



Australian Government

Department of Education, Employment and Workplace Relations

RIINHB301A Set up and prepare for drilling operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the setting up and preparing for drilling operations in resources and infrastructure industries. It includes planning for setting up and preparing for drilling operations; locating the rig at hole position; setting up drill and equipment; and diagnosing problems.

Application of the Unit

This unit is appropriate for those working in a operational roles, at worksites within:

- Drilling

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan for drilling operations	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Obtain, confirm and apply work instructions for the allocated task 1.3. Identify, manage and report all potential hazards 1.4. Resolve coordination requirements with others at the site prior to commencing and during work activities 1.5. Determine location and nature of any installed services near or crossing the proposed drill plan 1.6. Obtain all necessary permits or consents, where required 1.7. Develop contingency plans for changes in geological conditions
2. Prepare to drill	2.1. Check all required personnel, equipment and supplies are available 2.2. Select and wear required personal protective equipment 2.3. Check equipment is in good operational condition 2.4. Walk and inspect the drill site, noting any services, hazards, obstacles or other items relevant to the job 2.5. Identify any services by inspection and from preliminary investigation and confirm exact location 2.6. Erect or place safety barriers where needed 2.7. Check all modes of communication 2.8. Select suitable lay down areas for separate storage of chemicals and fuels or other incompatible items 2.9. Select locations for ancillary equipment to provide maximum efficiency and minimal risk to personnel
3. Set up drill and equipment	3.1. Ensure a solid foundation for the rig 3.2. Interpret plans and position equipment accurately 3.3. Stabilise drill

	3.4.Align and secure mast at correct angle 3.5.Position ancillary equipment accurately
4. Diagnose problems	4.1.Recognise symptoms of problem 4.2.Identify and isolate causes and determine solution 4.3.Implement solution if within scope of authority and competence 4.4.Seek help if problem is too complex 4.5.Implement solution as directed

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to set up and prepare for drilling operations:

- apply legislative, organisation and site requirements and procedures
- operate machine
- operate ancillary equipment
- interpret graphical representation, including maps, diagrams
- apply metric and imperial conversions
- apply mathematical skills, including:
 - addition
 - subtraction
 - multiplication
 - division
- apply appropriate instruments to measure:
 - volume
 - quantities
 - mass
 - weight
 - length
- using calculator
- apply estimating skills, e.g. mental arithmetic, visualisation of size and quantity
- apply basic geometry to interpret depth, direction and azimuth of a hole

Required knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to set up and prepare for drilling operations:

- equipment and its characteristics, technical capabilities and limitations
- operational and maintenance procedures, including:
 - controlling flow off site
 - disposing of waste
 - no excess clearing
 - prevention of spread of contaminants
- soil sampling and basic geological knowledge, including classification of rocks,

drillability and stability

- environmental requirements and procedures
- fault finding and troubleshooting techniques
- team work
- communication systems, processes and procedures, e.g. 2-way radio

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for setting up and preparing for drilling operations • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of the setting up and preparing for drilling operations • working with others to undertake and complete the setting up and preparing for drilling operations that meets all of the required outcomes • consistent timely completion of the setting up and preparing for drilling operations that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity.

	• Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete the setting up and preparing for drilling operations
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Relevant compliance documentation may include:	• legislative, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Work instructions may come from:	• briefings, handovers, plans and work orders and may be written or verbal, formal or informal and may include: • nature and scope of tasks, including hole parameters, e.g. size and depth • permits required, e.g. dispose of waste • specifications • quality of finished works • achievement targets • operational conditions • obtaining of permits required • site layout • out of bounds areas • worksite inspection requirements • lighting conditions • plant or equipment defects • hazards and potential hazards • coordination requirements or issues • contamination control requirements • environmental control requirements • barricade and signage requirements
Hazards may include:	• obstacles • underground services • overhead power lines • uneven ground

	• unconsolidated ground
Coordination requirements may include:	• drill team members • other equipment operators • maintenance personnel • supervisors • mine personnel
Contingency plans may concern changes in:	• geological conditions • depths • materials used in construction
Personal protective equipment includes:	• steel-capped boots and hardhat • gloves • dust mask • eye and hearing protection • general protective and reflective clothing

Unit Sector(s)

Drilling (General)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.