



**Australian Government**

# **RIINHB311D Conduct mud rotary drilling**

**Release: 2**

## RIINHB311D Conduct mud rotary drilling

### Modification History

Release	Comment
1	This unit replaces RIINHB311A Conduct mud rotary 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 mud rotary drilling in the Resources and Infrastructure Industries.

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

### Elements and Performance Criteria

1. Plan and prepare for mud rotary drilling	1.1 Access, interpret and apply conduct mud rotary 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
2. Operate mud rotary drill	2.1 Carry out pre-start and start up procedures 2.2 Identify, select and apply rig operational controls 2.3 Make up appropriate drill string 2.4 Use bits, rods and casings

	<p>2.5 Seal hole collar</p> <p>2.6 Feed and rotate drill at right rate for the formation</p> <p>2.7 Interpret flow from drill to determine conditions at bit</p> <p>2.8 Adjust flow rates to give desired results</p> <p>2.9 Check drill bits and string components for wear, gauge, dents and damaged threads</p> <p>2.10 Use casing, grout screens to correct zones or levels as required</p> <p>2.11 Continually monitor hazards and risks, and ensure safety of self, other personnel, plant and equipment</p>
3. Operate fluid system	<p>3.1 Determine required up hole velocity and the related fluid properties and feed rate</p> <p>3.2 Recognise different types of strata</p> <p>3.3 Design and adjust mud system to suit geological conditions and changes to conditions which might be expected during the drilling</p> <p>3.4 Ensure there is an adequate supply of water to the site for mud requirements and circulation loss zones</p> <p>3.5 Make up appropriate formulation using different types of mud and chemicals</p> <p>3.6 Construct mud pits and systems to suit hole dimensions and site storage requirements</p> <p>3.7 Monitor, check and adjust flow rate and properties</p> <p>3.8 Keep fluid clean and chlorinate/sanitise lost circulation if required</p> <p>3.9 Check and adjust fluid reticulation systems</p> <p>3.10 Dispose of drill fluids correctly</p>
4. Respond to problems	<p>4.1 Identify possible operational problems in equipment, process or mud</p> <p>4.2 Determine problems needing action</p> <p>4.3 Determine possible fault causes</p> <p>4.4 Rectify problem using appropriate solution(s) within area of responsibility</p> <p>4.5 Follow through items initiated until final resolution has occurred</p> <p>4.6 Report problems outside area of responsibility to designated person</p>
5. Complete equipment maintenance	<p>5.1 Carry out shutdown and secure equipment</p>

and housekeeping	5.2	Monitor wear and recognise symptoms of malfunction
	5.3	Check all equipment and hoses
	5.4	Monitor all seals and connections
	5.5	Replace, adjust and report items needing attention.
	5.6	Service gear and adjust glands where required
	5.7	Complete maintenance schedule
	5.8	Check oil drops for signs of repairs needed
	5.9	Maintain inspection and/or service records
	5.10	Ensure housekeeping activities are completed
	5.11	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

RIINHB311A Conduct mud rotary drilling

## Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>