



Australian Government

RIINHB221 Assist rotary air drilling

Release: 1

RIINHB221 Assist rotary air 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 with air drilling in the resources and infrastructure industries. It prepares individuals to support the rotary air drilling process, use restraining devices, mix drilling fluids and carry out basic maintenance of tools and equipment.

It applies to those working in assistant roles for rotary air drilling including RAB, blade, roller bit, PCD and conventional hammer drilling. This unit does not apply to reverse circulation (RC) drilling. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and Industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Drilling

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 for assisting with air drilling	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply assist with rotary air 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

ELEMENT	PERFORMANCE CRITERIA
	work activities 1.5 Communicate with other personnel at site according to work requirements and confirm briefings and handover details are communicated and received 1.6 Load, unload and move tools and equipment following required manual handling procedures 1.7 Obtain and interpret emergency procedures and identify steps required in case of fires, accidents and other emergencies
2. Support the rotary air drilling process	2.1 Fit and remove and measure bits and down-hole tools to/from the drill string 2.2 Prepare drill string in readiness for tripping and drilling 2.3 Identify worn drill bits and report as required according to workplace procedures 2.4 Add and remove drill rod to and from the drill string 2.5 Inspect and maintain drill rod, bits, threads and other required down-hole equipment 2.6 Assist with conducting pre-start equipment checks prior to use 2.7 Use rod and casing handling equipment 2.8 Assist with casing installation 2.9 Check restraining devices to pressure and delivery hoses and rectify or report identified faults if required
3. Mix drilling fluids for rotary air drilling	3.1 Check labels and read and interpret safety information/ hazard codes 3.2 Mix the drilling fluid according to work requirements 3.3 Store drilling fluid components and additives
4. Carry out basic maintenance of tools and equipment	4.1 Perform inspections and routine checks on ancillary equipment including air compressor and injection pump 4.2 Perform inspections and basic maintenance of rod handling equipment 4.3 Complete housekeeping activities according to workplace procedures 4.4 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
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SKILL	DESCRIPTION
Reading	Identifies and interprets information from workplace procedures, documentation and regulations
Self-management	Monitors and minimises own exposure to worksite hazards during activities

Unit Mapping Information

New unit

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 RIINHB221 Assist rotary air 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 rotary air drilling on at least two occasions, including:
 - checking restraining devices to pressure and delivery hoses and rectifying or reporting identified faults if required.

During the above, the candidate must:

- locate and apply required documentation, policies and procedures
- implement the requirements, procedures and techniques for assisting with rotary air drilling, including:
 - operating ancillary equipment
 - following required manual handling procedures
 - applying basic maintenance and servicing of auxiliary equipment
 - identifying and measuring bits, shrouds and related components
 - identifying thread types in use
 - applying refuelling procedures for vehicles, drill rigs and ancillary equipment
 - identifying and applying correct lubricants
 - applying correct handling of samples if required
 - carrying out housekeeping
 - disassemble, inspect and reassemble down-hole tools/bottom hole assembly
 - driving vehicles
 - complying with basic vehicles cleaning procedures
- work with others to undertake and complete the air drilling tasks that meets all of the required outcomes, including:
 - complying with written and verbal reporting requirements and procedures
 - communicating with others to receive and clarify work instructions

- communicating with others to resolve 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, procedures and established requirements for assisting air drilling, including those for:
 - fires, accidents and emergencies
 - applying safe work practices and identifying and reporting all potential hazards, risks and environmental issues
 - using safety data sheets (SDS)
 - complying with the basic operation of compressors and the need for cleanliness when carrying out compressor maintenance
 - identifying the critical need to match threads with threads on tubular components
 - preparing for drilling operational requirements and procedures
 - identifying the importance of the correct measurement of bits and other related components
 - complying with the requirement of restraining devices on all high pressure and delivery hoses
 - identifying the potential hazards with the operation of rod handling devices
- methods for clearing blockages in air or rotary holes
- methods of clearing blocked sample and delivery hoses.

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 rotary air 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 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 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.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

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