



Australian Government

Department of Education, Employment and Workplace Relations

RIINHB302A Conduct reaming

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the conduct of reaming in the drilling industry. It includes planning and preparing for reaming, completing back reaming/reaming, maintaining equipment, and responding to problems. 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 operational 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

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| <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 |
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| 1. Plan and prepare for reaming | 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. Raise alarm/report as required according to site procedures |
| 2. Complete back reaming/ reaming | 2.1. Select appropriate reaming tool(s) 2.2. Lock out machine 2.3. Remove drill head 2.4. Connect appropriate reamer 2.5. Check all safety precautions are in place and restart machine 2.6. Reaming/back ream, adding/removing drill stem sections to procedure as required 2.7. Monitor and interpret all gauge/dial readings 2.8. Monitor and interpret drill fluid flow from both ends of hole 2.9. Maintain communication with all relevant personnel 2.10. Maintain drill log and reports as required |
| 3. Maintain equipment | 3.1. Monitor wear on drill stem, particularly threads 3.2. Dress damaged threads or replace drill stem as required 3.3. Check all equipment and hoses 3.4. Monitor wear on reamers and take required action 3.5. Clean all equipment on completion of reaming, ensuring environmental controls are followed 3.6. Rotate drill stems in stack 3.7. Ensure drill fluid is appropriately |

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| | <p>contained/disposed of</p> <p>3.8.Keep site safe for all possible users for the total duration of the job</p> <p>3.9.Leave site in a safe and tidy condition which complies with all relevant regulations</p> |
| 4. Respond to problems | <p>4.1. Identify possible <i>problems</i> in equipment or process.</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 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> |

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 conduct reaming:

- apply legislative, organisation and site requirements and procedures for conducting reaming
- interpret reaming data and determining an appropriate course of action
- operate machine
- operate ancillary equipment such as communications equipment, and fluid mixers
- attach reamer
- check threads with thread gauge and dress slightly damaged drill stem threads
- lubricate threads and other components
- clean equipment and check for wear and damage
- disassemble, clean, inspect and reassemble reaming heads

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 conduct reaming:

- basic rock/geology types and their impact on HDD operations, including hard rock and scree
- appropriate reamers for different geology types
- principles of HDD
- types of drill fluid, their uses and make up/adjustment procedures
- relevant State regulations/codes such as NSW WorkCover code of practice for excavation and similar requirements in other states

Evidence Guide

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| <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 conducting reaming • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of reaming • working with others to undertake and complete the conduct of reaming that meets all of the required outcomes • consistent timely completion of reaming 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 |

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| | <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 undertake and complete the conduct of reaming |
| Guidance information for assessment | <p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p> |

Range Statement

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| <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"> • use of typical personal protective equipment including: <ul style="list-style-type: none"> • electrically insulating boots and gloves • eye and hearing protection • equipment for confined space entry • general protective clothing • nature and scope of tasks • specifications • quality of finished works • achieved targets • operational conditions • obtaining of required permits • site layout • out of bounds areas • worksite inspection requirements • lighting conditions • plant of equipment defects • coordination requirements or issues • contamination control requirements • environmental control requirements • barricade and signage requirements |
| <p>Hazards may include:</p> | <ul style="list-style-type: none"> • electrical strike • working in proximity to drilling rig |
| <p>Coordination requirements may include:</p> | <ul style="list-style-type: none"> • other equipment operators • maintenance personnel |

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| | <ul style="list-style-type: none"> • supervisors • site personnel |
| Reamer may include: | <ul style="list-style-type: none"> • 'off the shelf' or custom designed by/for the drilling company |
| Fluid may include: | <ul style="list-style-type: none"> • bentonite clay • polymer • PH adjusting agents such as soda ash |
| Problems may include: | <ul style="list-style-type: none"> • buried utilities in path of bore including: <ul style="list-style-type: none"> • electrical power lines (overhead or buried) • gas pipes • water pipes • waste pipes (including stormwater, trade waste and sewerage) • changing geological formations, particularly cobble, rock or unstable/porous formation, faults • unreliable communications with crew • problem with selection of best reamer for the job |

Unit Sector(s)

Drilling (General)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.