

Drilling Industry Training Package

DRT 98

Certificate II in Drilling	Environmental	DRT20198
Certificate II in Drilling	Foundation / Construction	DRT20298
Certificate II in Drilling	Geotechnical	DRT20398
Certificate II in Drilling	Mineral Exploration	DRT20498
Certificate II in Drilling	Oil and Gas, Offshore	DRT20598
Certificate II in Drilling	Oil and Gas, Onshore	DRT20698
Certificate II in Drilling	Seismic	DRT20798
Certificate II in Drilling	Waterwell	DRT20898
Certificate II in Drilling	Blast Hole	DRT20998
Certificate III in Drilling	Environmental	DRT30198
Certificate III in Drilling	Foundation / Construction	DRT30298
Certificate III in Drilling	Geotechnical	DRT30398
Certificate III in Drilling	Mineral Exploration	DRT30498
Certificate III in Drilling	Oil and Gas, Offshore	DRT30598
Certificate III in Drilling	Oil and Gas, Onshore	DRT30698
Certificate III in Drilling	Seismic	DRT30798
Certificate III in Drilling	Waterwell	DRT30898
Certificate III in Drilling	Blast Hole	DRT30998
Certificate IV in Drilling	Environmental	DRT40198
Certificate IV in Drilling	Foundation / Construction	DRT40298
Certificate IV in Drilling	Geotechnical	DRT40398
Certificate IV in Drilling	Mineral Exploration	DRT40498
Certificate IV in Drilling	Oil and Gas, Offshore	DRT40598
Certificate IV in Drilling	Oil and Gas, Onshore	DRT40698
Certificate IV in Drilling	Seismic	DRT40798
Certificate IV in Drilling	Waterwell	DRT40898
Certificate IV in Drilling	Blast Hole	DRT40998
Diploma of Drilling		DRT50198
Advanced Diploma of Drilling Management		DRT60198

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IMPORTANT

Training packages are not static documents. Changes are made periodically to reflect the latest industry practices.

Before commencing any form of training or assessment, you must ensure delivery is from the *current version* of the Training Package.

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MODIFICATION HISTORY – ENDORSED MATERIALS

Please refer to the National Training Information Service for the latest version of Units of Competency and Qualification information (<http://www.ntis.gov.au>).

DRT98 Drilling Industry Training Package

Sheet: 1 of 1

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1.00	3/02/1999	NTFC	Primary Release
2.00	22/01/2002	NTQC	Inclusion of units of competency for Certificate IV & Diploma within the Oil & Gas sector

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Foreword

In this document, the Drilling Industry for the first time puts forward a frame for nationally recognised qualifications for all sectors of our industry.

The Training Package is intended to provide people at all levels of the industry with the opportunity to gain formal recognition of their existing skills and knowledge. It focuses on training based and assessed at the rig, as our industry has always done, but it also gives drilling personnel the new opportunity of getting a qualification from that training.

There are two ways to get a national qualification - either by getting skills and knowledge in the workplace at the rig, or through a newer opportunity for our industry of getting formal courses provided by training organisations. These approaches can be combined, but the emphasis on practical assessment of competence is strong. Competencies gained in both ways can contribute to a single qualification.

Our industry is characterised by people with very extensive experience, whose training has been mostly gained at site in a practical way. This frame has been developed by using their experience, ideas, skills and expertise. It has drawn on drilling personnel from all states and Territories, from all sectors, and from businesses of all sizes.

The Training Package is a major departure for our industry. We encourage you to take full advantage of the opportunities it offers.

Alan Wallace
Chair, Australian Drilling Industry Training Committee Ltd.

Drilling Industry Training Package

Endorsed Components

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SECTION 1

Introduction to the Drilling Industry Training Package

Profile of the Drilling Industry

The industry has ten distinct sectors – blast hole drilling, mineral exploration, seismic, geotechnical, environmental drilling, waterwell, foundation/construction drilling, oil, gas and geothermal, onshore and offshore. Directional drilling/trenchless technology are increasing in type, range and volume of activity. Drilling is carried out in every State and Territory of Australia, including the Antarctic, and in the seas surrounding it. All sectors of the industry are represented in Australia.

The nature of drilling work means that most drilling industry personnel work in isolated, rural and regional locations, and that the location of work frequently moves. Some sectors, such as trenchless technology, are predominantly urban-based.

Many companies work both within Australia and overseas, particularly the mineral exploration, geotechnical and oil and gas sectors. It is for this reason that the Australian Qualifications Framework has been specifically developed in negotiation with relevant international as well as national drilling industry bodies.

The Drilling Industry supports the activities of a range of other industries. Drilling results define mineral reserves for future mining prospects, and plays a key role in the extraction process. Drillers access ground water supply for commercial, domestic, stock, irrigation or town water supply use. Waterwell drilling provides water supply for most of rural and regional Australia, and significant urban water (for example, 78% of Perth's water, and 92% of Darwin's) - a particularly vital issue in Australia, the world's driest continent. Drillers carry out site investigation drilling to allow the design of foundations and to ensure the stability of major civil works such as bridges and buildings. Drillers help to locate areas of sub-surface contamination, the first stage in the remediation process. Drilling defines and accesses vital oil, gas and geothermal power for domestic and commercial uses both nationally and internationally.

Number of employees in the industry

The estimated total industry figure based on the information from ABS and industry sources is between 25,000 and 32,000. This is close to 0.2% of the Australian population.

Contribution to Australian GDP

The estimated value of the drilling industry in 1999/2000 extrapolated as 0.78% of 1999/2000 GDP (which was \$621.3 billion) is \$4.85 billion.

The industry recently passed through a period of strong and prolonged growth in all sectors, but currently the mineral exploration sector is in a severe, cyclically depressed period as a result of world commodities prices and issues of land access for exploration purposes. Despite this, in the 1999/2000 financial year, mineral exploration expenditure was \$676.3 million, and expenditure on petroleum exploration, onshore and offshore, was \$704 million. (*Mineral and Petroleum Expenditure Australia ABS Publication 8412.0 September Quarter 2000 p. 8*). In the three quarters of 2000/2001 for which information is available at the date of this report, expenditure in the mineral and oil sectors has exceeded that of the full year 1999/2000.

The number of large, medium and small enterprises in the industry

Small companies are defined as <5 employees; medium companies 5 – 100 employees; large companies >100 employees. Very few companies have more than 500 employees. By the nature of the work and /or plant cost, some sectors, such as the Waterwell sector and the Directional Drilling sector, are exclusively small to medium companies. Others such as Oil and Gas Drilling, onshore and offshore are almost exclusively large companies.

The effect of the recent industry downturn and the low Australian dollar has been the aggregation of both drilling companies (such as Transocean Sedco Forex and Drillcorp Western Deephole Pty Ltd) and mining companies (such as BHP/Billeton). This has meant a diminished number of contractors providing services to a diminished number of client companies. Furthermore, the client companies are acquiring smaller companies to avoid exploration costs. This means that at present it is difficult to determine precise numbers of companies in a volatile time in the industry both nationally and internationally.

Information from the Australian Drilling Industry Association indicate that their current membership comprises 1% large companies, 15% medium companies and 83% small companies. This is held to be a fair picture of the industry sectors they represent. (*ADIA 2001*)

Information from the International Association of Drilling Contractors – Australasian Chapter indicates that there are currently six offshore and four onshore oil and gas drilling contractors working in Australia and Australian waters. All are large companies. (*IADC-AC 2001*)

Information from the Australasian Society for Trenchless Technology indicates that there is strong growth in the numbers of companies in the industry. Companies in membership are mostly medium and small, with several government instrumentalities. Current membership of the Association stands at 211 companies, but many small contractors are not members. (*Australia- New Zealand Trenchless Tech Guide Members Directory of services June 2000 ASTT*)

Waterwell Drilling company numbers may be determined by the numbers of current licences held. (*National Drillers' Licensing figures June 2001*). There are currently a minimum of 1,645 companies in the waterwell sector. All except two are small companies, two are of medium size. Additionally, three state governments maintain drilling sections within Departments of Resources, Natural Resources, Water Management or Lands, Planning and Environment with up to 20 personnel in each.

A demographic survey carried out as part of the Workplace English Language and Literacy (WELL) project in 1997 indicated that nearly all businesses in the industry have characteristic limits in the levels of formal education, literacy and numeracy skills of personnel. Additionally, most businesses have all the characteristic small business challenges of training - limited knowledge and skills in training, lack of expert advice in training, inability to release personnel, lack of awareness of LL&N issues in either training or management, problems of finding time to consider or plan training either for the business owner or for employees.

These issues are compounded by isolation and mobility: the nature of the work is that most drilling is far in the desert or offshore. Small, tight-knit teams of people carry out the work. They rarely work in venues where there is access to any kind of support, whether for training, entertainment or anything else.

Training in the Drilling Industry

Most training in the industry in all sectors continues to be done predominantly at site by experienced personnel. This is due to the cost of plant, the nature of work, and the belief of the industry that it is an effective and appropriate method. As a result, the industry is

characteristically staffed by personnel with extensive experience but with few/no formal qualifications. In recent years, however, it has become clear that there are increasing demands for drilling personnel to have increased access to qualifications as well as good work skills. These demands come both from within the companies, and also from the companies to which drilling companies contract.

As a result, the focus of the Training Package is on developing the industry's skills in training itself, and on developing options for gaining both training and qualifications. There is also a focus on cross-credentialling between the Drilling Industry and those industries with which we work. Since 1998, much of the issue of qualifications under the new National Training Framework has been under a process of recognition of prior learning, because the

The Drilling Industry is also concerned that the industry should develop a clear career path. Like many other skilled industries, drilling is an ageing workforce, and has not had a high profile with school leavers or young people. The development and publicising of a formal career structure is a deliberate industry strategy to increase the uptake of drilling as a career by young people and school leavers. The Drilling Industry sees the development of qualifications and clear career paths as a way to give Drilling a higher profile in the community, and make it more attractive and more accessible as a career.

The Australian Drilling Industry Training Committee Ltd (ADITC) is the peak advisory training body for the drilling industry in Australia, in all sectors, and can be contacted at PO Box 1545, Macquarie Centre NSW Australia.

Role of the Drilling Industry Training Package

The role of the Drilling Industry Training Package is to provide a system of national procedures and guidelines to describe training and the outcomes of training in the Drilling Industry across Australia.

The Training Package is a deliberate industry strategy to meet our industry's need for flexible, cross sector qualifications, to enable skilled personnel to move from sector to sector as employment opportunities fluctuate. This is part of a national industry strategy to avoid the loss of skilled personnel to the whole drilling industry when activity decreases in one sector of drilling.

The Training Package is also a deliberate industry strategy to increase the uptake of drilling as a career by young people and school leavers. The Drilling Industry sees the development of qualifications and clear career paths as a way to give Drilling a higher profile in the community, and make it more attractive and more accessible as a career.

The Training Package is intended to provide people at all levels of the industry with the opportunity to gain formal recognition of their existing skills and knowledge if they wish to. This may mean the recognition of skills and knowledge which people already have, or it may mean learning new skills and having them recognised. There is also the opportunity to combine these.

As noted in Profile of the Drilling Industry above, there has not been a national, structured approach in the Drilling Industry to training industry personnel. In this document, the Drilling Industry for the first time puts forward a frame for nationally recognised qualifications for all sectors of the industry.

The Training Package provides the possibility of qualifications for new entrants, people undertaking Traineeships or cadetships, people who are currently employed and want to gain a qualification, people who need new skills and knowledge to be able work across industry sectors or at a more senior level.

It focuses on training based and assessed at the rig, as the industry has always done, but it also gives drilling personnel the new opportunity of getting a qualification from that training.

There are two ways to get a qualification - either by getting skills and knowledge in the workplace at the rig, or through a newer opportunity for our industry of getting formal courses provided by training organisations. These approaches can be combined, but the emphasis on practical assessment of competence is strong. Competencies gained in both ways can contribute to a single qualification.

There is also a focus on cross credentialing between the Drilling Industry and those industries with which we work. This is an attempt to offer individuals in the Drilling Industry maximum flexibility in an industry which has fluctuating demand dependent on either world commodities prices or weather conditions, as well as an attempt to ensure that the industries with which drilling companies work will readily recognise drilling qualifications.

The Training Package is based on achieving industry-developed and agreed competencies. These are based in the skills and knowledge that people need at the rig.

There has been a strong attempt in all cases to make all resources – including Competency Standards - as accessible as possible to workplace trainers based at site. This is because, as was indicated in the Industry Profile, most drilling personnel work in isolated areas, in small teams, and the nature of the work is mobile. Most drilling companies are also small businesses without personnel whose formal role is Human resources-related or training-related. It was therefore necessary to develop resources which are accessible without specialist “interpreters” who can translate training-speak. To this end, Plain English principles have been followed throughout, and where possible supportive resources have been developed to see the primary audience as drilling personnel.

New Apprenticeships

The Drilling Industry does not have a long history of formal apprenticeships or Traineeships.

In 1994 in Western Australia, the Driller's Assistant Traineeship (AQF 2) was first developed. In 1996 it was implemented in NSW, in 1997 in South Australia, and subsequently in Tasmania. Discussions are underway in all other states.

The resources developed for the Driller's Assistant Traineeship at AQF 2 are under review as part of the non-endorsed components of the Drilling Industry Training Package, to bring them into line with the reviewed Competency Standards.

The Training Package identifies New Apprenticeships at AQF 2, 3, 4, 5 and 6 to develop a formal career path for employees in the industry and those wishing to enter it. It is industry preference that these be referred to as either Traineeships at all levels, or possibly cadetships at senior levels, rather than Apprenticeships.

Qualifications have been designed to allow the maximum flexibility to meet both company and individuals' needs. Qualifications allow a core of competencies, and a range of sector specific options to meet sector, site and individuals' requirements.

It is believed that there will be a progressive uptake of the qualifications and Traineeship opportunities as industry awareness of them increases, and as there is an increased number of industry personnel able to gain formal trainer and assessor qualifications. Marketing materials developed with the Training Package will assist employers to understand and use the new training structures and Package components.

It is likely that some aspects of implementing the New Apprenticeships will be a challenge to the Drilling Industry. As noted above, the practical demands of training and assessment mean that at-rig training and assessment will be the focus. This is a strong challenge to an industry in which very few companies have personnel with these qualifications, though there are many with very extensive training experience. It is also a challenge to an industry in which the nearest Registered Training Organisation may be 400 kilometres away. This is indeed a call for flexibility in training provision.

To assist in meeting these needs, flexible delivery strategies have been highlighted, and flexible approaches to both training and assessment have been emphasised.

The Consultation Process

Steering committees

The primary Steering Committee for the development of the Training Package is made up of the members of the Australian Drilling Industry Training Committee Ltd, with the addition of representatives of ANTA, training providers and state training authorities. The Committee is made up of senior representatives of

- drilling industry companies which represent all sizes of company and all sectors of drilling
- all relevant industry associations
- Government (DETYA)
- unions

All sectors, states and territories are represented.

Steering Committees were appointed for development of each of the sets of Competency Standards.

All endorsed components were also overseen at the developmental stage by the Steering Committee for the Workplace English Language and Literacy (WELL) Project in order to ensure that relevant issues are addressed.

Guidelines

Guidelines developed by ANTA for training package developers were used. A list of these guidelines is found in the *Resources* section.

Drilling Industry Guidelines on the development of materials for dissemination to the industry were followed. These Guidelines are part of the industry's *Communication Strategy*, and ensure that all materials are in Plain English and consider the audience as primarily personnel at site who will have limited support structures, limited or no access to support personnel and limited (if any) computer resources.

Consultation process

An Industry Validation Strategy was developed to help make the consultation process effective. A simple marketing strategy formed part of this. Each project component included an information and consultation plan prepared by the consultants and/or the ADITC as Project Manager. The broad strategy includes both awareness raising and direct consultation strategies. All the endorsed components of the Training Package were considered during the consultations.

Giving out information and raising awareness in the Drilling and related industries.

To help people in the industry understand changes in national training structures in context, and to understand the components of the Training Package, wide dissemination of information about the Training Package and particular components was undertaken using a variety of means. These have included:

- Each edition of the ADITC Newsletter (circulation >1700, approximately quarterly) contains information about broad changes and specific components. Each newsletter contains a faxback feedback structure and opportunity to get more information. Over 900 responses have been received. The newsletter is sent by fax or post to reach isolated personnel.

- Articles have been submitted to relevant industry magazines, for example: *Australasian Drilling* (circulation 6000 copies), *Australia's Mining Monthly* (circulation 7730 copies), geoDrilling International (circulation 12,800 copies).
- Papers presented and/or information available at each industry-related state and national conference in the period, for example:
 - Drill 97 October 1997 (196 delegates – drilling, all sectors except oil and gas drilling).
 - Drill 98 October 1998 (250 delegates –drilling, all sectors except oil and gas drilling).
 - Queensland Mining Expo 1997 and 1998 (150 delegates – predominantly mining; mineral exploration and blast hole drilling sectors).
 - Drilling Quarterly Safety Meeting (twice) 1997 (80 – 100 delegates – oil, gas and geothermal drilling and production).
 - Institute of Quarrying Conferences October 1996 and 1997 (>600 delegates, predominantly Extractive Industries; mineral exploration and blast hole drilling sectors).
 - NSW Mining Expo 1998 (120 delegates – predominantly mining; mineral exploration drilling sectors).
 - Northern Regional Outlook Conference Darwin 1998 (>150 delegates, from mining, energy, primary industries, fisheries; waterwell, seismic, mineral exploration, oil/gas and geothermal drilling sectors).
- Papers presented at forums targeted at raising the awareness of training organisations about industry requirements and initiatives, for example:
 - Communication in Training Packages Forums 1998 (Brisbane, Townsville, Darwin, Perth).
 - Australian Council of Adult Literacy Conferences Melbourne 1997, Adelaide 1998 (>100 delegates).
 - International Open Learning Conference Brisbane December 1997 (>800 delegates).
 - Flexible Learning Conference 1998.
 - NSW Mining Expo 1998 (120 delegates).

Industry consultation

An extensive industry consultation was carried out and is still ongoing. This process is determined by the mobile, isolated and scattered nature of the industry.

Consultations typically described the Training Package changes nationally, within the Drilling Industry, presented draft components for review and comment, and noted suggested changes. Changes were implemented on a continuous basis, so that each consultation presented the incorporated changes, and informed participants what had been done. Final drafts were sent for approval to relevant Steering Committee members and other personnel with specific sector skills if appropriate.

It is a contractual condition for all consultants to the Drilling Industry that all industry consultations they carry out include all aspects of the Training Package.

The consultation process has included:

- Workshop consultations in each state and territory during the scoping process for the AQF and the broad underlying directions of the Training Package (both regional and capital city venues) 1996,1997,1998.
- Workshop consultations in Western Australia, Northern Territory, Queensland and South Australia for the Competency Standards 1996,1997, and extensive consultation on the draft standards by correspondence, including the implementation of proposed changes between May and October 1998.
- Workshop consultations on the various components of the Training Package and the incorporation of language, literacy and numeracy into the Training Package and competency standards 1996, 1997, 1998.
- Workshop component in each of 6 Workplace Trainer Category 1 Courses for Drilling industry personnel. Personnel came from each state and territory.
- Extensive consultation by correspondence for all components of the Training Package.
- Meetings of Steering Committees, and phone consultations outside meeting times.
- Formal consultation and endorsement of Training Package components by relevant Steering Committee members, whether as motions of meetings or by written endorsement.
- Consultations or briefings carried out by Steering Committee members of various Committees with industry personnel in their own sectors, for example:
 - presentation by the President of the IADC – AC (International Association of Drilling Contractors – Australian Chapter) (Oil and Gas Drilling industry association) to meetings of the IADC-AC
 - presentation by members of the National Drillers’ Licence Board to the Board.
- Dissemination of information to and requests for feedback from Australian Drilling Industry Association (National, NT, WA, Qld, NSW, SA).
- Dissemination of information to and requests for feedback from International Association of Drilling Contractors – Australian Chapter.
- Dissemination of information to and requests for feedback from International Society of Explosives Engineers Australian Chapter and Queensland Chapter.
- Briefing sessions for individual companies.
- Briefing sessions for National Drillers’ Licensing Board and members of state drillers’ licensing management authorities.
- Briefing session for Inspector of Explosives, Queensland and Blasthole sector.

