



Australian Government

Department of Education, Employment and Workplace Relations

RIINHB213A Assist cable tool drilling

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers assisting with cable tool drilling in the drilling industry. It includes planning and preparing for assisting with cable tool drilling, supporting the core drilling process, handling samples, and mixing drilling fluids. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Application of the Unit

This unit is appropriate for those working in an assistant role 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

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for cable tool drilling	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. Load, unload, move, handle, follow workplace procedures for the use and storage of drilling equipment and all associated tools, sampling devices and connecting equipment 1.6. Take necessary safety precautions when handling potentially contaminated samples 1.7. Wear all necessary personal protective equipment and protective clothing when assisting with cable tool drilling
2. Support the core drilling process	2.1. Fit/remove and measure correct bits to/from the tool string 2.2. Lay out tools and equipment in readiness for drilling 2.3. Inspect tool string components regularly and replace worn/damaged components under the direction of the driller 2.4. Observe housekeeping and site safety measures while supporting cable tool drilling operations 2.5. Use rod/ casing handling equipment according to manufacturer's recommendations and the organisation's procedures
3. Handle samples	3.1. Remove samples from barrels as required 3.2. Take precautions to ensure no surface contamination of samples 3.3. Carry out collection of sludge samples as required
4. Mix drilling fluids	4.1. Wear appropriate protective clothing 4.2. Check labels and read and interpret safety

	<p>information/ hazard codes</p> <p>4.3. Apply correct mixing procedure for the <i>drilling fluid</i></p> <p>4.4. Carry out storage of drilling mud components and additives safely and according to manufacturer's and organisation's recommendations</p> <p>4.5. Perform basic <i>tests on the fluid</i> and <i>record/report</i> the results as required</p>
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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 of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following, as required to assist with cable tool drilling:

- apply legislative, organisation and site requirements and procedures for assisting with cable tool drilling
- identification of thread types in use on site
- identification of bits in use and how to measure them
- use of various rod handling equipment on site
- refuelling operations on vehicles, drill rigs and ancillary equipment
- identification of correct lubricants
- correct handling of samples
- good housekeeping principals
- identification and mixing of drill fluids
- identification of bits to suit differing ground conditions

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following, as required to assist with cable tool drilling:

- reasons for identification and care of samples including storage and transport
- occupational health, safety and environment issues at AQF level 2 in the non-hydrocarbon drilling industry
- cable tool drilling equipment, components and nomenclature
- basic knowledge of bit types and their applications to different geological conditions

Evidence Guide

<p>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.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>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:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for assisting with cable tool drilling • implementation of requirements, procedures and techniques for the safe, effective and efficient assisting with cable tool drilling • working with others to assist with cable tool drilling that meets all of the required outcomes • consistent timely assistance with cable tool drilling that safely, effectively and efficiently meets the required outcomes
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • 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. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • 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

	<p>cultural diversity.</p> <ul style="list-style-type: none"> • Aboriginal people and other people from a non English speaking background may have second language issues. • 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	<p>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:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistent achievement of required outcomes • first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • working with others to assist with cable tool drilling
Guidance information for assessment	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>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.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • 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
<p>Work instructions may come from briefings, handovers, plans and work orders and may be written or verbal, formal or informal and may include:</p>	<ul style="list-style-type: none"> • carrying out pre-start checks • fuelling vehicles, drill rigs and ancillary plant • lubricating plant and equipment as required • setting up ancillary plant under the direction of the driller • assisting in the make up/break out of tools • servicing down hole tools, including dressing bits • keeping collar of hole clear • constructing and maintaining drains, bunds and water collection areas • collecting and bag samples • driving truck and cart water as required • keeping all equipment clean and stored correctly • following good house keeping • washing vehicles and keeping them clean inside and out • travelling to town to obtain supplies as required
<p>Hazards may include:</p>	<ul style="list-style-type: none"> • working in proximity to drilling rig • release of gases from formation or samples obtained • spread of contaminants as a result of drilling or cleaning processes • change in the chemistry of contaminants as a result of drilling and recovery of the core

	<ul style="list-style-type: none"> • samples • working in proximity to drilling rig • entanglement in drill or bailing lines • string makeup and breakout hazards • hazards with the use of grout mixers, pumps
Coordination requirements may include:	<ul style="list-style-type: none"> • other equipment operators • maintenance personnel • supervisors • site personnel
Measure may include:	<ul style="list-style-type: none"> • bit diameters • clay/sand barrel diameters and lengths
Tools and equipment may include:	<ul style="list-style-type: none"> • AWW casing • slimline casing • API tool threads • goldfields tool threads • southern cross tool threads • appropriate bits, shoes, clamps, casing, tools and lifting devices including: <ul style="list-style-type: none"> • spudding bits • undercutting bits • star bits • chisel bits • jars • drive clamps • casing lift/drive caps • make and break equipment including: <ul style="list-style-type: none"> • stilsons • hydraulic tong and pipe wrenches • break-out wrench
Casing type may include:	<ul style="list-style-type: none"> • steel casing • PVC casing • Casing sealants may include: <ul style="list-style-type: none"> • urethane foam • cement • gypset
Handling equipment may include:	<ul style="list-style-type: none"> • tool spanners • tool wrenches • slings • chain tongs • casing clamps

	<ul style="list-style-type: none"> • casing jacks
Samples may include:	<ul style="list-style-type: none"> • samples from sand/clay barrels • sludge samples from the bailer
Drilling fluids and additives may include:	<ul style="list-style-type: none"> • water • bentonite • polymer • barite • lost circulation material
Tests on the fluid may include:	<ul style="list-style-type: none"> • viscosity • mud weight • use of marsh funnel and cup
Record/report documents may include:	<ul style="list-style-type: none"> • note book • plastic bags (write on) • hole logs

Unit Sector(s)

Drilling (General)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.