



Australian Government

RIIBHD301E Conduct surface blast hole drilling operations

Release: 1

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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 conduct surface blast hole drilling operations in the resources and infrastructure industries. It includes marking out drill patterns, setting up, operating and relocating drill rigs, and carrying out equipment maintenance and inspection activities.

It applies to those working in driller roles. They generally work under minimal supervision to undertake a broad range of skilled applications in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

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 for surface blast hole drilling operations	1.1 Obtain, interpret, clarify and confirm work requirements and procedures 1.2 Access, interpret and apply surface blast hole drilling documentation and confirm work activity is compliant 1.3 Inspect and prepare work area according to job and site requirements 1.4 Identify, manage and report potential hazards and risks according to site requirements 1.5 Resolve coordination requirements with others within scope of own role 1.6 Select and wear personal protective equipment according to site requirements
2. Mark out drill pattern	2.1 Adjust drill pattern according to authorised tolerances and drilling plan

ELEMENT	PERFORMANCE CRITERIA
	2.2 Obtain authorisation for changes to drill pattern plan 2.3 Place indicators on drill pattern according to job requirements 2.4 Mark out drill pattern according to job and site requirements 2.5 Protect pre-existing drill holes according to site requirements
3. Operate drill system	3.1 Carry out pre-start and start-up procedures according to manufacturer specifications and site requirements 3.2 Locate and set up drill rig and equipment according to drilling plan 3.3 Break out rod and change drill bits according to manufacturer specifications and site requirements 3.4 Select and modify operating techniques according to changing work conditions 3.5 Conduct, control and monitor operations according to manufacturer specifications and site requirements 3.6 Stabilise hole by collaring and adjusting drilling techniques as required 3.7 Respond to monitoring systems and alarms according to site requirements or report as required 3.8 Recognise and respond to hazardous and emergency situations 3.9 Complete work according to manufacturer specifications, job and site requirements 3.10 Adhere to emergency procedures to confirm safe operation of plant and equipment 3.11 Conduct quality checks at pre-determined drill depths 3.12 Relocate drill according to manufacturer specifications, location plan and site requirements 3.13 Carry out park-up and shutdown drill procedures according to manufacturer specifications and site requirements
4. Carry out post-operational procedures	4.1 Inspect, fault find and report faults according to manufacturer specifications and site requirements 4.2 Carry out routine operator servicing, maintenance and housekeeping according to manufacturer specifications and site requirements 4.3 Provide operator support for major maintenance tasks according to manufacturer specifications and site requirements

ELEMENT	PERFORMANCE CRITERIA
	4.4 Process written records and reports according to manufacturer specifications and site requirements

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
Numeracy	Calculates measurements, masses and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during activities

Unit Mapping Information

Supersedes and is equivalent to RIIBHD301D Conduct surface blast hole drilling operations.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for RIIBHD301E Conduct surface blast hole drilling operations

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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:

- conduct surface blast hole drilling operations on at least two occasions, including:
 - marking out and adjusting drill patterns
 - setting up, operating and relocating drill rigs according to site and job requirements
 - inspecting, maintaining and reporting equipment issues.

During the above, the candidate must:

- locate and apply relevant documentation and procedures and confirm work activity is compliant
- implement the requirements, procedures and techniques for conducting of surface blast hole drilling operations
- work effectively with others and use a range of communication techniques and equipment to undertake and complete surface blast hole drilling operations that meet all of the required outcomes.

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 procedures and documentation required to conduct surface blast hole drilling operations, including:
 - drilling plan
 - drilling pattern
 - drill rig manufacturer specifications
- techniques for applying dust suppression procedures
- principles and techniques for inspecting and preparing work areas for blast hole drilling
- principles and techniques for marking out and adjusting drill patterns

- characteristics, technical capabilities and limitations of drill systems, accessories and associated equipment, including:
 - prestart, start-up, park-up and shutdown procedures
 - quality check procedures
 - routine operator service, maintenance and housekeeping procedures
- principles and techniques for identifying and responding to relevant hazards and emergencies
- techniques for coordinating job activities with others.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to conduct surface blast hole drilling operations
- 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 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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