Consultations with state training authorities.

- 30th April 1998: initial Endorsement consultation meeting with States and Territories. A formal outcome of the meeting was a series of recommendations for amendments to the Application for Endorsement. All suggestions and recommendations made have been implemented.

- A formal role of the State Training Authority Representative in the Training Package Steering Committee is to assist in the process of States' consultation.
- Briefings and consultations for state training department personnel in Western Australia, South Australia, ACT, New South Wales, Queensland 1996/1997, 1998 (Tasmania and Northern Territory with assistance of state Mining ITAB personnel) on establishment of Traineeships in a Training Package context.
- During the process of developing components for endorsement, consultations have been made at every opportunity by the CEO ADITC during visits to states and Territories.
- Informal consultations with personnel from State Training Authorities for advice on technical aspects of the components.

Consultations with Australian National Training Authority

- A formal role of the ANTA Representative in the Training Package Steering Committee is to assist in the process of consultation.
- Extensive and ongoing consultations to seek or give advice throughout the course of the Training Package project.
- Formal meetings of the Chair and/or CEO with ANTA personnel.

Other stakeholders

- Discussions and consultations both formal and informal with other ITABS in related industries, e.g. with Extractives Industries to establish cross-credentialing possibilities; National Process Manufacturing ITAB to establish competency standards; National Utilities and Electrical/Electronics ITAB to establish competency standards.
- Briefing sessions for State Mining ITABS, MERS ITAB SA, Qld Mining ITAB, WA Process Manufacturing ITAB, WA Chamber of Mines.
- Briefing sessions for training providers both public and private from NSW, Victoria, WA, Queensland, Northern Territory, South Australia, Tasmania, ACT.
- Briefings for state resources/mining department personnel (Northern Territory, New South Wales, South Australia, Queensland).

Structure of the Drilling Industry Training Package

The Training Package consists of endorsed components, and non-endorsed components.

Endorsed components

The Endorsed Components are:

- Competency Standards
- Assessment Guidelines
- Qualifications Framework for the Drilling Industry.

Non-endorsed components

The Non-endorsed components are:

- Learning Strategies incorporating Assessment Tools
- Professional Development Kit.

Endorsed components

Competency standards

The Training Package for the Drilling Industry is based on the National Competency Standards for the Drilling Industry. Standards have been revised against the ANTA Best Practice Guidelines 1996 or were developed using the Best Practice Guidelines, and incorporate language, literacy and numeracy. Further revisions have occurred since their original presentation to ANTA most recently in August 2001.

There are currently *four sets of National Competency Standards* in the Training Package:

- Competency Standards for the Drilling Industry AQF II - VI, non-hydrocarbon sectors. Originally endorsed July 1994, reviewed against Best Practice Guidelines September 1996 to April 1997 and enhanced in 1998 during the development of this Training Package.

The Drilling Industry Competency Standards Non-Hydrocarbon Sectors have coverage for:

Mineral Exploration

Waterwell

Environmental

Geotechnical

Seismic

Foundation/Construction Drilling

and incorporate Drill and Blast Operations.

- National Oil and Gas Drilling Competency Standards, Onshore AQF I - III. Developed July 1996 - March 1997.
- National Oil and Gas Drilling Competency Standards, Offshore AQF I - III. Developed July 1996 - March 1997.

- National Oil and Gas Drilling Competency Standards, Offshore and Onshore AQF IV - V. Developed December 1999 – August 2001.

It should be noted that due to the isolated and mobile nature of companies working in the Drilling Industry, the Standards have in all cases been developed using (where possible) Plain English principles. The Standards are intended to need as little “interpretation” as possible by training professionals, and to be as accessible as possible to drilling personnel whose key business is not training but drilling.

The NH Standards were developed in 1996/97, and were been reviewed in 1998 prior to submission for endorsement to take into account changed requirements which have arisen during that time.

The following Extractive Industries Competency Standards are recognised by all sectors of the Drilling Industry:

MNQOP/30A *Carry out blast surveys* aligned at AQF level 2

MNQOP/31A *Conduct drilling operations* aligned at AQF level 3

MNQTL/32A *Carry out shot firing* aligned at AQF level 4

MNQQM/12A *Plan, conduct and oversee drilling operations* aligned at AQF level 5

MNQOP/13A *Manage blasting operations* aligned at AQF level 5

Frontline Management Standards have been contextualised to meet the requirements of managers in the Drilling Industry at AQF 4, 5 and 6.

A process for *review and maintenance* of the Standards has been included in the Drilling Industry’s Validation Strategy. As Standards are put into practice, shortfalls and changes in technology, emphasis and practice will become known. Amendments or suggested amendments will be recorded centrally as they arise from industry feedback, and formal review will start 9 months before the period of endorsement expires.

Assessment guidelines

The Competency Standards are the basis for assessment in the Drilling industry. The Guidelines provide industry-agreed procedures and guidance.

Qualification framework

A Qualification Framework has been developed which allows flexible means to achieve qualifications at AQF 2 – 6. Qualifications may be sector specific at AQF 2 - 4 inclusive.

These competencies are complex. Achievement is cumulative and complements the extensive drilling skills and knowledge which people must gain at site to be eligible to gain Certificate IV and an Advanced Diploma.

All qualifications have been allocated individual codes.

Non-endorsed components

These form a support structure for the endorsed components of the Training Package.

As is appropriate for the industry, the components have been developed in plain English.

Learning strategies, incorporating assessment tools

It is an industry decision to package the Learning Strategy resources with the Assessment resources, in order to decrease the numbers of documents people have to carry about from rig to rig, and to store in the very limited space available to them at site.

These are currently available for AQF I -- III and VI for all sectors, and for NH sectors at AQF IV and V.

Professional development kit

This kit provides guidance for trainers and assessors who will be working with personnel in the Drilling Industry. It is expected that the majority of training in the industry will be at site, so people needing professional development may be based in Registered Training Organisations, or they may be at-site personnel.

SECTION 2

Drilling Industry Assessment Guidelines

Introduction

The Drilling Industry Assessment Guidelines are one of the endorsed components of the Drilling Industry Training Package. They are for use by a range of people including:

- Assessors in the Drilling Industry.
- Enterprises.
- Registered Training Organisations and trainers.
- Training Managers.
- Human Resource Managers.
- Regulatory Authorities.
- Industry Bodies.
- Contractors.

The Guidelines aim to:

- provide information on the context and issues for effective assessment in the Drilling Industry
- show where assessment fits in recognising workplace knowledge and skills and leads to a qualification
- support knowledge and skill recognition for career progression in the Drilling Industry
- recognise current training and assessment practices and bodies associated with assessment
- build on and formalise existing good assessment practice within enterprises and training organisations
- provide guidance for those involved to improve assessment systems and practice
- provide guidance for newcomers to training and assessment
- provide information on what constitutes good practice in assessing the Australian National Drilling Industry Competency Standards.

Assessment is the process of collecting evidence of the skills and knowledge a candidate has developed, either in a structured learning situation, at work, or in some other context. The Drilling Industry has adopted a competency based learning system. This means that each candidate's skills and knowledge are assessed against the Australian National Drilling Industry Competency Standards rather than compared with the skills and knowledge of other candidates.

These guidelines set out the Drilling Industry assessment system which ensures that qualifications awarded in the drilling industry recognise achievements of a consistently high standard, are nationally recognised, and encourage flexible ongoing learning. The system gives individuals access to formal qualifications through a range of pathways:

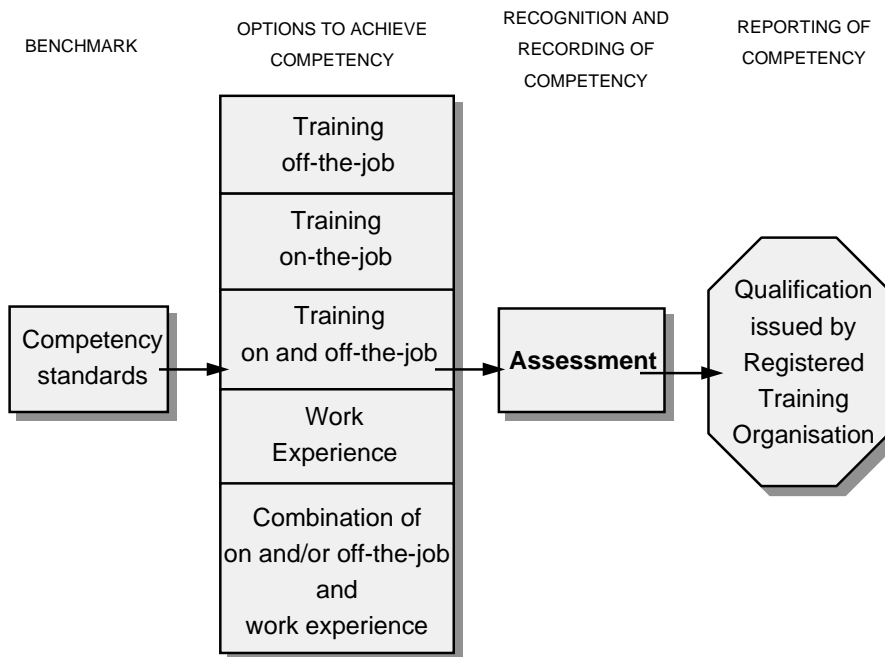
- formal training and assessment
- assessment-only recognition of competencies
- a combination of work experience, training and assessment.

The pathways lead to nationally recognised qualifications because they involve:

- Registered Training Organisations (RTOs)
- assessment against the Australian National Drilling Industry Competency Standards
- assessment in accordance with these endorsed Assessment Guidelines by qualified assessors
- a nationally monitored quality assurance framework.

The following figure shows the pathway to a qualification.

Figure 1: Assessment and qualifications



Drilling Industry assessment system overview

The Drilling Industry Assessment System is built by agreement on the Mining Industry Assessment System. The Drilling Industry assessment system builds on and formalises good practice within enterprises and training organisations. It provides a common language for the recognition of competency in the Drilling Industry. These Guidelines contextualise the system for the Drilling Industry providing a framework for implementation.

In the Drilling Industry assessment is used for a many purposes:

- to meet legislative and regulatory requirements
- to satisfy quality system requirements
- to establish enterprise requirements for a particular function or use of a particular machine or piece of equipment
- to recognise current competencies
- to identify areas of training need.

Implementation under these Guidelines means that assessments can also be used for the issuing of nationally recognised AQF qualifications.

Benefits

The Drilling Industry assessment system offers benefits for employers, employees/candidates, and contractors.

Benefits for employers

The Drilling Industry assessment system:

- provides benchmarks for employee skills, knowledge and competence
- is a mechanism for formal recognition of skills and knowledge developed at work
- assists in the process of multi skilling and cross skilling
- helps to identify employees with the required mix of knowledge and skills
- makes recruitment more reliable and consistent
- sets workplace standards and serves as the basis of performance appraisal
- serves as a starting point in enterprise agreements
- assists in specification of the skills level required of contractors
- supports due diligence responsibilities
- assists in meeting legal and regulatory training requirements.

Benefits for employees/assessment candidates

The Drilling Industry assessment system:

- provides formal recognition of competencies developed at work
- leads to a nationally recognised qualification
- assists in identification of career opportunities in the Drilling Industry
- helps focus training on individual needs
- assists in the process of multi skilling and cross skilling
- offers flexibility, so people can learn at their own pace and choose the structured and/or work-based training and assessment environment that suits them best, and takes into consideration location and isolation for people working in the drilling industry.

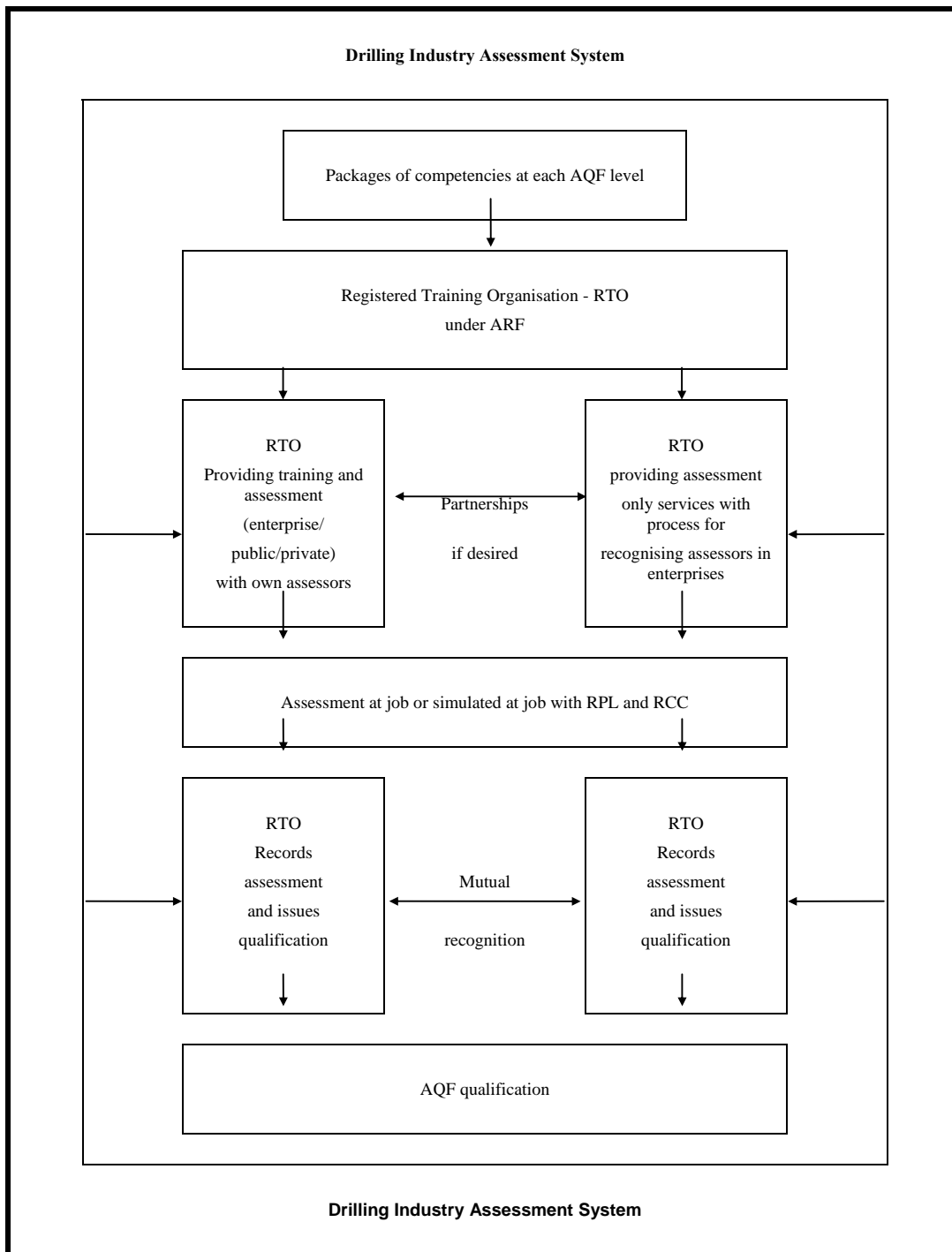
Benefits for contractors

The Drilling Industry assessment system:

- can provide evidence that contractors' skill mix meets their contractual requirements
- provides a benchmark for contractor capability assessment
- leads to portable, nationally recognised qualifications
- provides contractors with documentation to assist in indemnity
- supports contractors in building efficient systems for multi site operations
- offers flexibility, takes into consideration location and isolation for contractors working in the drilling industry.

The system, which is summarised in the following diagram, is competency based and nationally endorsed. The components and features of the system are detailed in the following pages.

Figure 2: Drilling Industry assessment system



Assessment of competency and AQF qualifications

Assessment in the Drilling Industry is based on the Australian National Drilling Industry Competency Standards with the endorsed competency standards for each sector forming the benchmark for assessment. These standards, and other nationally endorsed competency standards recognised by the Drilling Industry, set the benchmarks that candidates must reach for full or part qualifications under the Australian Qualifications Framework (AQF). Results of assessment have national recognition regardless of how candidates have acquired their skills and knowledge, or which assessment pathway they have followed.

The technology, size and complexity of the equipment to be used, Occupational Health and Safety issues and legislative and regulatory requirements require assessment for an AQF qualification in the Drilling Industry to be conducted in the workplace or a simulated situation. At-job assessment conducted in the workplace or in a simulated situation ensures that candidates can function effectively in the real work environment and that the competencies assessed are relevant to the industry.

Drilling Industry competency standards

The Australian National Drilling Industry Competency Standards Non Hydrocarbon Sectors have coverage for:

- Mineral Exploration
- Waterwell
- Environmental
- Geotechnical
- Seismic
- Foundation/Construction Drilling

and incorporate Drill and Blast Operations. The standards have been developed for AQF levels 1-6.

Competency Standards for Oil and Gas Drilling Offshore and Onshore are available for AQF levels 2-6. As planned there is some commonality between all sectors at AQF 4 and 5, and complete commonality between the Competency Standards for all sectors at AQF 6.

The following Extractive Industries Competency Standards Units of Competency are recognised by all sectors of the Drilling Industry:

MNQOP/30A *Carry out blast surveys* aligned at AQF level 2

MNQOP/31A *Conduct drilling operations* aligned at AQF level 3

MNQTL/32A *Carry out shot firing* aligned at AQF level 4

MNQQM/12A *Plan, conduct and oversee drilling operations* aligned at AQF level 5

MNQOP/13A *Manage blasting operations* aligned at AQF level 6

The Drilling Industry Competency Standards have been based on the Front Line Management Standards, but are specific to the Drilling Industry. There was significant contextualisation to meet the requirements of managers in the Drilling Industry at AQF 4, 5 and 6.

Drilling Industry new apprenticeships

New apprenticeships available for the Drilling Industry employees include:

Qualification	Units of competency	Occupational areas
Certificate II in Drilling	Core Units Elective Units	Drillers' Assistant/Floorman/ Roughneck/Roustabout
Certificate III in Drilling	Core Units Elective Units	Driller/Derrickman
Certificate IV in Drilling	Core Units Elective Units	Driller/Senior Driller
Diploma of Drilling	Core Units Elective Units	Drill Supervisors Rig Manager Toolpusher
Advanced Diploma of Drilling	Core Units Elective Units	Operations Manager Field Superintendent Installations Manager

Candidates who demonstrate that they have acquired one or more units of competency, but not enough for the award of a qualification, may receive a Statement of Attainment which they can build on at some later time to achieve a qualification.

Drilling Industry pathways to a qualification

The Drilling Industry recognises qualifications which candidates achieve through:

- the recognition of current competencies and prior learning which meet AQF competency requirements
- structured training course(s) which meets AQF competency requirements, delivered and assessed by a registered training organisation
- a combination of a course of study meeting the AQF competency requirements and/or recognition of prior learning or current competencies, including credit transfer, and/or experience.

Qualifications can be reached through a range of pathways:

- assessment-only recognition of competencies
- structured training and assessment
- any combination of workplace experience, training and assessment.

All pathways incorporate the recognition of prior learning (RPL) and recognition of current competencies (RCC), are based on the same assessment benchmarks and industry endorsed assessment procedures, and include assessments conducted by qualified assessors. All lead to nationally recognised qualifications, but the time taken to gain a qualification will vary according to the pathway taken and factors related to the particular enterprise or work area.

