



Australian Government

RIINHB211E Assist mud rotary drilling

Release: 1

RIINHB211E Assist mud rotary drilling

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to assist mud rotary drilling. It prepares individuals to prepare, inspect, clean and maintain mud drilling equipment, handle samples and mix drilling fluids.

It applies to those working in assistant driller roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures.

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

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to assist with mud rotary drilling	1.1 Obtain, read and confirm work requirements 1.2 Access, interpret and apply assist mud rotary drilling documentation, and confirm work activity is compliant 1.3 Identify and minimise environmental issues and potential hazards, and assess and address risks within scope of own role and according to workplace procedures 1.4 Select and wear personal protective equipment required for work activities 1.5 Communicate with other personnel on site as required and confirm briefings and handover details are communicated and received 1.6 Load, unload and move tools and equipment according to safety and job requirements 1.7 Set up and stabilise rod racks according to workplace procedures 1.8 Obtain and interpret emergency procedures and identify steps in

ELEMENT	PERFORMANCE CRITERIA
	case of fire, accident and other emergencies
2. Support the rotary mud drilling process	2.1 Fit and remove bits, reamers and stabilizers to and from drill string 2.2 Prepare drill string in readiness for tripping and drilling 2.3 Add and remove drill rod and collars from drill string 2.4 Inspect drill rod, collars, bits, threads and associated equipment for damage 2.5 Monitor hazards and risks, and confirm safety of self, other personnel, plant and equipment 2.6 Use rod and casing handling equipment as required
3. Handle samples	3.1 Apply safety precautions when handling potentially hazardous samples 3.2 Obtain and lay out disturbed samples as required 3.3 Bag, label and store samples for transport 3.4 Clean and service sampling tools 3.5 Store undisturbed samples for transport
4. Handle, mix and test drilling fluids	4.1 Check labels and read and interpret safety information, hazard codes and safety data sheets (SDS) 4.2 Mix drilling fluids according to job requirements 4.3 Carry out storage of drilling mud components and additives 4.4 Perform basic tests on the fluid and record and report the results
5. Carry out basic maintenance of tools and equipment	5.1 Perform inspections and routine checks on ancillary equipment 5.2 Perform inspections and basic maintenance on rod handling equipment 5.3 Complete housekeeping activities to workplace requirements 5.4 Process records according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Oral Communication	Listens to short, explicit instructions for work procedures and asks questions to clarify and confirm

Unit Mapping Information

Supersedes and is equivalent to RIINHB211D Assist mud rotary drilling.

Links

Companion Volume implementation guides is found on VETNet -

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

Assessment Requirements for RIINHB211E Assist mud rotary drilling

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Performance Evidence

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

- assist mud rotary drilling on at least two occasions, including:
 - fitting and removing bits and reamers to and from the drill string
 - preparing drill string in readiness for tripping and drilling
 - adding and removing drill rod to and from the drill string
 - inspecting drill rod, bits, threads and associated equipment for damage and addressing and reporting damage as required
 - mixing the drilling fluid.

During the above, the candidate must:

- locate and apply documentation required to assist mud rotary drilling
- implements the requirements, procedures and techniques for assisting with mud rotary drilling, including:
 - operating ancillary equipment
 - performing basic maintenance on ancillary equipment
 - complying with basic vehicle cleaning procedures
 - conducting housekeeping
- work with others to assist mud rotary drilling that meets all required outcomes, including:
 - complying with reporting requirements and procedures
 - communicating with others to receive and clarify work instructions
 - communicating with others to meet coordination requirements prior to commencing and during work activities.

Knowledge Evidence

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

- key policies and procedures and established requirements for assisting mud rotary drilling, including those for:
 - work, health and safety
 - emergencies
 - relevant environmental practices
 - loading, unloading, moving and using tools and equipment
 - storing and transporting samples
 - mixing, storing and testing drilling fluids
 - inspecting and performing basic maintenance on equipment
 - complying with safety data sheets (SDS)
 - refuelling vehicles, drill rigs and ancillary equipment
 - housekeeping
- key factors affecting work activities described in performance evidence above, including:
 - types of mud pumps and their applications
- drilling team roles and objectives.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to assist mud rotary drilling
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- 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; and,
- 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.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 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.	

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

**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 a minimum number of site assessments as determined by the relevant industry sector, across various locations.

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