 1.1 Access, interpret and apply reaming documentation, and ensure the work activity is compliant<br>1.2 Obtain, read, interpret, clarify and confirm work requirements<br>1.3 Identify and address potential risks, hazards and environmental issues and implement control measures |

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| | |
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| | 1.4 Select and wear personal protective equipment appropriate for work activities<br>1.5 Communicate and coordinate activities with others throughout the work activity<br>1.6 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency |
| 2. Complete back reaming/ reaming | 2.1 Select appropriate reaming tool(s)<br>2.2 Carry out pre-start and start up procedures<br>2.3 Lock out machine, remove drill head and connect appropriate reamer<br>2.4 Check all safety precautions are in place and restart machine<br>2.5 Ream/back ream, adding/removing drill stem sections<br>2.6 Monitor and interpret all gauge/dial readings and drill fluid flow from both ends of hole<br>2.7 Maintain communication with all relevant personnel<br>2.8 Maintain drill log and reports as required |
| 3. Maintain equipment | 3.1 Carry out shutdown and secure equipment<br>3.2 Monitor wear on drill stem, particularly threads, and dress damaged threads or replace drill stem as required<br>3.3 Check all equipment and hoses<br>3.4 Monitor wear on reamers and take required action<br>3.5 Clean all equipment on completion of reaming, ensuring environmental controls are followed<br>3.6 Rotate drill stems in stack<br>3.7 Ensure drill fluid is appropriately contained/disposed of<br>3.8 Keep site safe for all possible users for the duration of the job, and leave site in a safe and tidy condition that complies with relevant regulations |
| 4. Diagnose and respond to problems | 4.1 Identify possible problems in equipment or process<br>4.2 Determine problems needing action<br>4.3 Determine possible fault causes<br>4.4 Rectify problem using appropriate solution within area of responsibility<br>4.5 Follow through items initiated until final resolution has occurred<br>4.6 Report problems outside area of responsibility to designated person |

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# Assessment Requirements for RIINHB302X Carry out reaming

## Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit, including evidence of the ability to:

- conduct reaming safely, effectively and efficiently on at least two occasions without uncontrolled release of drilling fluid, cuttings or additives, including:
    - selecting appropriate reaming tool(s)
    - interpreting reaming data and determining an appropriate course of action
    - connecting appropriate reamer
    - operating machine and ancillary equipment
    - reaming/back reaming, adding/removing drill stem sections
    - monitoring and interpreting all gauge/dial readings
    - monitoring and interpreting drill fluid flow from both ends of hole
    - maintaining drill log and reports

During the course of the above, the candidate must:

- locate, confirm and apply relevant documentation, policies and procedures
- identify hazards, risks and environmental issues, implement control measures, and select and wear appropriate personal protective equipment
- prevent loss of reamer, drill stem or other tooling in the hole, including:
    - using thread gauge, dressing damaged drill stem threads or replacing drill stem as required
    - lubricating threads and other components
    - inspecting and cleaning equipment and checking for wear and tear
    - disassembling, cleaning, inspecting and reassembling reaming heads
- maintain hole integrity and avoid damage to existing services
- work effectively with others while undertaking and completing reaming tasks that meet 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

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# Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit, including knowledge of:

- key policies, procedures and established requirements to carry out reaming, including those for:
    - work, health and safety
    - drill log and reporting, including reporting of problems outside own area of responsibility
    - emergency response for fire, accident and emergency situations
    - environmental issues, including containment, recycling and disposal of drilling fluid, cuttings and additives
    - hazard identification, risk control and personal protective equipment
    - housekeeping
    - operating drill rig, including pre-start, start-up, lock-out, shutdown and securing, and safety precautions required before restarting
- equipment characteristics, technical capabilities and limitations
- information contained in drill plans, site plans, manufacturer instructions and safety data sheets
- principles of horizontal directional drilling (HDD) and the impact of basic rock/geology types on HDD operations, including hard rock and scree
- reamer types appropriate for different geology types
- drill stem, reamer and thread types, signs of wear and the action required, including the purpose of rotating drill stems in stack
- causes of tooling loss in the hole and factors affecting hole integrity, and methods to prevent tooling loss and maintain hole integrity
- methods of locating existing services and the clearances required to avoid damage to them
- normal and abnormal gauge and dial readings and drill fluid flow indicators from both ends of hole
- communication methods and signals appropriate to working with others
- common faults in equipment and process, their possible causes and appropriate solutions
- types of drill fluid, their uses and make up/adjustment procedures

# Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- Include access to:


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    - personal protective equipment
    - equipment required to carry out reaming
    - workplace documentation, including drill plan or bore designs, site plans and procedures, manufacturer instructions and safety data sheets
- be conducted in a safe environment
- be assessed in the context of this sector's work environment
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work 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.

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide.

# Industry Experts

An industry expert engaged by an RTO to wholly or partially conduct assessment, independently or together with another assessor, or be involved in an assessment judgement, must also satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

**Assessors and industry experts** delivering training in the drilling industry sector must also have a minimum of three (3) years industry experience, directly relevant to the training and assessment being provided.

# Mandatory Workplace Requirements

Assessment of performance evidence may be in a workplace setting or an environment that accurately represents a real workplace.

# Unit Mapping Information

| Previous Code and Title | Equivalence | Comments |
|---|---|---|
| RIINHB302D Conduct reaming | Equivalent | Updates to title, application, elements and performance criteria, performance and knowledge evidence, and assessment conditions |


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# Links

Companion volumes, including implementation guides, are found on the national training register - https://training.gov.au/training/details/RII.

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