The structured training and assessment-only recognition pathways are summarised in Table 1 and detailed in the following pages. Any combination of these pathways can lead to a qualification.

Table 1. Pathways to a qualification

Responsible for	Assessment-only pathway	Training and assessment pathway
Training design	Enterprise	Registered Training Organisation (enterprise or public or private)
Training delivery	Enterprise, perhaps partnership with Registered Training Organisation	Registered Training Organisation, perhaps with enterprise partnership
Training context	Enterprise	Some off-job, some simulated situations or enterprise partnership
Assessors	Assessors recognised by Registered Training Organisation providing assessment-only services	Registered Training Organisation Assessors
Assessment records	Training Record Book, Registered Training Organisation and enterprise	Training Record Book, and Registered Training Organisation
Issuing qualifications	Registered Training Organisation	Registered Training Organisation
Quality assurance	Registered Training Organisation and ARF process and procedures	Registered Training Organisation and ARF process and procedures

Assessment-only pathway

The assessment-only pathway provides the opportunity for formal qualifications to be awarded as a result of assessment of employees or contractors in enterprises who are not registered by State/Territory Recognition Authorities as training organisations.

Assessment is conducted by assessors recognised by a Registered Training Organisation providing assessment-only services.

Training

Structured training is designed and delivered at work, either as part of routine operations or in designated training sessions. Candidates, their supervisors and trainers use the Australian National Drilling Industry Competency Standards as an indication of the skills and knowledge that the candidates are expected to acquire. They organise a formal assessment when confident that the candidate has acquired one or more units of competency.

Assessments

Assessors recognised by the Registered Training Organisation providing assessment-only services, conduct assessments in the workplace. Assessors may be employees of the enterprise, or the enterprise or the Registered Training Organisation may contract an assessor from another enterprise or training organisation.

The assessor checks the candidate's acquisition of one or more units of competency, in consultation with the candidate's supervisor, team leader, site coordinator and/or the training department within the enterprise. Evidence should be gathered on a number of occasions, in a variety of contexts, conditions and situations. The assessment must be at-job and conducted in the workplace or in a simulated situation.

Recording competencies

The assessor, reports the candidate's assessment outcomes to the Registered Training Organisation providing assessment-only service. The assessor also validates the candidate's Drilling Industry Training Record Book, documenting the range of experiences through which the competencies were achieved. The candidate keeps the Training Record Book as a personal record. The enterprise may keep records of an employee's assessment, in compliance with legislative and regulatory requirements, quality system requirements and duty of care.

The registered training organisation is responsible for recording the results of all assessments and keeping candidates' personal files secure and confidential.

Issuing qualifications

The Registered Training Organisation issues an AQF qualification if the candidate has demonstrated the required package of competencies, and maintains records of all applicants' achievements in assessment. Any qualification issued under the AQF must be issued with a document which identifies the Units of Competency achieved on the back of the qualification.

If an employee leaves an organisation or withdraws from training before achieving all the competencies required for a qualification, the Registered Training Organisation will issue Statements of Attainment for the competencies the candidate has achieved. The Registered Training Organisation maintains records of the competencies achieved by applicants for Statements of Attainment, so people can return to training and build on earlier achievements to attain full AQF qualifications.

Quality assurance

It is the responsibility of the Registered Training Organisation providing assessment-only services to ensure the integrity of the recognition pathway to qualifications. The Registered Training Organisation is required to ensure that assessments conducted at the enterprise by assessors meet these Assessment Guidelines, and that AQF qualifications are only issued when earned. Assessments must be demonstrably fair, reliable, valid and flexible to provide consistent outcomes.

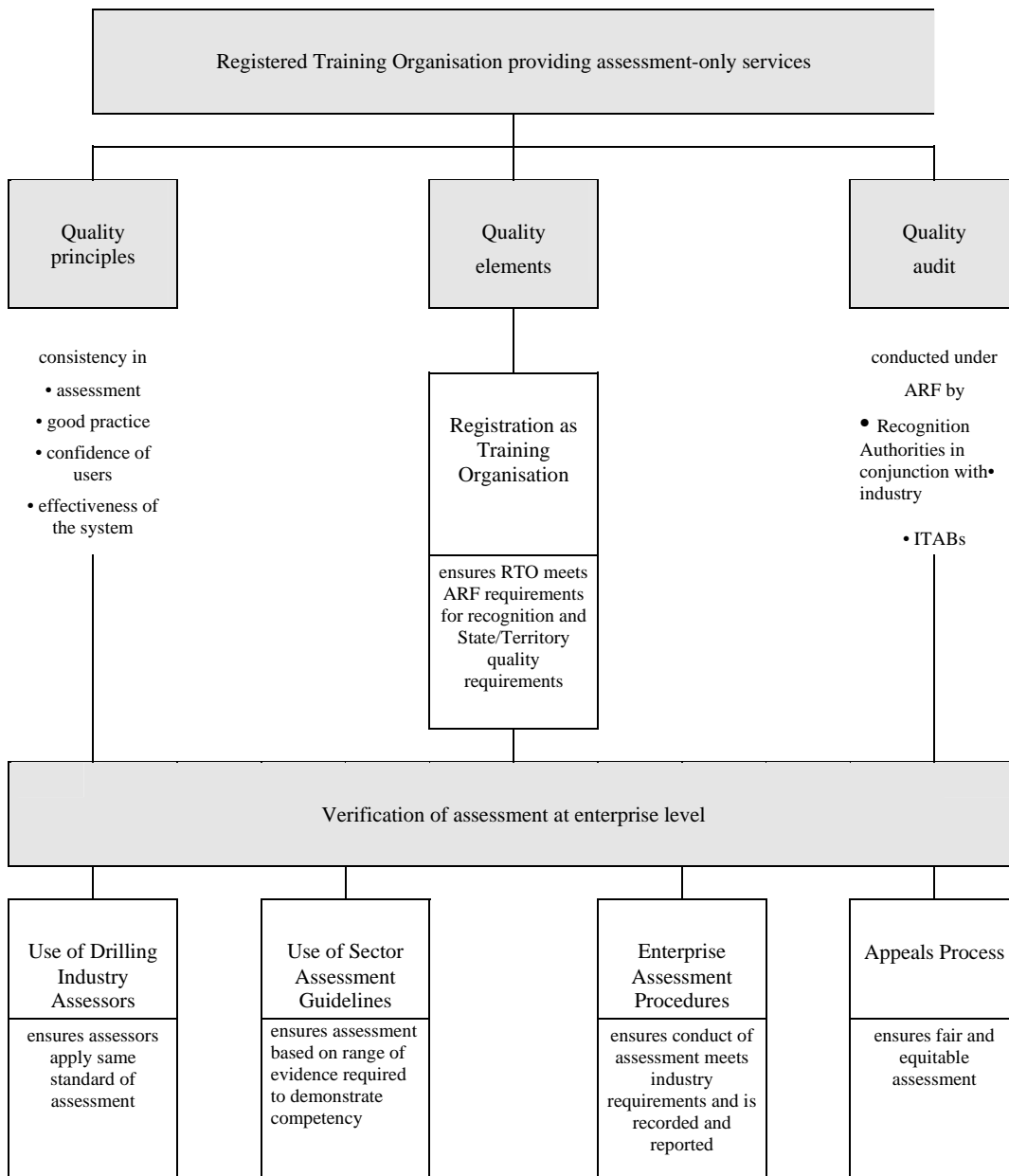
Registered Training Organisation providing assessment-only services quality management

The availability of a Registered Training Organisation providing assessment-only services, gives enterprises and contractors access to nationally recognised AQF qualifications even though they are not themselves Registered Training Organisations or in partnership with Registered Training Organisations.

The procedures and qualifications outlined in these guidelines for the recognition of assessors ensures that all assessments endorsed by the Registered Training Organisation meet industry requirements and national standards for competency-based assessment.

The Drilling Industry requires quality management of assessment to have confidence in the assessment outcomes. The following model is provided to help achieve this:

Figure 3. Quality model for assessment-only services



Training and assessment pathway

The training and assessment pathway provides qualifications as a result of formal training and assessment by a public, private or enterprise registered by a State/Territory Recognition Authority as a Registered Training Organisation for training and assessment purposes against the Drilling Industry Training Package.

Training

Registered Training Organisations operating in the Drilling Industry design and deliver formal structured training programs which reflect the Australian National Drilling Industry Competency Standards as outlined in the Drilling Industry Training Package. For some

components of a program, such as the development of knowledge that underpins successful performance of practical tasks, the training is conducted off the job. Program participants must learn to apply their knowledge and skills in simulated workplace environments, or during work with local enterprises.

Assessments

Assessments are conducted by assessors employed or recognised by the Registered Training Organisation. Some parts of the training program may be assessed off the job, but all assessment against competencies must be conducted in practical industry settings: either in simulated situations or at local enterprises.

Recording competencies

The Registered Training Organisation assessor records the assessment outcomes and validates the candidate's Drilling Industry Training Record Book when one or more units of competency have been demonstrated successfully. The candidate keeps the Training Record Book as a personal record.

The Registered Training Organisation is responsible for recording the results of all assessments, and keeping the candidates' personal files secure and confidential.

Issuing qualifications

The Registered Training Organisation issues an AQF qualification when a participant has achieved a relevant package of competencies as outlined in the Drilling Industry Training Package. Any qualification issued under the AQF must be issued with a document which identifies the Units of Competency achieved.

If a candidate leaves the program before achieving all of the competencies for a qualification, the Registered Training Organisation issues a Statement of Attainment for competencies achieved.

Quality assurance

Each Registered Training Organisation is responsible for ensuring the fairness, validity, reliability and consistency of the assessments it conducts. All assessment processes must meet Australian Recognition Framework requirements, national assessment principles and provide consistency of outcomes.

Partnerships and flexible arrangements

The Drilling Industry assessment system supports and encourages flexible training and assessment arrangements based on partnerships between enterprises and Registered Training Organisations. Such partnerships optimise the use of resources and maximise opportunities for individuals to progress in the industry through improving their skills, knowledge and qualifications.

AQF qualifications can be achieved through any partnership arrangements which include the following:

- Assessment must be conducted by an assessor recognised by a Registered Training Organisation registered against the Drilling Industry Training Package. Assessment is against the Drilling Industry Competency Standards, in a real or simulated situation.

- Secure, confidential records of at-job training and assessment must be maintained by any enterprise offering training and assessment; records of off-the-job training and assessment must be maintained by the Registered Training Organisation.
- Qualifications can be issued only by a Registered Training Organisation endorsed by a State/Territory Recognition Authority under ARF for the Drilling Industry Training Package.

Individuals may complete part of their training in an enterprise and part with a Registered Training Organisation. People who have completed relevant packages of competency through either pathway or any combination of pathways can choose to send their validated assessment records or Drilling Industry Training Record Book to the Registered Training Organisation providing assessment-only services for issue of a qualification.

Some options are shown in the following Table 2.

Table 2. Flexible arrangements and partnerships

Pathway to a Qualification	Assessment	Qualification
1. Enterprise which is not a Registered Training Organisation conducts training and assessment. Some off-the-job training may be provided by other organisations which also are not Registered Training Organisations.	Assessment undertaken by assessors employed by the enterprise or contracted from outside the enterprise and recognised by a Registered Training Organisation providing assessment-only services.	Registered Training Organisation
2. Enterprise which is a Registered Training Organisation conducts training and assessment	Assessment undertaken by assessors employed by the enterprise or contracted from outside the enterprise.	Registered Training Organisation
3. Off-the-job training by a Registered Training Organisation, at-job training by an enterprise. The enterprise employs and provides an assessor recognised by the Registered Training Organisation	The Registered Training Organisation conducts off-the-job assessment; and the enterprise conducts the at-job assessment.	Registered Training Organisation
4. Off-the-job training by a Registered Training Organisation, with at-job training by an enterprise. The enterprise provides a technical expert to assist in assessment.	The Registered Training Organisation conducts off-the-job assessment and provides assessors to conduct at-job assessment in conjunction with the technical expert provided by the enterprise.	Registered Training Organisation
5. Off-the-job training by a Registered Training Organisation, with at-job training by an enterprise.	The Registered Training Organisation conducts off-the-job assessment and provides assessors to conduct at-job assessment.	Registered Training Organisation

Assessor Qualifications

Assessments against the competencies in the Drilling Industry Training Package will be carried out in accordance with these endorsed guidelines. The guidelines include the necessary qualifications for those conducting assessments and provide for those situations where more than one person may contribute to the assessment and where the required technical and assessment competencies may not all be held by any one person.

To be recognised as an Assessor in the Drilling Industry, assessors must meet the following criteria:

- have demonstrated competence against the following two units of competency from the Assessment Competency Standard:
 - Conduct assessment in accordance with an established assessment plan, and
 - Extension Unit: Plan and review assessment
- have an understanding of the industry context, and of the use of endorsed Drilling Industry Competency Standards as the benchmarks for assessment
- be competent in an area within the Drilling Industry at least to the level being assessed.

Assessor competency standards may be achieved by successful completion of an accredited course or RPL for a Certificate in an accredited course.

It is preferable that assessors should have some awareness of language, literacy and numeracy issues in assessment.

Training organisations must consult with enterprises to determine the appropriateness of the assessors for at-job assessments within their enterprise.

Specific criteria will exist for assessors who are assessing a candidate for a qualification which is a requirement for the issue of a statutory licence to practice, for example Shot Firer. This requirement may vary from State to State depending on legislative requirements.

Assessment arrangements

In some cases, assessors will meet the criteria required by the industry and have a sound understanding of the general industry context, but not have the necessary expertise to conduct assessments according to the specific needs of a particular enterprise. This difficulty can be overcome by assessors working in teams or with a technical expert. If an assessment is conducted by a team, it is important that the enterprise is first consulted, and then recognises and trusts the technical expert or panel of assessors.

Suitable arrangements may include:

- An assessor who is not competent in the area being assessed, but who meets all other criteria, works with another person (a technical expert) who is competent in, and can advise on, the relevant vocational competencies at least to the level being assessed.
- The assessor convenes an assessment panel with members who, between them, meet all of the requirements of the industry and the enterprise.
- An assessor who is not familiar with the assessment evidence being collected works with a workplace team leader or supervisor who has the relevant vocational competencies at least to the level being assessed.

- An assessor monitors and validates assessment procedures carried out by a workplace supervisor, team leader or site coordinator with the relevant vocational competencies at least to the level being assessed.

Guidelines for designing assessment materials

Most assessments in the Drilling Industry take place at work or in a simulated workplace. When designing assessment processes, assessors therefore first need to ‘interpret’ the units of competency to suit the assessment environment. This involves identification of:

- equipment to be used in the assessment and the manufacturer’s instructions for its use and/or maintenance
- OHS policies and requirements of the organisation
- the specific knowledge, understanding and agreed procedures that apply in the workplace(s) concerned
- specific OHS requirements for the equipment, process or procedure.

Determining appropriate assessment methods and tools

It is the responsibility of the assessor, working with other technical experts if necessary, to determine appropriate ways of gathering evidence of a candidate’s competency. The evidence may be collected over time, rather than on just one occasion, but the evidence gathering should not be prohibitively costly or time-consuming. Assessors must ensure that assessment processes do not place *inappropriate* emphasis on language, literacy or numeracy, and do not disadvantage candidates on inappropriate grounds such as gender or cultural background. For example, the literacy required for assessment should not be greater than that required for the actual task.

Given these constraints, key questions to consider when selecting assessment methods and tools include:

<i>Will the evidence be valid?</i>	Do the assessment methods and tools used measure what they claim to measure?
<i>Will the evidence be reliable?</i>	Would the assessment methods and tools provide consistent outcomes regardless of who does the assessment?
<i>Will the evidence be authentic?</i>	Can the assessor be confident that the assessment methods and tools will provide evidence of the candidate’s <i>own</i> performance?
<i>Will the evidence be sufficient?</i>	Do the assessment methods and tools gather enough suitable evidence to result in an acceptable judgement about whether competence has been demonstrated?
<i>Are the assessment methods and tools fair?</i>	Do the assessment methods and tools provide a fair assessment for all candidates, or do they rely (to any extent) on irrelevant factors?

Assessment Methods And Tools — Glossary

Assessments methods and tools commonly applied in the Drilling Industry include:

Observation of skill demonstration

This involves the assessor observing performance (either real or simulated) and, if appropriate, checking the product produced by the candidate during the demonstration. Performance may be observed in a structured manner or unobtrusively through direct or indirect methods.

Oral questions

By asking the candidate oral questions, the assessor can test the candidate's communication skills at the same time as authenticating the knowledge that underpins performance. One advantage of open oral questioning is that the candidate can seek clarification from the assessor when necessary. This is not possible with written or computer based questions.

Written questions

Written questions may take a number of forms such as:

Multiple choice — a question or incomplete statement followed by four or five options from which the candidate selects the correct one.

Short answer — a question with a predetermined answer which varies from one word to, at most, two or three sentences.

Simulation

A simulation is a mock situation in which the candidate can be asked to reproduce normal workplace performance. Simulations are common in circumstances where cost, safety and operational demands on equipment and other resources may limit access to the workplace for conducting assessments. Courses provided by training organisations which are not in partnership with an enterprise, usually rely on simulations for both training and assessment.

Case studies

A case study can be based on written information and/or practical experiences in a simulated or actual workplace. It provides the candidate with opportunities to demonstrate their problem solving and decision-making skills, and their flexibility in applying underpinning knowledge to new contexts. It is important that an assessment based on a case study focuses on problem solving or application of underpinning knowledge, not the candidate's ability to read the text. Case studies can be written or presented orally by the assessor.

Project

A project is usually a quite complex and/or time-consuming exercise, which a candidate completes without close supervision, then submits for assessment. Projects often include the completion of a project report about how the project was carried out.

Portfolio

A portfolio is a presentation of documented evidence of a candidate's competency. It may include examples or a critique of a candidate's work. Evidence provided in a portfolio must be authenticated and may include work records and logs. A portfolio provides evidence of experience over time.

Critical incident

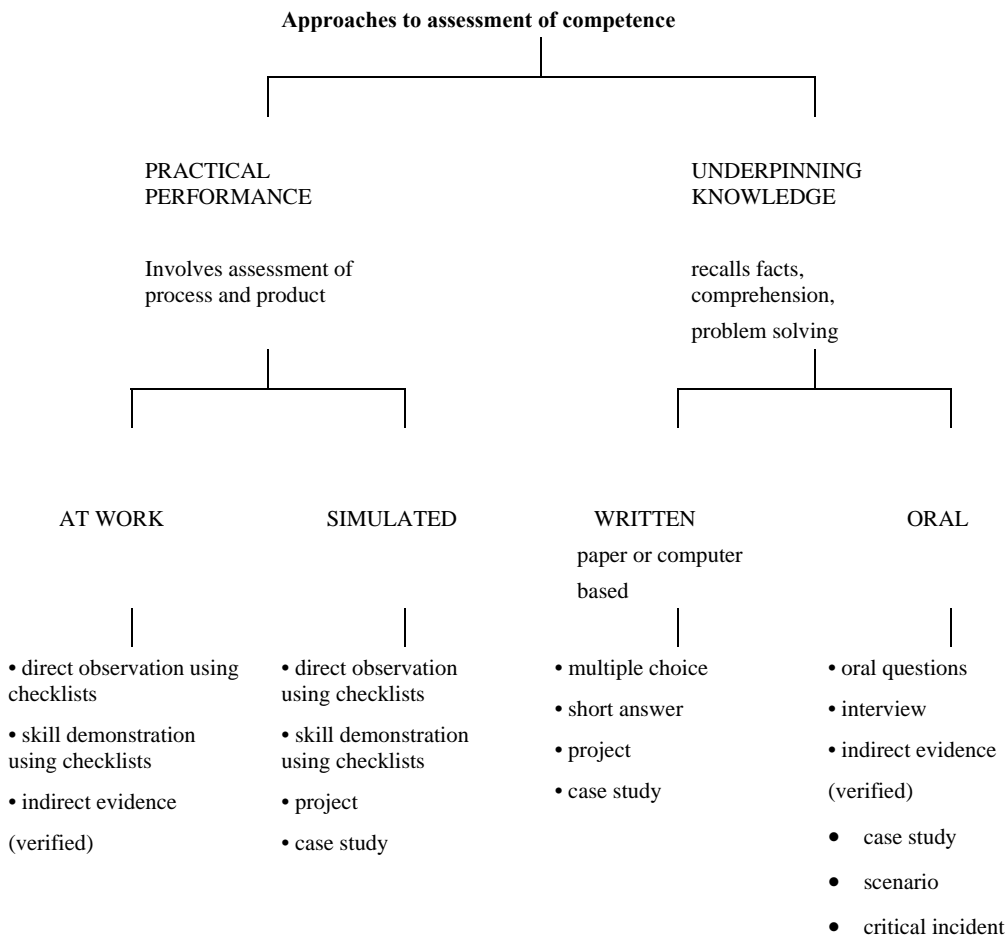
Assessments based on critical incidents involve a candidate identifying a problem or a challenging workplace situation which they feel they resolved. The assessor and the candidate discuss how the candidate responded to the incident and how a similar response could be translated to other situations. The analysis of critical incidents is useful as a way of assessing the candidate’s acquisition and application of a cluster of competencies.

Indirect evidence

Indirect evidence is evidence of competency which is not demonstrated for the assessor. For example, ability to apply standard emergency procedures may be assessed on the basis of a supervisor’s statement about a candidate’s performance in the workplace.

Different approaches are suited to the assessment of different types of competency.

Figure 4. Suitable assessment methods



Note:

Oral questions can also be used in conjunction with skill demonstration and observation.

Self-assessment

Self-assessment is an important tool in the assessment process. Trainees or assessment candidates can use these self-assessment tools to check whether they are ready for assessment or whether more training is required to achieve a Unit of Competency.

Assessors are encouraged to develop self-assessment checklists as part of any assessment tool for the Drilling Industry. Self-assessment tools should relate directly to the elements and performance criteria in a Unit of Competency and cover the underpinning knowledge and the critical aspects of evidence outlined in the Evidence Guide of each Unit of Competency. The evidence the candidate is required to provide should be clearly stated.

Combined approaches and holistic assessment

In many cases assessors will be able to use a range of different assessment methods together. This is important as a means of ensuring full competency (rather than an ability to perform just one type of assessment task particularly well) and maximising candidates' chances of demonstrating their skills and knowledge. For example, exclusive reliance on oral questioning may unfairly disadvantage shy candidates, and could lead to an incorrect decision.

Using a range of methods and tools also supports integrated or holistic assessment. This means designing assessment activities, which combine knowledge and understanding, problem solving and technical skills, and attitudes, and ethics which go towards successful completion of workplace tasks. Holistic assessment usually involves:

- actual or simulated workplace tasks, especially tasks which require the integration of a range of competencies and associated underpinning knowledge
- the use of analytical skills to solve problems associated with the task(s)
- a combination of theory and practice.

Guidelines for conducting assessments

The Australian National Drilling Industry Competency Standards are the benchmark for assessment in the Drilling Industry. Like competency standards applicable to other industries, they are expressed in a common format based on units of competency. **All reporting of formal assessments must relate to one or more units of competency**, no matter how that competency has been acquired.

To assist assessors the Australian Drilling Industry Training Committee has ensured the Drilling Industry Competency Standards have been written to incorporate language, literacy and numeracy issues.

The level of maths required in drilling operations can be quite complex. To assist in this area the Australian Drilling Industry Training Committee has produced a resource called 'Basic Mathematics for the Drilling Industry' to assist drillers when carrying out calculations on the job. The resource includes a checklist at the front and offers drillers an opportunity to self assess and carry out those calculations where difficulties lie. This resource is a useful tool for assessors when conducting assessments which require calculations.

Each unit of competency has the following components which provide guidance on suitable training and assessment activities and outcomes:

Unit of competency:	This refers to a general area of competence (i.e. skills and knowledge) described in the title of the unit. Each unit contains elements, performance criteria and a range of variables.
Elements of competency:	Elements describe the things that an employee who works in a particular area will be able to do. They are expressed as actions or outcomes which can be assessed.
Performance criteria:	Performance criteria guide the assessor in judging a candidate's skills and knowledge. They specify the level of performance expected if the candidate has achieved the unit of competency.
Range of variables:	The range of variables refers to the industry- and enterprise-specific factors which may apply to the standards. It places the unit of competency in the context in which performance should be demonstrated, e.g. typical facilities and equipment.
Evidence guide:	This part of the unit indicates the kinds of evidence that is required to demonstrate full competency in the unit, including underpinning knowledge and transferable skills.

Conducting assessments

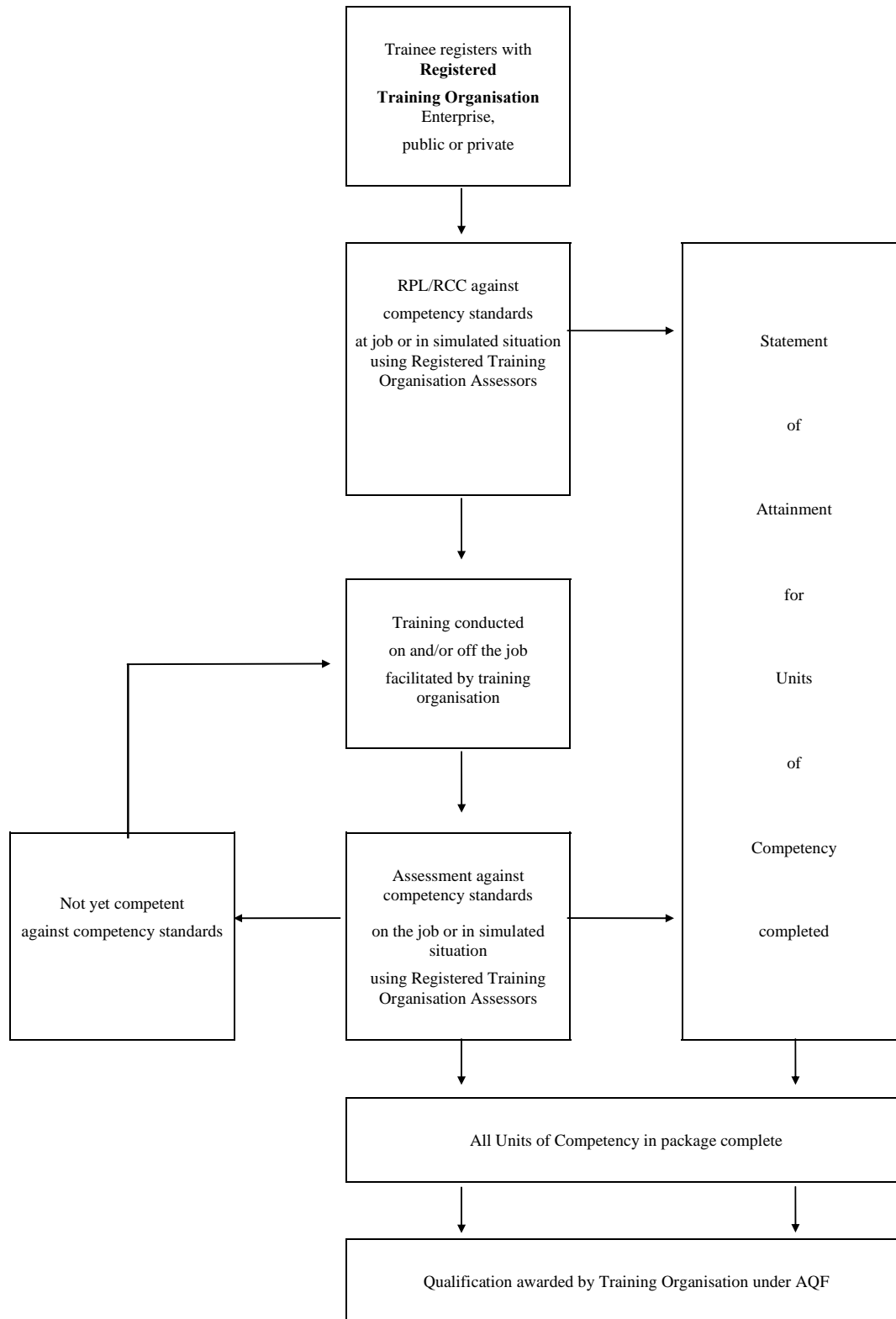
Assessments are conducted when a candidate (and/or their trainer or supervisor) is reasonably confident that they have acquired one or more Units of Competency. The candidate may have acquired the competency through recent training or through previous training or experience (i.e. Recognition of Prior Learning or Recognition of Current Competency).

Before conducting an assessment, particularly in the workplace, all parties must agree on a procedure. The procedure must:

- be suitable for an enterprise's size, structure and needs
- clearly state who will be conducting the assessment such as an assessment panel, an internal or external drilling expert, or an assessor
- involve an assessor who meets the industry requirement for assessor qualifications to sign off the assessment
- allow for agreement by all parties on what constitutes evidence of competency
- allow an Appeals Review Process, available to both the employee and the employer, so that an assessment can be challenged if necessary.

The following Figure 5 shows a generic process for the recognition of competency to gain a qualification in the Drilling Industry.

Figure 5. Conducting assessments



Recognition of Current Competencies (RCC) and Recognition of Prior Learning (RPL)

RPL/RCC are ways of recognising that a person has achieved required competencies, through previous informal and formal learning, or through work and life experience. This has particular potential to benefit many people in the Drilling Industry. Assessments for RCC and RPL rely on the same range of evidence as assessments of competencies people have recently acquired through training. However, they may also include documentary evidence of previous achievements, qualifications and references from people who are familiar with the candidate’s record.

RPL and RCC assessments should be conducted before training is recommended. Figure 6 diagrammatically represents the procedures involved in recognising prior learning or current competencies against the Drilling Industry Competency Standards.

Figure 6. The Drilling Industry process for RPL and RCC

PROCESS FOR RPL/RCC	COMMENT
A candidate with experience and/or qualifications seeks recognition	Recognition is sought for Unit(s) of competency in the Drilling Industry Competency Standards
Units relevant to the workplace and/or qualification(s) are identified and performance criteria and context for assessment required for each Unit sought is identified	Workplace and/or RTO assistance should be provided to help identify relevant units and assessment requirements
The candidate’s experience and/or qualification(s) are matched with performance criteria and related evidence guide and range statement	Evidence is gathered to meet assessment requirements with workplace and/or RTO support. Advice and documentation from others such as supervisor, team leader, training manager and workplace reports may be useful
Units of competency demonstrated are verified	Assessment methods may include: oral questioning demonstration and observation documentary evidence portfolio
Evidence is judged on: sufficiency validity reliability currency authenticity	Assessment is conducted by an assessor who meets Drilling Industry criteria for assessor qualification
Partial or full recognition of evidence	Partial recognition requires further evidence or training
Award of Statement of Attainment or AQF qualification by Registered Training Organisation	A Statement of Attainment is awarded for demonstration of Units of Competency and an AQF qualification when all required Units of Competency are demonstrated

Using a mentor in the assessment process

Mentoring is the act of supporting someone in gaining skills and knowledge. It is not something new - people have been learning from each other for years. Individuals with knowledge and experience in a particular area have long been recognised as a valuable resource in passing on learning.

Mentoring is usually a pairing of a less experienced person with a more experienced one. It does not have to occur within a structured program, it can occur informally when two individuals are willing. It provides the opportunity for sharing professional and personal experiences. This is particularly important for candidates when they are on drilling rigs in remote locations.

There are many advantages of using a mentor in the assessment process. Their experience, knowledge and skill are valuable in assisting a candidate when they are using a self-assessment checklist or when they are preparing for an assessment.

Minimising the cost of assessment in the workplace

Assessors should, where possible, find ways to minimise the cost and inconvenience caused by assessment activities. For example:

- check candidate's readiness for assessment before proceeding
- use performance of actual work activities as sources of evidence
- arrange for demonstrations of competence in the most appropriate place
- make the assessment-only as precise and/or complex as necessary at the candidate's level of qualification and occupational area
- separate evidence gathering from judgement, and assign evidence gathering to less expensive personnel (including candidates themselves)
- design assessment events so that the candidate can have prior knowledge of the requirements and can be actively involved in evidence gathering
- use holistic assessment scenarios which build on secondary evidence such as a record book, trainer's report or workplace report
- limit the number of times a single competency or similar competencies are assessed
- monitor progress as part of normal responsibilities, rather than relying on assessment events
- provide self appraisal tools for candidates
- assess more than one competency at a time.

Assessors' checklist

In **planning** the assessment have you:

- confirmed the candidate is ready for assessment
- determined the critical aspects of evidence to be provided
- explained and confirmed the context and time of the assessment with the candidate
- checked that the assessment environment is safe and accessible
- arranged any resources required for the assessment
- informed all relevant people of the assessment plans
- arranged to gather the necessary range of evidence.

In **conducting** the assessment have you:

- adequately briefed the candidate
- made sure you have gathered sufficient evidence
- made sure assessment was fair and objective
- provided clear and constructive feedback to the candidate during the assessment
- sought more evidence if you are unsure or gained guidance from another assessor
- made an assessment decision in accordance with the requirements for the unit of competency.

In **finalising** the assessment have you:

- informed the candidate of the assessment decision and discussed it with them
- provided clear and constructive feedback
- provided the candidate with guidance on further goals or training opportunities
- advised the candidate of reassessment opportunities and/or the appeals mechanism if necessary
- recorded the assessment results in accordance with industry and Registered Training Organisation requirements
- maintained the confidentiality of the assessment outcomes
- reviewed the assessment process
- reported on the conduct of the assessment with any suggestions for improvement.

SECTION 3

The Australian Qualifications Framework for the Drilling Industry

Background

Prior to 1998, the Drilling Industry in Australia has not had a qualification structure which awarded formal qualifications as part of a career progression structure. There was no structure with wide and formal recognition by other industries.

The Drilling Industry is made up of eight sectors:

Environmental drilling

Foundation/Construction drilling

Geotechnical drilling

Mineral Exploration drilling

Oil, gas and geothermal drilling, onshore and offshore

Seismic drilling

Waterwell drilling

Blast Hole drilling (linked to the Extractive Industries)

Each of these sectors carries out drilling, and so shares some common elements, but each has its own specific demands.

Licensing requirements vary between State and Territories however the waterwell sector has formal and mandatory licensing requirements for specific types of work. Licences may be required for shotfirers.

Accordingly, the Drilling Industry has decided on a flexible qualifications framework which will allow people to gain qualifications, specific to a sector, recognised by each sector and by the related industries with which drilling works.

Because of the cross-sectoral nature of the Drilling Industry, sectors also link to other industries. It is the intention of the Drilling Industry to package qualifications in such a way that cross-credentialing will be possible, in particular with the Extractives Industries Sector of the Mining Industry, and the Building and Construction Industry.

The industry was not without training requirements or available qualifications. At-the-job training has always been the means of learning drilling skills in all sectors, and this will continue to be an accepted and valued means of training and career progression in the industry. Since 1982 the industry certificate, the DICAT Certificate, has been recognised throughout the non-oil/gas sectors as a valuable and appropriate qualification for drillers. The oil and gas sectors require a number of mandatory courses such as Well Control for employment in the sector. In 1994 the first AQF2 traineeship was developed and run in Western Australia, and it has since been introduced in other states.

There was not however a formal career path of qualifications available. There was no formal means to recognise the skills and knowledge which people had gained through experience. Career progression relied solely on experience and training gained on the job. This was not always transferable from sector to sector or from company to company. Importantly, it was not always recognised by the companies to which drilling companies contract.

Accordingly, the Drilling Industry took the strategic decision to develop the option of a formal career path based on formally gained qualifications in combination with at-site training and experience. This career path will allow the recognition of skills and knowledge gained through work. It will have recognition by all other industries within the Australian working nation.

Competency standards

The Qualifications Framework for the Drilling Industry is based on the National Competency Standards for the Drilling Industry. It should be noted that due to the isolated and mobile nature of companies working in the Drilling Industry, the Standards have in all cases been developed using (where possible) Plain English principles. The Standards are intended to need as little “interpretation” as possible by training professionals, and to be as accessible as possible to drilling personnel whose key business is not training but drilling.

The following sets of Standards are current for the industry:

- National Drilling Industry Competency Standards for Mineral Exploration, Waterwell, Environmental, Geotechnical, Seismic, Foundation/Construction Drilling, and incorporating Drill & Blast Operations (AQF 1 – 6) December 1997. These Standards are a revision of those endorsed July 1994.
- National Competency Standards for Oil and Gas Drilling, Onshore AQF 1- 3 (March 1997).
- National Competency Standards for Oil and Gas Drilling, Offshore AQF 1 – 3 (March 1997).
- National Competency Standards for Oil and Gas Drilling, Onshore and Offshore AQF 4 –5 (2001).

The competency standards at AQF 6 are common to all sectors.

These Standards complement one another and are included in this Training Package.

The following tables outline the Units of Competency in the Drilling Industry Competency Standards and their alignment to AQF.

Customisation

Many drilling operations have specific competency requirements because of their particular circumstances of operation, location or specific function. Table 1. provides guidelines for the use of competency standards and how they may be customised to meet local requirements. Units of Competency may be built on but the performance specified in a Unit of Competency cannot be diminished or lessened.

Table 1. Guidelines to support the use of Australian National Drilling Industry competency standards

Using the Standards	Suggestions	Precautions
Using outcomes from the Drilling Industry competency standards.	Retain, and if appropriate, extend or build on the competency outcomes.	Don't diminish or lessen the level of performance specified in the competency standards.
Adding Units of Competency	Additional Units of Competency may be developed to meet the specific needs of the enterprise or site	The qualification must reflect the Units of Competency specified by the industry.
Customising Drilling Industry competency standards.	The Units of Competency may be customised to meet the needs of the enterprise or site providing the competency outcomes are retained.	Don't diminish or lessen the level of performance specified in the competency standards.
Using workplace assessment processes.	Ensure assessors meet the industry criteria for assessors ensure the integrity of the processes to achieve validity, reliability, fairness and flexibility.	Don't devalue the quality of the assessment outcomes by using inadequate processes and procedures.
Selecting individual Units of Competency.	<p>This is acceptable and the successful competency outcomes of the assessment will enable the participant to be granted a Statement of Attainment.</p> <p>The AQF qualification is issued on completion of the endorsed package of Units of Competency.</p>	<p>Specific requirements exist for individuals who are seeking a qualification to meet the requirements of a Statutory Licence to practice as a Shotfirer.</p> <p>Individuals or enterprises should check the relevant Act and legislative requirements in their State/Territory when selecting Units of Competency for a qualification.</p>

Competency packaging and qualifications

In each qualification there is a minimum of specified and essential Core Units, and a number of additional Sector specific Units. These may be optional.

Core and sector-specific units: Australian National Drilling Industry units of competency and AQF levels

In the **Non-hydrocarbon sectors**, Sector specific Units are available. Some units are optional. The Core and Sector-specific and optional Units are detailed below.

Table 2. Australian Drilling Industry Competency Standards: Non Hydrocarbon Sectors Core, Sector Specific and optional Standards

KEY: C = Core S = Sector specific O = Optional

	Units of Competency	Qualifications				
		II	III	IV	Dip	Ad Dip
DRTNH01A	Apply OHS to work environment	C				
DRTNH02A	Living away & interpersonal skills	C				
DRTNH03A	Mobilise equipment and materials	C				
DRTNH04A	Set up/pack up drill site	C				
DRTNH05A	Support drilling process	C				
DRTNH06A*	Undertake samples collection and recording	S				
DRTNH07A	Conduct drilling operations		C			
DRTNH08A	Manage on-site operations		C			
DRTNH09A*	Select, test and condition drilling fluids		S			
DRTNH10A*	Construct monitoring bores		S			
DRTNH11A*	Construct production bores		S			
DRTNH12A	Carry out operational maintenance		C			
DRTNH13A*	Conduct downhole tests		S			
DRTNH14A	Carry out on the job training and assessing		C			
DRTNH15A	Manage non routine, complex technical situations			C		
DRTNH16A	Maintain team/crew operations				C	
DRTNH17A	Manage equipment maintenance				C	
DRTNH18A	Manage financial resources				C	
DRTNH19A	Plan drilling				C	
DRTNH20A	Manage business operations					C
DRTNH21A	Manage human resources					C
DRTNH22A	Manage client services					C
DRTNH23A	Manage non-routine, complex situations					C
DRTOG52A	Implement and maintain statutory / legal compliance system					C
DRTOG53A	Implement and maintain OHS&E site risk management processes					C
DRTOG54A	Manage multiple drilling operations					O
*	These competencies are specific to a sector or sectors					

A Statement of Attainment may be offered under AQF II (Utility worker). Certificate II is issued on completion of Units up to and including Unit DRT06A.

An optional unit is one which may be required by some companies under their working circumstances, but is not mandatory to gain a qualification at the level. For example, an Operations Manager may manage only one rig, especially if he is an owner-manager. In a large company, an Operations Manager may be responsible for the management of multiple rigs carrying out multiple operations. The Unit DRTOG54A, Manage multiple drilling operations, is therefore optional, to allow people in either circumstance to be eligible for the award of Advanced Diploma.

In the **Oil and Gas Drilling Sector** at this stage all Units up to and including AQF 3 are core units in each sector. At AQF 4 and 5 there are both common units, and sector-specific core units. At AQF 6, there is one optional unit.

Table 3. Australian Drilling Industry Competency Standards: Oil and Gas Drilling Sectors Onshore - Core, Sector Specific and optional Standards

KEY: C = Core

S = Sector specific

O = Optional

	Units of Competency	Qualifications				
		II	III	IV	Dip	Ad Dip
	Leasehand					
DRTOGON01A	Assist with health and safety of the working environment	S				
DRTOGON02A	Assist with the control of emergencies and critical situations	S				
DRTOGON03A	Assist in maintaining rig safety and emergency procedures	S				
DRTOGON04A	Assist in establishing and maintaining effective working relationships	S				
DRTOGON05A	Carry out equipment and basic rig maintenance	S				
DRTOGON06A	Carry out rig lease operations	S				
DRTOGON07A	Move loads	S				
	Floorman					
DRTOGON08A	Contribute to the health and safety of the working environment	S				
DRTOGON09A	Contribute to the control of emergencies and critical situations	S				
DRTOGON10A	Establish and maintain effective working relationships	S				
DRTOGON11A	Prepare and operate drilling fluid systems	S				
DRTOGON12A	Perform drill floor operations	S				
	Derrickman					
DRTOGON13A	Apply occupational health and safety in the workplace		S			
DRTOGON14A	Control emergencies and critical situations		S			
DRTOGON15A	Manage subordinates and equipment		S			
DRTOGON16A	Create, maintain and enhance productive working relationships		S			
DRTOGON17A	Prepare and operate drilling fluid systems		S			
DRTOGON18A	Maintain services and operations to meet quality standards		S			
DRTOGON19A	Operate and maintain ancillary equipment		S			
DRTOGON20A	Conduct and maintain derrick operations		S			
DRTOGON21A	Trip casing		S			
DRTOGON22A	Trip pipe		S			
DRTOGON23A	Operate mud pumps		S			
DRTOGON24A	Operate mud systems		S			

Continuation of Table 3: Oil and Gas Drilling Sectors Onshore

	Units of Competency	Qualifications				
		II	III	IV	Dip	Ad Dip
	Driller / Assistant Driller					
DRTNH15A	Manage a range of non routine, complex technical			C		
DRTNH25A	Maintain standard procedures and safe working practices			S		
DRTNH26A	Rig up			C		
DRTOG28A	Conduct drilling operations			C		
DRTOG29A	Perform drilling calculations and reporting			C		
DRTOG30A	Carry out well control and blowout prevention			C		
DRTOG31A	Shut down rig			C		
DRTOG32A	Participate in nipping-up and pressure test			C		
DRTOG33A	Maintain drilling rig communications systems			C		
DRTOG34A	Manage equipment maintenance			C		
DRTOG35A	Maintain man management systems			C		
DRTOG36A	Co-ordinate air drilling operations			C		
DRTOG37A	Participate in, lead and facilitate work teams			C		
BSZ401A	Plan assessment			C		
BSZ402A	Conduct assessment			C		
BSZ403A	Review assessment			C		
	Rig Manager					
DRTOG38A	Manage rig operations				S	
DRTOG39A	Plan and evaluate rig operations				C	
DRTOG41A	Manage drilling operations				S	
DRTOG42A	Manage drilling induction and orientation				C	
DRTOG43A	Organise rig move and camp move				S	
DRTOG44A	Manage and monitor rig-up and rig-up spud operations				S	
DRT OG45 A	Manage well completion and abandonment				S	
	Field Superintendent					
DRTNH20A	Manage business operations					C
DRTNH21A	Manage human resources					C
DRTNH22A	Manage client services					C
DRTNH23A	Manage non-routine, complex situations					C
DRTOG52A	Implement and maintain statutory / legal compliance system					C
DRTOG53A	Implement and maintain OHS&E site risk management processes					C
DRTOG54A	Manage multiple drilling operations					O

A Statement of Attainment may be issued at completion of the Core Competencies for Leasehand. Certificate II is issued on completion of Units up to and including Unit DRTOGON12A.

An optional unit is one which may be required by some companies under their working circumstances, but is not mandatory to gain a qualification at the level. For example, an Operations Manager may manage only one rig, especially if he is an owner-manager. In a large company, an Operations Manager may be responsible for the management of multiple rigs carrying out multiple operations. The Unit DRTOG54A, Manage multiple drilling operations, is therefore optional, to allow people in either circumstance to be eligible for the award of Advanced Diploma.

Table 4. Australian Drilling Industry Competency Standards: Oil and Gas Drilling Sectors Offshore - Core, Sector Specific and optional Standards

KEY: C = Core

S = Sector specific

O = Optional

	Units of Competency	Qualifications				
		II	III	IV	Dip	Ad Dip
	Roustabout					
DRTOGOF01A	Assist with health and safety of the working environment	S				
DRTOGOF02A	Assist in maintaining rig safety and emergency procedures	S				
DRTOGOF03A	Assist in establishing and maintaining effective working relationships	S				
DRTOGOF04A	Maintain equipment and hull	S				
DRTOGOF05A	Carry out deck operations	S				
DRTOGOF06A	Handle and store cargo	S				
DRTOGOF07A	Assist in the transfer of passengers and freight during helicopter operations	S				
	Floorman					
DRTOGOF08A	Contribute to health and safety of the working environment	S				
DRTOGOF09A	Contribute to the control of emergencies and critical situations	S				
DRTOGOF10A	Establish and maintain effective working relationships	S				
DRTOGOF11A	Prepare and operate drilling fluid systems	S				
DRTOGOF12A	Perform drill floor operations	S				
	Derrickman					
DRTOGOF13A	Apply occupational health and safety in the workplace		S			
DRTOGOF14A	Control emergencies and critical situations		S			
DRTOGOF15A	Create, maintain and enhance productive working relationships		S			
DRTOGOF16A	Operate and maintain derrick		S			
DRTOGOF17A	Operate ancillary equipment		S			
DRTOGOF18A	Run casing		S			
DRTOGOF19A	Trip tubular		S			
DRTOGOF20A	Monitor, operate and maintain mud pits and equipment		S			
DRTOGOF21A	Operate drilling fluids and mud pits		S			

	Units of Competency	Qualifications				
	Driller / Assistant Driller					
DRTNH15A	Manage a range of non routine, complex technical			C		
DRTOG25A	Maintain standard procedures and safe working practices			C		
DRTOG26A	Rig up			C		
DRTOG27A	Conduct pre-spud operations			C		
DRTOG28A	Conduct drilling operations			C		
DRTOG29A	Perform drilling calculations and reporting			C		
DRTOG30A	Carry out well control and blowout prevention			C		
DRTOG32A	Participate in nipling-up and pressure test			C		
DRTOG33A	Maintain drilling rig communications systems			C		
DRTOG34A	Manage equipment maintenance			C		
DRTOG35A	Maintain man management systems			C		
DRTOG37A	Participate in, lead and facilitate work teams			C		
BSZ401A	Plan assessment			C		
BSZ402A	Conduct assessment			C		
BSZ403A	Review assessment			C		
	Tourpusher/Toolpusher					
DRTOG39A	Plan and evaluate rig operations				C	
DRTOG40A	Oversee drilling operations				S	
DRTOG42A	Manage drilling induction and orientation				C	
	Offshore Installation Manager					
DRTNH20A	Manage business operations					C
DRTNH21A	Manage human resources					C
DRTNH22A	Manage client services					C
DRTNH23A	Manage non-routine, complex situations					C
DRTOG52A	Implement and maintain statutory / legal compliance system					C
DRTOG53A	Implement and maintain OHS&E site risk management processes					C
DRTOG54A	Manage multiple drilling operations					O

A Statement of Attainment may be issued at completion of the Core Competencies for Roustabout. Certificate II is issued on completion of Units up to and including Unit DRTOGOF12A.

An optional unit is one which may be required by some companies under their working circumstances, but is not mandatory to gain a qualification at the level. For example, an Operations Manager may manage only one rig, especially if he is an owner-manager. In a large company, an Operations Manager may be responsible for the management of multiple rigs carrying out multiple operations. The Unit DRTOG54A, Manage multiple drilling operations, is therefore optional, to allow people in either circumstance to be eligible for the award of Advanced Diploma.

Qualification Titles

Qualification titles follow the guidelines laid out in *Guidelines for Training Package Developers* ANTA June 1997, the AQF Handbook ANTA, and the NTIS Guidelines December 1997.

The following are the titles of the qualifications under the Training Package:

Certificate II in Drilling.

Certificate III in Drilling.

Certificate IV in Drilling.

Diploma of Drilling.

Advanced Diploma of Drilling Management.

Certificates II, III and IV may be sector-specific – for example, Certificate II in Drilling (Waterwell); Certificate in Drilling (Oil and Gas, Onshore); Certificate III in Drilling (Mineral Exploration); Certificate IV in Drilling (Environmental).

Each qualification has been allocated a code.

Table 5 shows the qualifications which can be awarded under the Drilling Industry Training Package:

Table 5. Qualifications Available Under the Drilling Industry Training Package.

Qualification	Sectors	Qualification Code	Notes	Vocational Outcome
Certificate II in Drilling				
	Environmental	DRT20198		Driller's Assistant
	Foundation / Construction	DRT20298		Driller's Assistant
	Geotechnical	DRT20398		Driller's Assistant
	Mineral Exploration	DRT20498		Driller's Assistant
	Oil and Gas, Offshore	DRT20598		Floorman. Statement of Attainment available for Roustabout.
	Oil and Gas, Onshore	DRT20698		Floorman. Statement of Attainment available for Leasehand.
	Seismic	DRT20798		Driller's Assistant
	Waterwell	DRT20898		Driller's Assistant
	Blast hole	DRT20998		Driller's Assistant
Certificate III in Drilling				
	Environmental	DRT30198	Includes Certificate II	Driller
	Foundation /Construction	DRT30298	Includes Certificate II	Driller
	Geotechnical	DRT30398	Includes Certificate II Waterwell Driller's Licence may be required to practice	Driller
	Mineral Exploration	DRT30498	Includes Certificate II	Driller
	Oil and Gas, Offshore	DRT30598	Includes Certificate II Well Control Certificate and HUET Ticket are required to practice	Derrickman
	Oil and Gas, Onshore	DRT30698	Includes Certificate II Well Control Certificate is required to practice	Derrickman
	Seismic	DRT30798	Includes Certificate II	Driller
	Waterwell	DRT30898	Includes Certificate II Waterwell Driller's Licence Class 1, 2 or 3 is required to practice	Driller
	Blast Hole	DRT30998	Includes Certificate II Shotfirer's Licence may be required to practice	
Certificate IV in Drilling				
	Environmental	DRT40198	Includes Certificate II & III	Senior Driller
	Foundation Construction	DRT40298	Includes Certificate II & III	Senior Driller
	Geotechnical	DRT40398	Includes Certificate II & III Waterwell Driller's Licence may be required to practice	Senior Driller

Qualification	Sectors	Qualification Code	Notes	Vocational Outcome
	Mineral Exploration	DRT40498	Includes Certificate II & III	Senior Driller
	Oil and Gas, Offshore	DRT40598	Includes Certificate II & III Well Control Certificate and HUET Ticket are required to practice	Assistant Driller Driller
	Oil and Gas, Onshore	DRT40698	Includes Certificate II & III Well Control Certificate is required to practice	Assistant Driller Driller
	Seismic	DRT40798	Includes Certificate II & III	Senior Driller
	Waterwell	DRT40898	Includes Certificate II & III Waterwell Driller's Licence Class 1, 2 or 3 is required to practise	Senior Driller
	Blast Hole	DRT40998	Includes Certificate II & III Shotfirer's Licence may be required to practise	
Diploma of Drilling		DRT50198	Includes Certificate II, III & IV	Drill Supervisor (NH) Rig Manager, Toolpusher, Tourpusher (O/G)
Advanced Diploma of Drilling Management		DRT60198	Includes Certificate II, III, IV & Diploma	Operations Mgr (NH) Field Superintendent, Offshore Installation Manager (O/G)

Qualifications and Licences in the Drilling Industry

In some sectors of drilling, there are licences associated with work. At this time, drillers may work without a qualification, but not without a licence. At present, the licensing structures and authorities are independent of the Qualifications Framework, although discussions have commenced in some sectors.

Licences are a legal or statutory requirement – for example, a Waterwell Drillers' Licence Class 1, 2 or 3 is awarded by states' Drillers' Licensing Boards, under a National Drillers' Licensing Board. The primary focus of licensing for Waterwell drillers is the protection of the nation's water resources.

Licences related to the Drilling Industry are not competency based at this time. The award of a qualification, and/or holding the competencies for a qualification or a statement of attainment do not bestow a licence to practice.

Licences related to particular sectors of Drilling

For people seeking a qualification to work in most sectors of the Drilling Industry, it will be a practical requirement to hold a Heavy Vehicle Driver's Licence.

For people seeking a qualification to practice in the Waterwell Sector at or above AQF III, it will be a statutory requirement to hold a current Waterwell Driller's Licence of a Class appropriate to job requirements. People or companies seeking these qualifications should check with legislative requirements in their State/Territory.

For people seeking a qualification to practice in the Oil and Gas drilling sector at or above AQF III, it will be a practical requirement to hold a current Well Control Certificate, as a result of the Submerged Lands Act. All offshore personnel must hold a current HUET sea survival ticket. People or companies seeking these qualifications should check with the International Association of Drilling Contractors – Australian Chapter to determine current requirements.

For people seeking a qualification to practice as a Shotfirer at AQF III in the Blast Hole Sector, specific criteria exist to meet the statutory requirements of a Statutory Licence as a Shotfirer. People or companies seeking these qualifications should check with legislative requirements in their State/Territory when selecting competencies from the Extractive Industries Competency Standards.

Other legislative requirements may exist in other non-hydrocarbon sectors in certain circumstances, e.g. Geotechnical Drillers at AQF 3 or above are required to be licensed in some states, and Mineral Exploration drillers working in the Great Artesian Basin may require a Class 3 Waterwell Licence. People or companies seeking these qualifications should check with the legislative requirements in their State or Territory.

Customisation of qualifications

To take account of sector and individual needs, the Framework allows flexibility in the choice of sector-specific units. There is a minimum of specified and essential Core Units.

Table 2 shows the core and sector specific standards required for the Non-Hydrocarbons sectors of the Drilling Industry. Table 6 shows standards imported from other packages which form part of the qualification for the Foundation/Construction drilling and Blast Hole sectors, within the Non-Hydrocarbons sectors.

Tables 7 and 8 show the Core and Sector specific standards required for the Oil and Gas Drilling sectors of the Drilling Industry.

Table 9 shows the career paths available in all sectors of the Drilling Industry, by indicating the core and sector specific standards required for each, and the optional units where they exist.

It should be noted that competencies required for a qualification may be:

- **Core** which is mandatory for the award of the qualification in the sector or
- **Sector specific** which are mandatory for the award of the qualification in the sector
- **Optional** which may be required by site conditions or company requirements.

For example, DRTNH14A, *Construct Monitoring bores*, is a core competency for the Geotechnical, Environmental and Waterwell sectors, but is not required for any other sector. DRTOG54A, *Manage multiple drilling operations*, is only required where that must be done by the person as a fundamental part of the job, for example an operations manager in a large company. An owner-manager of a single rig is still able to gain an Advanced Diploma without requiring DRTOG54A if he fulfils all the other unit requirements.

If Drilling Industry Competency Standards are to be contextualised for a particular company or rig site, care must be taken to retain the level of performance specified in the Standards – that is, you may add, but you may not take away.

It should also be noted that the Drilling Industry intends to seek recognition of training from the Tertiary education sector for articulation to an appropriate degree/appropriate degree qualifications in Science such as Geology, Engineering, Earth Sciences, Mining Engineering, Geological Engineering and Petroleum Engineering. The Drilling Industry further wishes to encourage undergraduates and graduates in such related disciplines to undertake relevant Drilling Industry qualifications.

In the **Non-hydrocarbon sectors**, Sector specific Units may be optional depending on the circumstances of work.

For example, *DRTNH06A: Undertake Samples collection and recording* will be required by all personnel working in the Mineral Exploration, Environmental, Geotechnical and Waterwell sectors, because in these sectors the reason for drilling the hole is generally to know what is down it. Other sectors such as Blast Hole Drilling may rarely need this competency, because the primary aim is to prepare a place for explosive, but for some jobs blast hole drillers may need to take and record samples. Thus there are both optional and required sector specific competencies. These are detailed above in Table 2, and below in Table 9.

In the **Oil and Gas Drilling Sectors**, units may be core or sector specific. All Units up to and including AQF 3 are core units in each sector. At AQF 4 and 5 there are both common core units, and sector-specific core units. At AQF 6, there is one optional unit.

It is the industry sectors' view that while many competencies are common, some sector specific knowledge is required. Common core standards within the qualifications, however, facilitate movement of personnel between onshore and offshore sectors dependent on industry demand, and assist in offering flexibility in career path to people working in the industry. These are detailed below in Tables 7 and 8, and in Table 9.

Extensive consideration has been given to facilitating movement **across sectors** in the Drilling Industry. Several means have been used to achieve this:

- The Non-Hydrocarbons Competency Standards apply to six sectors of the industry, ensuring recognition and commonality across those sectors.
- *DRTNH15A: Manage non-routine, complex technical situations*, is common across all sectors, both oil and gas and non-hydrocarbons sectors.
- At AQF 6 the majority of standards are common to all sectors, as core and optional standards. Four standards are drawn from non-hydrocarbons sectors, and three from the oil and gas sectors. Standards hold NTIS numbers which indicate their origins.
- Standards for Oil and Gas Drilling AQF 4 – 5, finalised in October 2000, comprise core standards for both onshore and offshore, and standards which are specific to the onshore or the offshore sectors. As noted, oil and gas drilling standards at AQF 6 are common for all sectors.

Consideration has also been given to facilitating **cross-industry recognition** between Drilling and other industries with which drillers work. For example, to hold a qualification in Drilling in the Blast Hole sector at AQF 2, 3, 4 and Diploma, personnel will hold core Drilling competencies, and the appropriate competencies drawn directly from the Extractives Industries Competency Standards. Similar negotiations will be commenced for the Foundation / Construction Drilling sector, once the Building and Construction Competency Standards are endorsed.

Entry requirements for qualifications

It is industry practice that competency is attained at lower levels for progression through the qualifications framework. For example, the entry requirement for people entering AQF 4 is to have achieved core and sector-relevant competencies at AQF 2 and 3.

Table 6. Non-Hydrocarbons Sectors: Sector units imported directly from other Training Packages

Imported from...; Unit Code		Certificate II	Certificate III	Certificate IV	Diploma	Advanced Diploma
From Extractive Industries Standards, for the Drill and Blast Drilling sector						
MNQOP30A	Carry out blast surveys	Blast hole Sector				
MNQOP31A	Conduct drilling operations		Blast hole Sector			
MNQOP32A	Carry out shot firing			Blast hole Sector		
MNQQM12A	Plan, conduct and oversee drilling operations				Blast Hole Sector	
MNQQM13A	Manage blasting operations				Blast Hole Sector	
From Building and Construction, Civil, for the Foundation /Construction Drilling sector						
BCC2003A	Assist with excavation and support installation	Foundation/ Construction Sector				
BCC2000A	Read and interpret plans		Foundation/ Construction Sector			
	These competencies are specific to a sector or sectors					

Please note that where these Industry Competency Standards are amended or reviewed by their respective bodies, those amendments will apply to the Drilling Industry sector. Standards in Extractives Industries and in Building and Construction, Civil are expected to be reviewed in 2002.

Table 7. Australian Drilling Industry Competency Standards: Oil and Gas Drilling Sectors Onshore - Core, Sector Specific Units and optional Units

KEY: C = Core * = Sector specific unit It is industry practice that competency is attained at lower levels for qualification to be awarded.

Units of Competency - ONSHORE	AQF Alignment					
	II	III	IV	Diploma	Advanced Diploma	Unit Code
Leasehand						
Assist with health and safety of the working environment	C					DRTOGON01A
Assist with the control of emergencies and critical situations	C					DRTOGON02A
Assist in maintaining rig safety and emergency procedures	C					DRTOGON03A
Assist in establishing and maintaining effective working relationships	C					DRTOGON04A
Carry out equipment and basic rig maintenance	C					DRTOGON05A
Carry out rig lease operations	C					DRTOGON06A
Move loads	C					DRTOGON07A
Floorman						
Contribute to the health and safety of the working environment		C				DRTOGON08A
Contribute to the control of emergencies and critical situations		C				DRTOGON09A
Establish and maintain effective working relationships		C				DRTOGON10A
Prepare and operate drilling fluid systems		C				DRTOGON11A
Perform drill floor operations		C				DRTOGON12A

Continuation of Table 7. Australian Drilling Industry Competency Standards: Oil and Gas Drilling Sectors ONSHORE: Core, Sector Specific Units and optional Units

Units of Competency - ONSHORE	AQF Alignment					
	II	III	IV	Diploma	Advanced Diploma	Unit Code
Derrickman						
Apply occupational health and safety in the workplace		C				DRTOGON13A
Control emergencies and critical situations		C				DRTOGON14A
Manage subordinates and equipment		C				DRTOGON15A
Create, maintain and enhance productive working relationships		C				DRTOGON16A
Prepare and operate drilling fluid systems		C				DRTOGON17A
Maintain services and operations to meet quality standards		C				DRTOGON18A
Operate and maintain ancillary equipment		C				DRTOGON19A
Conduct and maintain derrick operations		C				DRTOGON20A
Trip casing		C				DRTOGON21A
Trip pipe		C				DRTOGON22A
Operate mud pumps		C				DRTOGON23A
Operate mud systems		C				DRTOGON24A
Driller / Assistant Driller						
Manage a range of non routine, complex technical		C				DRTNH15A
Maintain standard procedures and safe working practices		C				DRTOG25A
Rig up		C				DRTOG26A
Conduct drilling operations		C				DRTOG28A

Continuation of Table 7: Oil and Gas Drilling Sectors ONSHORE: Core, Sector Specific Units and optional Units

Units of Competency - ONSHORE	AQF Alignment					
	II	III	IV	Diploma	Advanced Diploma	Unit Code
Perform drilling calculations and reporting			C			DRTOG29A
Carry out well control and blowout prevention			C			DRTOG30A
Shut down rig			C			DRTOG31A
Participate in nipping-up and pressure test			C			DRTOG32A
maintain drilling rig communications systems			C			DRTOG33A
Manage equipment maintenance			C			DRTOG34A
Maintain man management systems			C			DRTOG35A
Co-ordinate air drilling operations			C			DRTOG36A
Participate in, lead and facilitate work teams			C			DRTOG37A
Plan assessment			C			BSZ401A
Conduct assessment			C			BSZ402A
Review assessment			C			BSZ403A
Rig Manager						
Manage rig operations				C		DRTOG38A
Plan and evaluate rig operations				C		DRTOG39A
Manage drilling operations				C		DRTOG41A
Manage drilling induction and orientation				C		DRTOG42A
Organise rig move and camp move				C		DRTOG43A
Manage and monitor rig-up and rig-up spud operations				C		DRTOG44A
Manage well completion and abandonment				C		DRTOG45A

Continuation of Table 7: Oil and Gas Drilling Sectors ONSHORE: Core, Sector Specific Units and optional Units

	AQF Alignment					
	II	III	IV	Diploma	Advanced Diploma	Unit Code
Field Superintendent						
Manage business operations					C	DRTNH20A
Manage human resources					C	DRTNH21A
Manage client services					C	DRTNH22A
Manage non-routine, complex situations					C	DRTNH23A
Implement and maintain statutory / legal compliance system					C	DRTOG52A
Implement and maintain OHS&E site risk management processes					C	DRTOG53A
Manage multiple drilling operations					O	DRTOG54A

Table 8. Australian Drilling Industry Competency Standards: Oil and Gas Drilling Sectors Offshore - Core, Sector Specific Units and optional Units

KEY: C = Core * = Sector specific unit It is industry practice that competency is attained at lower levels for qualification to be awarded.

Units of Competency - OFFSHORE	AQF Alignment					
	II	III	IV	Diploma	Advanced Diploma	Unit Code
Roustabout						
Assist with health and safety of the working environment	C					DRTOGOF01A
Assist in maintaining rig safety and emergency procedures	C					DRTOGOF02A
Assist in establishing and maintaining effective working relationships	C					DRTOGOF03A
Maintain equipment and hull	C					DRTOGOF04A
Carry out deck operations	C					DRTOGOF05A
Handle and store cargo	C					DRTOGOF06A
Assist in the transfer of passengers and freight during helicopter operations	C					DRTOGOF07A
Floorman						
Contribute to health and safety of the working environment	C					DRTOGOF08A
Contribute to the control of emergencies and critical situations	C					DRTOGOF09A
Establish and maintain effective working relationships	C					DRTOGOF10A
Prepare and operate drilling fluid systems	C					DRTOGOF11A
Perform drill floor operations	C					DRTOGOF12A

Continuation of Table 8: Oil and Gas Drilling Sectors OFFSHORE: Sector Specific Units and optional Units

	AQF Aligment					Unit Code
	II	III	IV	Diploma	Advanced Diploma	
Derrickman						
Apply occupational health and safety in the workplace		C				DRTOGOF13A
Control emergencies and critical situations		C				DRTOGOF14A
Create, maintain and enhance productive working relationships		C				DRTOGOF15A
Operate and maintain derrick		C				DRTOGOF16A
Operate ancillary equipment		C				DRTOGOF17A
Run casing		C				DRTOGOF18A
Trip tubular		C				DRTOGOF19A
Monitor, operate and maintain mud pits and equipment		C				DRTGOF20A
Operate drilling fluids and mud pits		C				DRTOGF21A
Driller / Assistant Driller						
Manage a range of non routine, complex technical			C			DRTNH15A
Maintain standard procedures and safe working practices			C			DRTOG25A
Rig up			C			DRTOG26A
Conduct pre-spud operations			C			DRTOG27A
Conduct drilling operations			C			DRTOG28A
Perform drilling calculations and reporting			C			DRTOG29A
Carry out well control and blowout prevention			C			DRTOG30A
Participate in nipping-up and pressure test			C			DRTOG32A
Maintain drilling rig communications systems			C			DRTOG33A

Continuation of Table 8: Oil and Gas Drilling Sectors OFFSHORE: Sector Specific Units and optional Units

	AQF Alignment					
	II	III	IV	Diploma	Advanced Diploma	Unit Code
Manage equipment maintenance			C			DRTOG34A
Maintain man management systems			C			DRTOG35A
Participate in, lead and facilitate work teams			C			DRTOG37A
Plan assessment			C			BSZ401A
Conduct assessment			C			BSZ402A
Review assessment			C			BSZ403A
Tourpusher/Toolpusher						
Plan and evaluate rig operations				C		DRTOG39A
Oversee drilling operations				C		DRTOG40A
Manage drilling induction and orientation				C		DRTOG42A
Offshore Installation Manager						
Manage business operations					C	DRTNH20A
Manage human resources					C	DRTNH21A
Manage client services					C	DRTNH22A
Manage non-routine, complex situations					C	DRTNH23A
Implement and maintain statutory / legal compliance system					C	DRTOG52A
Implement and maintain OHS&E site risk management processes					C	DRTOG53A
Manage multiple drilling operations					O	DRTOG54A

Table 9. Career pathways available under the Drilling Industry Training Package.

Qualification	Sectors	Qualific'n Code	Notes	Vocational Outcome	Required Competency Standards	
Certificate II in Drilling	(Sector name)				Core standards at Certificate II for Non Hydrocarbons Sectors: DRTNH01A DRTNH02A DRTNH03A DRTNH04A DRTNH05A	Sector Specific
	Foundation / Construction	DRT20298		Driller's Assistant	As above	BCC2003A
	Geotechnical	DRT20398		Driller's Assistant	As above	DRTNH06A
	Mineral Exploration	DRT20498		Driller's Assistant	As above	DRTNH06A
	Seismic	DRT20798		Driller's Assistant	As above	DRTNH06A
	Waterwell	DRT20898		Driller's Assistant	As above	DRTNH06A
	Blast hole	DRT20998		Driller's Assistant	As above	MNQOP30A Optional: DRTNH06A:
						Core standards at Certificate II for Oil/Gas Sectors:
	Oil and Gas, Offshore	DRT20598		Floorman. Statement of Attainment available for Roustabout.	DRTOGOF01A to DRTOGOF12A inclusive	
	Oil and Gas, Onshore	DRT20698		Floorman. Statement of Attainment available for Leasehand.	DRTOGON01A to DRTOGON12A inclusive	

Continuation of Table 9: Career pathways available

Qualification	Sectors	Qualific'n Code	Notes	Vocational Outcome	Required Competency Standards	
Certificate III in Drilling					Core standards at Certificate III for Non Hydrocarbons Sectors: DRT NH07 A DRT NH08 A DRT NH12.A DRT NH14 A	Sector Specific
	Environmental	DRT30198	Includes Certificate II	Driller	As above	DRTNH09A DRTNH10A Optional : DRTNH13A
	Foundation /Construction	DRT30298	Includes Certificate II	Driller	As above	BCC2000A
	Geotechnical	DRT30398	Includes Certificate II. Waterwell Driller's Licence may be required to practice	Driller	As above	DRTNH09A DRTNH10A Optional: DRTNH13A
	Mineral Exploration	DRT30498	Includes Certificate II	Driller	As above	Optional: DRTNH09A Optional: DRTNH13A
	Seismic	DRT30798	Includes Certificate II	Driller	As above	Optional: DRTNH09A Optional: DRTNH13A
	Waterwell	DRT30898	Includes Certificate II Waterwell Driller's Licence Class 1, 2 or 3 is required to practice	Driller	As above	DRTNH09A DRTNH10A DRTNH11A Optional: DRTNH13A

Continuation of Table 9: Career pathways available

Qualification	Sectors	Qualific'n Code	Notes	Vocational Outcome	Required Competency Standards	
Certificate III in Drilling (Cont'd)	Waterwell	DRT30898	Includes Certificate II Waterwell Driller's Licence Class 1, 2 or 3 is required to practice	Driller	As above	DRTNH09A DRTNH10A DRTNH11A Optional: DRTNH13A
	Blast Hole	DRT30998	Includes Certificate II Shotfirer's Licence may be required to practice	Driller (Shotfirer)	As above	A DRTNH10A MNQOP31A Optional: DRTNH09A
					Core standards at Certificate III for Oil/Gas Sectors:	Sector Specific
	Oil and Gas, Offshore	DRT30598	Includes Certificate II Well Control Certificate and HUET Ticket are required to practice	Derrickman	DRTOGOF13A to DRTOGOF21A inclusive	
	Oil and Gas, Onshore	DRT30698	Includes Certificate II Well Control Certificate is required to practice	Derrickman	DRTOGON13A to DRTOGON24A inclusive	

Continuation of Table 9: Career pathways available

Qualification	Sectors	Qualific'n Code	Notes	Vocational Outcome	Required Competency Standards	
Certificate IV in Drilling					Core standards at Certificate IV for all sectors DRTNH15A	
					Core standards at Certificate IV for Non-Hydrocarbon sectors DRTNH15A	Sector Specific
	Environmental	DRT40198	Includes Certificate II & III	Senior Driller	As above	
	Foundation Construction	DRT40298	Includes Certificate II & III	Senior Driller	As above	
	Geotechnical	DRT40398	Includes Certificate II & III Waterwell Driller's Licence may be required to practice	Senior Driller	As above	
	Mineral Exploration	DRT40498	Includes Certificate II & III	Senior Driller	As above	
	Seismic	DRT40798	Includes Certificate II & III	Senior Driller	As above	
	Waterwell	DRT40898	Includes Certificate II & III Waterwell Driller's Licence Class 1, 2 or 3 is required to practise	Senior Driller	As above	

Continuation of Table 9: Career pathways available

Qualification	Sectors	Qualific'n Code	Notes	Vocational Outcome	Required Competency Standards	
Certificate IV in Drilling (continued)	Blast Hole	DRT40998	Includes Certificate II & III Shotfirer's Licence may be required to practise		As above	MNQQM32A
					Core standards at Certificate IV for Oil/Gas sectors DRTNH15A DRTOG25A DRTOG26A DRTOG28A DRTOG29A DRTOG30A DRTOG32A DRTOG33A DRTOG34A DRTOG35A DRTOG37A BSZ401A BSZ402A BSZ403A	
	Oil and Gas, Offshore	DRT40598	Includes Certificate II & III Well Control Certificate and HUET Ticket are required to practise	Assistant Driller Driller	As above	DRTOG27A

Continuation of Table 9: Career paths available

Qualification	Sectors	Qualific'n Code	Notes	Vocational Outcome	Required Competency Standards	
Certificate IV in Drilling (continued)	Oil and Gas, Onshore	DRT40698	Includes Certificate II & III Well Control Certificate is required to practise	Assistant Driller Driller	As above	DRTOG31A DRTOG36A

Continuation of Table 9: Career Paths available

Qualification	Sectors	Qualific'n Code	Notes	Vocational Outcome	Required Competency Standards	
Diploma of Drilling	Non Hydrocarbon all sectors	DRT5 01 98	Includes Certificate II, III & IV	Drill Supervisor	Core Standards at Diploma for Non-Hydrocarbon Sectors	Sector Specific
				DRTNH16A DRTNH17A DRTNH18A DRTNH19A	Blast Hole: MNQQM13A	
	Oil and Gas All sectors			Rig Manager, Toolpusher, Tourpusher	Core Standards at Diploma for Oil / Gas Drilling Sectors	Sector Specific
					DRTOG39A DRTOG42A	Offshore DRTOG40A Onshore DRTOG38A DRTOG41A DRTOG43A DRTOG44A DRTOG45A

Continuation of Table 9: Carer Paths available

Qualification	Sectors	Qualific'n Code	Notes	Vocational Outcome	Required Competency Standards	
Advanced Diploma of Drilling Management	All sectors	DRT60198	Includes Certificate II, III, IV & Diploma	Operations Manager (NH) Field Superintendent, Offshore Installation Manager (O/G)	Core Standards at Advanced Diploma DRTNH20A DRTNH21A DRTNH22A DRTNH23A DRTOG52A DRTOG53A	Sector Specific Optional for all sectors: DRTOG54A

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The Australian National Training Authority (ANTA) is the body responsible for the national Australian training agenda, and for management of resources and materials related to the Training Packages.

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Glossary of Terms

Appeal Process	An integrated process, within any assessment system, that allows a person who has been assessed to dispute an assessment result and to have an opportunity for further assessment. The Appeal Process must meet the requirements of State/Territory Recognition Authorities.
Assessment	Assessment is the process of collecting evidence and making judgements on whether competency has been achieved
Assessment Guidelines	One of the endorsed components of Training Packages which sets out industry approach to valid, reliable and fair assessment and which underpins assessment carried out by Registered Training Organisations under the Australian Recognition Framework.
Assessment Records	Assessment results can be the basis of the issuing of certificates and qualifications as well as being valuable employment records. They must be kept as a permanent reference about a person's competencies, be stored securely and be readily accessible. Record keeping systems are established as part of an assessment system by a Registered Training Organisation and must comply with ARF and State/Territory Recognition Authority requirements
Assessment Materials	An optional component of Training Packages that complement endorsed industry assessment guidelines and could take the form of assessment exemplars or specific assessment tasks and instructions.
Assessment Tools	Methodology for gathering evidence. This can include direct questioning, direct observation of performance, projects, skill tests, simulations, written tests, examination of finished products, reports from co-workers and supervisors. A variety of assessment tools should be used in the process of establishing competency.
Assessor	A person trained and recognised as being competent in terms of the Competency Standards for assessment, who carries out assessment against competency standards. An assessor will be competent in the subject area being assessed or work with a technical expert.
Australian National Training Authority (ANTA)	ANTA is responsible for developing and implementing policy, strategic direction and priorities for an effective and relevant national vocational education and training system.
Australian Qualifications Framework (AQF)	A comprehensive policy framework defining all qualifications recognised nationally in post-compulsory education and training within Australia. The AQF comprises guidelines which define each qualification together with principles and protocols covering articulation, issuance of a qualification and transition arrangements.
Australian Quality Training Framework (AQTF)	The Australian Quality Training Framework is a comprehensive approach to national recognition of vocational education and training (VET). It is based on a quality assured approach to the registration of training organisations seeking to deliver training, assess competency outcomes and issue qualifications.
Competency Standards	The specification of knowledge and skill and the application of that knowledge and skill to the standards of performance required in the workplace, expressed as a competency standard. Competency standards define the outcomes for training delivery, assessment and the issuance of qualifications and Statements of Attainment under the Australian Recognition Framework.
Customisation	Customisation is the tailoring of units of competence and associated training by Registered Training Organisations to provide a flexible response to industry and enterprise requirements. For Training Packages, customisation is the tailoring of units of competence by the inclusion, modification or substitution of competency units within their alignment with AQF qualifications.

Glossary of Terms

Evidence	Information gathered through the use of a variety of assessment tools that will provide proof from which the assessor can make judgements about competency. In most assessments, evidence is gathered from more than one source, in more than one situation and can have many forms. Direct evidence is observation of performance, indirect evidence can include evaluation of products or services, simulations, or skill tests, questioning or reports from others.
Flexible Delivery	An approach to training that enables a variety of ways in which clients can learn and demonstrate competence. Clients can choose what, where and how they learn and are provided with training that suits their individual learning needs and styles.
Industry Training Advisory Bodies (ITABs)	ITABs are national organisations comprising representation from the industry parties for the development, review and implementation of competency standards and Training Packages. Each national ITAB has a State/Territory ITAB network which determines training priorities for the industry in that State/Territory.
Learning Strategy	An optional component of a Training Package that provides information on how training programs may be organised in the workplace and training institutions. The Learning Strategy complements the endorsed components of a Training Package by providing additional support for Registered Training Organisations seeking to put together specific training programs to assist trainees attain the required competencies.
National Training Framework	The National Training Framework identifies the key components of the vocational education and training system at the national level, the relationship between those components as well as the quality assurance and recognition arrangements that enable individuals to gain national recognition.
National Training Information System (NTIS)	This is a relational database which provides up-to-date information on recognised vocational education and training, including details of endorsed Training Packages and their components (competency standards, assessment guidelines and qualifications and any non endorsed components) together with details of registered Training Organisations and their scope of registration. The Internet address for the NTIS is http://www.ntis.gov.au
Professional Development Materials	An optional component of Training Packages which provides information for trainers on the various components of training packages and how these might be used to develop training programs.
Quality Assurance	A planned evaluation to ensure that standards are being appropriately applied and meets the needs of users. Quality assurance mechanisms are an integral part of a well-designed assessment system.
Recognition of Current Competencies (RCC)	The recognition of current skills and knowledge against relevant competency standards no matter how they have been acquired ie through formal training, work experiences and life experiences.
Recognition of Prior Learning (RPL)	The recognition of current skills and knowledge against relevant competency standards no matter how they have been acquired i.e. through formal training, work experiences and life experiences.
Registered Training Organisation (RTO)	Any training organisation, registered by State/Territory Training Authorities in accordance with the Australian Recognition Framework, to provide vocational education, training and/or assessment services. RTOs include TAFE Colleges/institutes, private commercial providers, community providers, schools, higher education institutions, enterprises and firms, industry bodies and any other organisation which meets the requirements for registration.

Glossary of Terms

Training Package	Comprehensive integrated products which provide national benchmarks and resources for delivery, assessment and qualifications in vocational education and training. Training Packages comprise endorsed components of national competency standards, assessment guidelines and qualifications, combined with non-endorsed components which may include a learning strategy, assessment resources and professional development materials.
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COMPETENCY STANDARDS

DRTNH01A **Apply Occupational Health and Safety in the work environment**

This unit is relevant for employees without managerial or supervisory responsibilities and assessment needs to take place prior to, or within the first few weeks of employment. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Interpret relevant OHS policies, procedures, and programs	1.1 All relevant OHS legislation, and site/company OHS policies and agreements are identified, clarified and observed.
	1.2 Mines Regulations Act as applicable to a drilling rig on a mineral and coal exploration site is observed.
	1.3 Employer and employee responsibilities, rights and obligations are acknowledged and accepted.
	1.4 Information about identified hazards and the outcomes of risk assessment and control procedures is regularly received and discussed.
2. Adopt safe work practices	2.1 Hazards, and potential hazards in the work area are recognised and reported to the appropriate person.
	2.2 Workplace procedures for controlling risks are followed accurately.
	2.3 Tags out procedures, as specified in the relevant Mines Regulations Act, are carried out when necessary.
	2.4 Manual handling techniques when lifting or moving heavy loads conform to OHS guidelines.
3. Apply personal health and safety measures	3.1 Personal protective equipment, appropriate to the task is obtained and worn.
	3.2 Work methods that will prevent occupational injuries are applied.
	3.3 Safety risks to well being are recognised and acted upon.
4. Contribute to the management of Occupational Health and Safety on-site	4.1 Occupational health and safety issues are raised with designated personnel in accordance with workplace procedures and relevant OHS legislation.
	4.2 Contributions to and participation in incident investigation is to be conducted in accordance with the responsibilities and protection under the relevant legislation.

ELEMENT	PERFORMANCE CRITERIA
5. Handle hazardous chemicals safely	5.1 Information on chemicals is accessed from Materials Safety Data Sheets (MSDS), labels and manufacturer's specifications when required. 5.2 Ability to differentiate between different types of hazardous substances is demonstrated. 5.3 Storage requirements for incompatible substances are understood and fulfilled. 5.4 Torn or illegible labels are replaced. 5.5 Knowledge of potential safety hazards when handling chemicals is demonstrated.
6. Maintain industrial housekeeping standards	6.1 Requirements for industrial housekeeping are fulfilled, in compliance with industrial standards and requirements of the drilling work site(s). 6.2 All equipment is kept clean and stored in a safe manner.
7. Participate in fire drills	7.1 Appropriate precautions to take in the work environment to prevent the risk of fire, are identified. 7.2 Fire alarm signals are recognised and complied with. 7.3 Appropriate fire fighting appliances are identified and an understanding of their correct usage is demonstrated. 7.4 In the event of fire, appropriate action is taken.
8. Apply emergency procedures	8.1 Individual responsibility in regard to dealing with accidents, fires and emergencies is identified according to approved instructions. 8.2 Workplace procedures to be followed in case of accident or incident are acted upon as quickly as possible. 8.3 Nature and circumstances of a casualty are recognised and action taken. 8.4 Emergency first aid is administered in accordance with relevant safety procedures.
9. Identify and report incidents/accidents	9.1 Information on Workers Compensation has been received and understood. 9.2 Incidents/accidents are reported and recorded in accordance with site/company procedures, and statutory requirements. 9.3 Near miss reports are forwarded to management.

Range of Variables

Legislation includes the principal Occupational Health and Safety Act in each State and Territory, relevant regulations and codes of practice, the relevant national OHS standards and Australian Standards or guidance material referenced by such legislation.

Participation in company inductions may be required.

Relevant workplace procedures may include:

- hazard policies and procedures
- emergency, fire and accident procedures
- procedures for the use of personal protective clothing and equipment.

Manual handling may include:

- handling drill pipe in horizontal racks
- loading and unloading drill pipe
- running pipe in and out of drill holes.

Personal protective equipment may include:

- hard hats
- hearing protection
- safety glasses
- safety boots
- dust masks
- other prescribed clothing and equipment.

Risk factors may include:

- mechanical and rotating machinery
- compressed air
- fluids water/mud as a circulation medium
- gases encountered in holes
- mud additives and chemicals
- stilsons and break out tongs
- environmental hazards such as dust, noise, fumes, vibration
- sun, reptile and insect bites.

Application of emergency first aid may include:

- personal safety prior to action
- resuscitation techniques
- techniques associated with choking, drowning, heart problems, shock bleeding
- techniques associated with wounds, infection, burns, bites, stings, exposure
- injury awareness.

Safety risks to personal well-being, and well being of others, may include:

- drug and alcohol
- stress.

Communicable diseases

- non adherence to safety procedures.

Evidence Guide**Critical aspects of evidence**

- A demonstrated understanding of the rights and responsibilities of employers and employees under the relevant State Workplace/Occupational Health and Safety Act.
- Compliance with company health and safety codes.
- Evidence of understanding of symbols used for OHS signs.
- Fire and evacuation procedures.
- Wearing of appropriate personal protective equipment.

Interdependent assessment of units

This unit needs to be assessed within an employee induction module.

Underpinning knowledge

- Occupational Health and Safety and Mining legislation.
- Site and equipment safety systems/rules, e.g. safety procedures for carrying gas bottles in transit.
- Permits and clearance procedures.
- Emergency first aid.
- Warning and directional signals.

- What constitutes hazardous materials and methods of handling them.
- Dangers associated with dehydration.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Assessment may be undertaken in a workplace or a simulated workplace environment. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTNH02A Living away and interpersonal skills

This unit covers the skills needed to live and work with others, away from home. *Mineral exploration, waterwell and geotechnical sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Prepare adequately for living away	1.1 Appropriate clothes, utensils/equipment and personal necessities are selected. 1.2 Personal and financial arrangements have been set in place prior to departure.
2. Demonstrate skills required for remote area travel by vehicle	2.1 Appropriate items of personal equipment and provisions for survival in the event of being lost, are identified. 2.2 Pre start checks to vehicle are carried out. 2.3 Maps and navigation aids are used effectively. 2.4 Basic survival techniques for a range of situations are recognised and demonstrated. 2.5 Requirements for contingency planning are understood. 2.6 Steps are taken to protect the environment.
3. Actively participate in camp life (mineral exploration and some waterwell operations)	3.1 Planning and assisting in setting up and operating an efficient drill camp is demonstrated. 3.2 Well-balanced, nutritious meals are planned and cooked (as required). 3.3 A high level of personal and camp hygiene is maintained. 3.4 Waste is disposed of effectively. 3.5 The importance of casualty care procedures and safety induction training is identified and utilised effectively. 3.6 Camp is abandoned in an environmentally responsible manner.
4. Maintain good relationships with clients, management, co-workers, and other relevant parties	4.1 Preventative measures are taken to limit damage to property and inconvenience to landowners. 4.2 Effective skills to resolve conflict are demonstrated.

Range of Variables

Personal and financial arrangements may include:

- bank accounts
- payment of bills
- mortgage repayments
- family requirements.

Maps and navigational aids may include:

- compass
- Global Positioning System (GPS)
- range of maps and diagrams
- topographical information.

Pre-start checks may include:

- tyres
- fluid levels
- braking system
- clearance lights, blinkers.

Contingency planning relates to:

- range of precautions to be taken
- signalling for help
- damage to vehicle
- flood
- breakdown.

Basic survival techniques may include:

- breakdowns in the bush or isolated areas
- physical and emotional requirements in an emergency and in isolated areas
- methods of self protection to enhance survival
- sources of water
- making fire/protecting the environment
- search party assistance

- determining directions/locations
- remaining in control
- assisting other team members
- coping with accidents and illness/first aid.

Preventative measures may include:

- closing or opening of gates
- traversing of land
- accessing water points or windmills
- responding to Dieback notices
- responding to high fire danger or fire ban
- responding to “no access/limited access” notices appropriately.

Good relationships may need to be maintained with:

- pastoralists
- local inhabitants
- team members
- geologists
- engineers
- representatives of Government departments and local Government
- personnel from other companies at or near site.

Setting up, operating and abandoning/decommissioning a camp may include:

- no excess clearing
- disposal of waste by burning, burying or removing from site
- backfilling latrine holes
- appropriate disposal of waste fluids (oils, degreasers, etc.)
- avoiding spread of contamination, e.g. dieback.

Evidence Guide

Critical aspects of evidence

- Basic life support.
- Occupational Health and Safety Acts and site requirements.
- Accurate interpretation of maps and other navigation aids.
- Knowledge and use of basic survival techniques.
- Use of pre-start checklist.
- Maintaining control in all situations.

Interdependence of units

This unit needs to be assessed in conjunction with:

DRTNH01A	Apply occupational Health and Safety in the work environment
DRTNH03A	Mobile equipment and materials

Underpinning knowledge

- Overview of potential work site hazards.
- Accident/incident awareness and reporting procedures.
- First aid.
- Safeguards against bush fires.
- Search party assistance.
- Problem solving skills.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competency in this unit needs to be assessed in a range of conditions.

Context of assessment

Competence may be assessed on and off the job. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTNH03A Mobilise equipment and materials

This unit covers all components of the safe transporting of equipment and materials to a drill site, and basic general maintenance of the vehicle. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for move to site	1.1 Safety rules and regulations including mine site rules or legislation and site specific instructions are observed. 1.2 Operational safety is ensured by carrying out pre-start inspection procedures according to manufacturer's specifications and/or site requirements. 1.3 Briefing or handover details are received, interpreted and clarified in accordance with site requirements.
2. Load/unload vehicle	2.1 Weight limits and load distribution procedures are observed according to manufacturer's specifications. 2.2 Appropriate lifting methods are safely applied, with help if necessary. 2.3 Vehicle loads are determined by manufacturer's design specifications and/or legislative requirements. 2.4 Load is safely secured. 2.5 Transport of hazardous materials is conducted with maximum care using approved safety precautions.
3. Operate vehicle	3.1 Vehicle is driven in accordance with endorsed competency standards of Road Transport. 3.2 Safe driving techniques are applied to all vehicles. 3.3 Load is hauled to manufacturer's, legislative and/or site requirements to prevent loss/damage to vehicle or cargo. 3.4 Ground conditions are identified and assessed before driving vehicle across country. 3.5 Hazards such as power lines are identified and evasive action taken. 3.6 Emergency procedures are carried out in accordance with manufacturer's and/or site requirements. 3.7 Move is completed according to agreed plan. 3.8 Information is communicated to base or other vehicles as required.

ELEMENT	PERFORMANCE CRITERIA
4. Carry out basic operator maintenance	4.1 Periodic routine inspections are carried out according to manufacturer's specifications.
	4.2 Minor repairs/replacements are carried out as required in accordance with manufacturer's specifications.
	4.3 Minor breakdowns are overcome using recovery techniques, such as jacking, winching, rigging, towing.
	4.4 Vehicle washing and housekeeping is regularly carried out according to site requirements.

Range of Variables

Vehicles may include:

- any 2-wheel drive passenger vehicle
- 4-wheel drive sedan/utility/station wagon
- light trucks (usually table tops)
- heavy support vehicles
- heavy vehicles (drill rig).

Note:

Appropriate licences are required.

State legislative requirements on road transport are adhered to.

Loads may include:

- materials for drilling such as rods, bits, augers, downhole tools of all types
- spares for all above ground equipment
- fuels for all equipment, including oils and other lubricants
- water
- ancillary equipment (e.g., pumps, generators, etc.)
- drilling fluids
- decontamination (cleaning) chemicals
- safety equipment including personal protective equipment.

Note:

Some of the materials to be transported are inherently hazardous.

Lifting methods may include:

- manual lifting
- forklift
- vehicle mounted crane (HIAB).

Terrain over which vehicles can be driven may include:

- State and Federal roads, sealed and unsealed
- tracks or trails, e.g. mining and forestry access roads, fire trails, etc.
- off-road, where surface may vary in type, condition, gradient, etc.
- barriers such as streams, gullies, banks, etc.

Hazards (other than those relating to terrain) may include:

- power lines
- fences
- natural disasters, e.g. floods.

All procedures, especially those dealing with vehicles, must comply with the provisions of the Workplace Health and Safety Acts, their regulations and codes of practice.

The correction of faults or malfunctions may include tyre changing.

Writing tasks for vehicle usage records may include:

- log books
- service records.

Reading materials may include:

- industrial safety regulations and legislation
- driving manuals
- safety codes of practice, signs and hazard codes
- manufacturer's specifications
- employer's procedure manual.

Communications may include:

- use of 2 way radio, satellite phones
- reporting defects, necessary detours, changes in environmental patterns, e.g. storm, flood, etc.

Evidence Guide

Critical aspects of evidence

- State legislative requirements on road transport are adhered to.
- Prescribed driving licences are mandatory in completion of this unit.
- Safety codes of practice need to address:
 - hazardous working conditions
 - ability to drive in a range of conditions
 - recommended vehicle loadings
 - site personnel safety
 - industrial safety regulations and legislation
 - workplace policies on vehicle usage.
- It is also essential that competence is fully observed in the critical aspects of:
 - interpreting and communicating operational information through a range of media, e.g. satellite phone
 - writing accurately and legibly, e.g. log book
 - identifying operational faults
 - rectifying minor faults.
- The ability to transfer the competency to changing circumstances.

Interdependent assessment of units

The completion and assessment of the units:

DRTNH01A Apply Occupational Health and Safety in the work environment

DRTNH02A Living away and interpersonal skills

Underpinning knowledge

- Provisions of the Workplace Health and Safety Acts, their regulations and Codes of practice.
- Particular State or Territory regulations relating to operations.
- A range of acquired safety and survival skills.
- Driving with the absolute minimum of damage to vehicles, equipment and structures.
- Relevant OHS requirements for storage of materials and equipment.
- Operational and maintenance procedures.
- The ability to acquire required licences and permits.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTNH04A Set up/pack up drill site

This unit covers all components of organising and setting up/packing up a drill rig and ancillary equipment, as a member of a team. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Undertake site safety procedures	1.1 Access to drill site is checked.
	1.2 Working order of required safety equipment is tested.
	1.3 Warning signs and barriers are erected where necessary.
	1.4 Storage is arranged for hazardous materials.
2. Communicate effectively with other crew members	2.1 Contributions are made to conversations requiring some discussion or negotiation for the purpose of maintaining relationships, exploring issues or problem solving.
	2.2 Ideas and information are exchanged among crew to facilitate a good working relationship.
3. Set up drill rig	3.1 Preferred drill rig sites are verified.
	3.2 A range of instructions on work scheduling is carried out in logical sequence.
	3.3 Rig is unloaded using a range of measures to ensure minimal damage.
	3.4 Rig is set up and aligned.
	3.5 Tools and/or equipment needed to complete the hole are stored at the back of the rig.
	3.6 Mud pits and drains are cleaned/dug in accordance with environmental codes.
	3.7 Drill string is made up and tool set out, making sure they are clean and operational.
4. Set up/dismantle ancillary equipment	4.1 Ancillary equipment is set up/dismantled in accordance with manufacturer's instructions.
	4.2 Connecting services to and from equipment is provided.
	4.3 Maximum performance of equipment is ensured by carrying out a pre-start check in accordance with manufacturer's and/or site requirements.
5. Pack up drill site	5.1 Drilling rig removed from site, cleaned, maintained and stored.
	5.2 Area cleaned to specification.
	5.3 Waste and unwanted materials removed from site.

Range of Variables

On-site OHS procedures to be undertaken may include:

- wearing of protective clothing and equipment
- provision of safety signage
- provision of appropriate fire fighting equipment
- safe storage of toxic chemicals in accordance with AS 2506.

Features of ground affecting set-up of drilling and ancillary equipment may include:

- gradient
- surface condition
- soil type
- soil condition
- water table
- degree of compaction.

Hazards that may affect planning at drilling site may include:

- previous usage
- electric wires
- telephone lines
- gas pipes
- (pressured) water pipes.

Lifting and handling equipment used for setting up may include:

- winch
- vehicle mounted crane (Hiab)
- manual method
- block and tackle.

Equipment that has to be set up or moved during drilling operations may include:

- drill rig
- compressor
- pumps
- grout pump

- mixing tanks
- sample collection hopper/skip
- support vehicle
- water tank, temporary reservoirs, and pipelines
- HF radio aerial, microwave dish.

Evidence Guide

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Ancillary equipment operation.
- OHS procedures.
- Accessing, interpreting and applying technical information.
- Identifying repair requirements.
- Environmental awareness.
- Working to instruction.
- Geological formations.
- The ability to transfer the competency to changing circumstances.

Interdependent assessment of units

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials

Underpinning knowledge

- Site and equipment safety requirement.
- Equipment and characteristics, technical capabilities and limitations.
- Operational and maintenance procedures.
- Basic geological and technical data.
- Environmental aspects.
- Basic geological formation.
- OHS procedures.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTNH05A Support drilling process

This unit covers a broad range of tasks required to assist in drilling operations, including operation and cleaning of ancillary equipment, welding and cutting processes and controlling damage to the environment. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Comply with OHS procedures	1.1 Relevant protective clothing has been made available and is worn for the task being performed. 1.2 Malfunction of any safety equipment is reported/ repaired/replaced. 1.3 Safety related information on labels, tags and signs is read and followed. 1.4 Fire extinguishers are operational and kept in their proper place. 1.5 Knowledge of range and use of different types of extinguishers is demonstrated. 1.6 First aid is administered (when qualified). 1.7 First aid materials are used correctly according to instructions. 1.8 Symptoms/effect of contaminants, toxic materials and heat stress are recognised, and action taken to relieve/mitigate those symptoms.
2. Identify hazards	2.1 Potential hazards are identified and rectified/minimised. 2.2 Any faults/hazards observed, are reported immediately.
3. Receive and interpret work instructions	3.1 Instructions are received and ambiguities clarified, using a variety of communication media. 3.2 Work tasks are carried out efficiently and in correct sequence.
4. Add/remove rods and all downhole tools	4.1 Drill string components for job are applied in correct sequence. 4.2 Rod handling equipment is used according to manufacturer's recommendations and organisation's procedures.
5. Operate ancillary equipment	5.1 Ancillary equipment is started up, run, and closed down according to manufacturer's instructions.

ELEMENT	PERFORMANCE CRITERIA
6. Carry out a range of welding and cutting processes	6.1 Appropriate safety equipment is worn, and safe working techniques are applied. 6.2 Welding process is identified and carried out. 6.3 Hazardous locations and situations are identified and avoided. 6.4 Metal cutting with oxygen acetylene is carried out.
7. Control damage to environment	7.1 Spread of contaminants on drill site and by vehicles moving off site, is minimised. 7.2 Non-toxic waste and work debris is disposed of in line with contractor policy. 7.3 Procedures are followed to protect the environment in all cleaning operations. 7.4 Precautions are taken to prevent the spread of plant disease according to Government/site policy.
8. Clean all equipment at drilling site (drilling equipment, vehicles, equipment tools)	8.1 Clean working conditions are maintained to minimise any associated safety hazards. 8.2 Vehicles are routinely cleaned and stored after use to enterprise requirements. 8.3 Clean, serviced machines and equipment is maintained at all times. 8.4 Pressure equipment for cleaning is used safely and effectively according to manufacturer's recommendations. 8.5 Safety precautions are observed when cleaning with high pressure or electrical equipment. 8.6 Approved instructions and OHS requirements on the use of hazardous chemicals for cleaning, are applied. 8.7 Care is taken to ensure that all cleaning equipment is kept in good working condition.
9. Assemble/dismantle and maintain downhole tools	9.1 Correct assembling and checking of core barrels and downhole hammer are demonstrated. 9.2 Basic maintenance of all downhole tools is carried out as required. 9.3 Grinding and sharpening of drill bits is carried out regularly.
10. Carry out routine checks and basic maintenance	10.1 Pre-start and daily engine checks, fuelling and fluid level maintenance are carried out regularly. 10.2 Safety procedures are observed while servicing hydraulic systems and dealing with high-pressure air, electrical circuits and batteries.

ELEMENT	PERFORMANCE CRITERIA
11. Maintain levels of supplies	11.1 Driller is kept informed on current stock levels.
	11.2 A check on consumer items in the workplace is carried out regularly.
12. Perform basic calculations as required to undertake work activities	12.1 Tape measure is read accurately to carry out simple measurements of casing lengths and core.
	12.2 Costs are estimated and calculator is used for confirmation.
	12.3 Simple calculations on diameters of drill bits, casing, rods etc are carried out accurately.
	12.4 Time sheets are completed accurately and legibly.
13. Work in a team environment	13.1 Team goals are identified and clarified.
	13.2 Team roles and the range of contributions required for effectiveness are clarified.
	13.3 Individual contribution to team goals is agreed with driller or drill supervisor.
	13.4 Agreed work commitments are completed in a proficient, co-operative and timely manner.
	13.5 Assistance is openly offered or sought as appropriate to work flow.
	13.6 Correct radio communication techniques and procedures are demonstrated.
14. Mix drilling fluids	14.1 Appropriate protective clothing is worn.
	14.2 Labels are checked and safety information/hazard codes read and interpreted.
	14.3 Correct mixing procedure for drilling fluid is applied.
	14.4 Precautions are taken to minimise health and safety hazards using correct OHS procedures when handling noxious, toxic or hazardous fluids and chemicals.
	14.5 Manual handling techniques when lifting or moving heavy loads conform to OHS guidelines.
	14.6 Storage of drilling mud components and additives are carried out safely and correctly.
	14.7 Basic tests are performed on the fluid, and the results are recorded and/or reported as required.

Range of Variables

On-site OHS procedures to be followed may include:

- provision of protective clothing and equipment
- provision of safety signage
- provision of appropriate fire fighting equipment
- safe storage of toxic chemicals.

Hazardous operating situations that may arise may include:

- release of gases from the formation
- spread of contaminants as a result of drilling
- change in chemistry of the contaminants as a result of drilling, (e.g. may become explosive).

Drill string components and their sequences may include:

- cutting bits (rock or unconsolidated)
- coring bits
- percussion bits
- drill pipe
- casing
- drill collars
- augers
- kelly bars, pins and extensions.

Lifting equipment and methods may include:

- winch
- A-frame
- block and tackle
- vehicle mounted crane, e.g. Hiab
- physical

Welding processes may include:

- arc
- oxygen acetylene
- mig.

Ancillary equipment may include:

- generators (welding/lighting)
- pumps
- compressors
- high pressure cleaning equipment (Gernies)
- power tools
- hand tools
- grout mixing
- mud mixing equipment.

Teams may vary in size, and composition depending on their purpose, functions and geographic locations.

Types of environmental damage that may be caused by access to or operations of a drilling site include spread of contaminants (while moving vehicles between sites).

Cleaning equipment and materials may include:

- pressure cleaning
- chemical cleaning
- manual cleaning
- abrasive mechanical cleaning.

Appropriate protective clothing when mixing mud may include:

- gloves
- breathing apparatus
- safety glasses.

Drilling fluids and chemicals may include:

- water or oil additives, e.g. polymer, bentonite
- air additives, e.g. foam.

Basic fluid tests may include:

- pH
- viscosity
- mud weight/density.

Evidence Guide**Critical aspects of evidence**

A demonstrated understanding of, and compliance with company OHS site requirements.

It is essential that competence is fully observed in the critical aspects of:

- Drill and ancillary equipment operation.
- Identifying the requirement for repairs.
- Environmental awareness.
- Accessing, interpreting and applying technical information.
- Parts and equipment requirements.
- Working to instruction.
- Knowing how to communicate effectively, and with whom.
- The ability to transfer the competency to changing circumstances.

Interdependent assessment of units

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials
DRTNH04A	Set up/pack up drill site

Underpinning knowledge

A knowledge of:

- Site and equipment safety requirement.
- Equipment and characteristics, technical capabilities and limitations.
- Operational and maintenance procedures.
- Layout of basic hydraulic circuit.
- Hydraulic and pneumatic systems.
- Basic geological and technical data.
- Environmental aspects.
- Team roles and objectives.
- Graphical representation, e.g. maps, diagrams, and their uses for interpretation and prediction.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTNH06A Undertake samples collection and recording

This unit covers all components of core, soil and water sampling and recording procedures. *Elements of this unit apply to all sectors except Foundation/Construction, as follows:*

Mineral Exploration 1, 2, 3, 5

Waterwell 1, 2, 4, 5, 6

Geotechnical 1, 3, 4,5, 6

Environmental 1, 4, 5, 6

ELEMENT	PERFORMANCE CRITERIA
1. Obtain required samples cores	1.1 Samples are carefully removed to ensure integrity.
	1.2 Any hazardous situations are recognised and action is promptly taken.
	1.3 Relevant information should be recorded in driller's log.
2. Carry out chip sampling	2.1 Cyclone cleaning process is carried out thoroughly.
	2.2 Splitting process is carried out with or without a splitter.
	2.3 Splitter is used to accurately split samples to specific percentage.
3. Handle core in diamond drilling operations	3.1 Samples are loaded into core tray in correct sequence.
	3.2 Correct placement of any section retained within the core spring is demonstrated.
	3.3 Information to be recorded on core marker block and core box is accurate and legible.
	3.4 Precautions are taken to ensure no surface contamination of cores.
	3.5 Safe stacking procedures are followed during transportation.
	3.6 Collection of sludge sampling is carried out when required.
	3.7 Appropriate lifting techniques are applied when lifting full core boxes.
	3.8 Care is taken not to place hand under the end of the inner core tube when loading core into core boxes.
4. Carry out soil sampling	4.1 Quality disturbed or undisturbed samples are collected with the minimum disturbance or alteration.
	4.2 Augers are cleaned thoroughly while out of the hole.
	4.3 Cleanliness around the collar of the hole is regularly maintained.
	4.4 Samples are accurately labelled.

ELEMENT	PERFORMANCE CRITERIA
5. Apply safety measures	5.1 Precautions are taken to avoid exposure when handling potentially contaminated samples, eg gloves or respirators.
6. Carry out water sampling	6.1 Water samples are collected carefully and stored. 6.2 Special sample bottles are prepared/obtained for water samples for special tests e.g. bacteriological analysis. 6.3 Sample bottles are sealed and correctly labelled. 6.4 The correct volume of water is obtained in accordance with instructions, depending on the type of test required.

Range of Variables

Hazardous situations may include:

- release of gases from the formation
- spread of contaminants as a result of drilling
- change in chemistry of contaminants as a result of drilling, e.g. may become explosive.

Splitting will vary for

- wet samples
- dry samples.

Sample types may include:

- grab samples
- collar samples.

Types of drilling for collecting samples may include:

- cable tool drilling
- direct rotary drilling
- downhole hammering
- dual tube reverse circulation.

Disturbed samples may be recovered by:

- bucket auger
- drive cores taken through hollow stem auger or cable tools
- hand auger (for small or shallow samples).

Driller's log may include:

- type of sample
- sample interval
- date
- basic geological description of sample.

Circulation fluids may include:

- air
- foam
- inhibited mud.

Drilling methods for obtaining water samples may include:

- air rotary or air hammer
- cable tool
- auger.

Water samples can be obtained by:

- bailing water from the hole and transferring to water bottle
- using a water sampling tool.

Evidence Guide**Critical aspects of evidence**

It is essential that competence is fully observed in the critical aspects of:

- Correct placement of core in boxes.
- Bagging and labelling rock/soil samples.
- Safety precautions observed when handling potentially contaminated samples.
- Measured volume in a bucket.
- Not holding a hand under the end of the core tube at any time.

Interdependent assessment of units

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials
DRTNH04A	Set up/pack up drill site
DRTNH05A	Support drilling process

Underpinning knowledge

- Reasons for identification and care of drilling samples.
- Differences in characteristics of samples obtained in RAB drilling, reverse circulation and diamond drilling.
- Surface handling procedures in RC drilling.
- Difference between 3 metre sample and a composite 3 metre sample.
- Suitability of formation.
- Information to be placed on core marker block/its purpose.
- Marking procedures if no core is recovered at a given interval.
- Safety measures required when handling samples.
- Circulation fluids.
- Core barrels and core bits.
- Regulations for the transport of samples.
- Mechanical and hydraulic sampling.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	2
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	2
Using technology	2

DRTNH07A Conduct drilling operations

This unit covers the main tasks such as rig operation, maintaining hole direction, cementing and grouting and diagnosing equipment faults associated with the drilling operation. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Undertake site safety induction procedures	1.1 Correct personal protective equipment for the task is worn. 1.2 Camp, site and equipment safety audits (check lists) are conducted. 1.3 Inadequacies for risk control measures are identified and reported to designated personnel. 1.4 Site procedures for dealing with hazardous events are implemented whenever necessary to ensure that prompt control action is taken.
2. Operate drill rig	2.1 Controls are operated in accordance with machine/manufacturer's instructions and/or site-specific requirements. 2.2 Work is performed in accordance with agreed plan and outcomes, and within the operating capacities of the allocated equipment. 2.3 Correct combination of drill rotational speed and pressure is applied to suit ground conditions. 2.4 Calculations are performed to determine drill and/or casing string lengths and hole depth. 2.5 Correct fluid(s) for drilling conditions are selected and used. 2.6 Equipment is operated at correct fluid and air pressures. 2.7 Safe working conditions are constantly maintained. 2.8 Gauges are monitored and information interpreted. 2.9 Ability to convert between metric and imperial is demonstrated. 2.10 A range of hazardous situations are recognised through continued monitoring, and appropriate corrective action taken. 2.11 Good housekeeping is maintained.

ELEMENT	PERFORMANCE CRITERIA
3. Maintain planned direction of the hole	3.1 Hole alignment is maintained taking into account straightness or planned deflections. 3.2 Reading of depth, direction, azimuth is recorded accurately and legibly. 3.3 Corrective action is taken when hole alignment deviates from plan.
4. Conduct cementing/grouting operations	4.1 Volume of slurry needed in total for the job is calculated. 4.2 Quantities of cement, water and additives are determined and mixed. 4.3 Most appropriate method of placing cement is selected. 4.4 Cement is placed using the most appropriate method. 4.5 Special pump for placement of cement is selected, if available. 4.6 Calculations of collapse strength are carried out to ensure weight of cement won't collapse casing in hole.
5. Secure and maintain hole collar	5.1 Excavated soil around collar is cleared. 5.2 Top of casing or hole is secured/covered.
6. Diagnose equipment faults	6.1 Reading strategies such as skimming are demonstrated to extract necessary information from Operator's Manual. 6.2 Symptoms of problem are recognised. 6.3 Causes are identified, isolated and a solution determined. 6.4 Help is sought if problem is too complex.
7. Decommission a hole or bore	7.1 Knowledge of appropriate decommissioning (or abandonment) procedures is demonstrated. 7.2 Holes or bores are covered or backfilled if necessary, according to site regulatory or legislative requirements. 7.3 A program of rehabilitation is carried out to ensure that the site is restored to a reasonable condition.
8. Administer First aid	8.1 Basic skills in First aid are known and safely used in order to preserve life and minimise further injury prior to the arrival of medical help. 8.2 Appropriate resuscitation techniques are applied when necessary.

Range of Variables

Information used to determine the correct combination of drill rotational speed and pressure may include:

- working knowledge of mechanical, electrical and hydraulic systems
- basic understanding of geology
- handbooks
- company instructions.

Methods of drilling may include:

- cable tool
- auger
- rotary air or mud
- downhole hammer
- reverse circulation (mud or air)
- conventional or wireline coring
- vibro core
- bell or under ream pier holes.

Survey and alignment tools may include:

- survey etch tube
- mass borehole compass
- Tro-pari survey instrument
- pendulum drift indicators
- single or multiple shot survey instruments
- gyroscopic survey instruments
- abem reflex fotobar
- wireline survey.

Range of numerical calculations may include:

- carrying out addition, subtraction, multiplication, division
- using appropriate instruments to measure:
 - volume

- quantities
- mass
- weight
- length
- using calculator, if required
- using estimating skills, e.g. mental arithmetic, visualisation of size and quantity
- basic geometry, e.g. interpreting depth, direction and azimuth of a hole.

Feedback signals while drilling may include:

- gauge readings
- sounds
- vibrations
- smells.

Placement of cement may be by:

- pressure cementing
- tremie pipe placement
- pouring from surface.

Fishing tools that can be used may include:

- taps
- die collars
- rod spear
- sand locked swedge
- wireline centre spear
- 2-prong wireline grab
- 2-prong bailer latch
- 4-latch overshot.

Decommissioning procedures may include, but is not limited to:

- ensuring aquifers of different water quality are separated
- backfill material, in certain circumstances, may need to be cleaned or disinfected.

Environmental protection includes methods of

- controlling flow off site
- disposing of waste
- no excess clearing
- prevention of spread of contaminants.

Basic first aid awareness required, includes taking necessary action following a range of injuries such as:

- burns, bruises, scratches and sunburn
- bleeding control
- suspected spinal injury.

An employee may or may not have an accredited First Aid Certificate, but it is desirable.

Evidence Guide**Critical aspects of evidence**

- A demonstrated understanding of the rights and responsibilities of employers and employees under the relevant State Workplace/Occupational Health and Safety Act.
- Compliance with company safety codes.
- Knowledge of how to communicate effectively, and with whom.
- The ability to transfer the competency to changing circumstances.
- Application of calculations, measurements eg annular volume; similarity and ratio to estimate depth, width, e.g. estimate the volume of a mud pit; basic geometry, e.g. when calculating the direction of a hole.
- Environmental protection.

Interdependent assessment of units

Assessment of this unit will need to consider the relative literacy/numeracy skills as well as competence in the operation of a range of communications equipment.

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials

DRTNH04A	Set up/pack up drill site
DRTNH05A	Support drilling process
DRTNH06A	Undertake samples collection and recording

Underpinning knowledge

- Equipment and characteristics, technical capabilities and limitations.
- Operational and maintenance procedures.
- Soil samples and basic geological formation.
- Environmental aspects.
- Fault finding and troubleshooting techniques.
- Team work.
- Communication systems, processes and procedures, e.g. two way radio.
- Graphical representation, e.g. maps, diagrams, and their uses for interpretation and prediction.
- Conversions between metric and imperial.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTNH08A Manage on-site operations

This unit covers the main tasks such as communicating, problem solving, co-ordinating team members and maintaining records associated with the drilling operation. It includes a detailed element on carrying out Occupational Health And Safety site induction. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Undertake and manage on-site safety induction procedures	1.1 Safety rules and regulations, legislation and specific site instructions are relayed to crew. 1.2 A range of preventative measures is determined for potential work hazards on-site. 1.3 Procedures for the use of personal protective clothing and installed safety equipment is communicated clearly to the crew. 1.4 Clear instructions are provided to all crew in emergency drills and their application. 1.5 Methods for contacting all necessary medical services are established and access information provided. 1.6 Occupational Health And Safety records for work area are accurately completed in accordance with workplace requirements.
2. Inspect equipment and work area	2.1 Equipment is visually inspected prior to start up in accordance with manufacturer's and/or site procedures, to ensure operational safety. 2.2 Work area is inspected for any environmental hazards. 2.3 Contract and site agreement are checked for location of socially or environmentally sensitive areas.
3. Communicate regularly with client, crew, and other relevant parties	3.1 Crew and other relevant parties, regularly receive briefings of up to date scope of activities. 3.2 A good working relationship is maintained with landholder/client. 3.3 Confidentiality clauses in contract are honoured. 3.4 Progress, problems encountered/anticipated results are regularly communicated to client/drill supervisor, as required. 3.5 Regular communication by radio/telephone is maintained to report progress and/or request information or assistance, according to company's standard operating procedures and any relevant regulations.

ELEMENT	PERFORMANCE CRITERIA
4. Diagnose and solve problems	<p>4.1 The existence and immediate effects/potential effects of the problem are confirmed by investigation.</p> <p>4.2 A clear and accurate definition of the problem is identified.</p> <p>4.3 The preferred option is identified after an analysis of available information.</p> <p>4.4 Approval to proceed with the preferred option is gained from the appropriate party, if necessary.</p> <p>4.5 If problem is too complex, additional equipment and/or help/advice is sought.</p>
5. Control drilling program to ensure objectives are met	<p>5.1 Drilling progress is regularly monitored and corrective action taken if necessary.</p> <p>5.2 Availability of materials, such as sample bags and equipment, is consistent with work schedules and the requirements of the task.</p> <p>5.3 Alternative plans are prepared, if required.</p> <p>5.4 Specific tasks are allocated to make effective use of crew.</p>
6. Co-ordinate work of the team	<p>6.1 All members of the team are made aware of their roles and responsibilities in the work plan.</p> <p>6.2 Operational targets are set in consultation with crew, and checked at regular intervals.</p> <p>6.3 When requested, assistance is provided to meet operational targets.</p> <p>6.4 Resources required to support changing work requirements are acquired.</p> <p>6.5 Workloads and required resources are allotted in accordance with modified work plans.</p> <p>6.6 Agreed time lines for tasks are communicated to team.</p>
7. Maintain operating records	<p>7.1 Range of records and reports and required frequency, is determined.</p> <p>7.2 Daily running records are kept to facilitate the completion of necessary documentation.</p> <p>7.3 Logs, records and shift reports are completed with numbers, quantities, dates and succinct descriptions.</p> <p>7.4 Variations to contract requirements are noted on log.</p> <p>7.5 Required written reports are completed and submitted.</p> <p>7.6 Accurate measurements of length of drill string components are taken and recorded.</p>

Range Of Variables

All relevant OHS legislation and codes of practice, including duties and responsibilities of all parties under general duty of care are applied.

Work hazards on-site include accidents, fire, and emergencies such as chemical spills.

Action plans to solve problems are prepared according to:

- objective
- resource requirements
- co-ordination and feedback requirements
- safety requirements and risk assessment priority requirements
- company operating procedure.

Problems may include:

- safety issues
- environmental factors
- transport difficulties
- equipment failure.

Downhole problems that may be encountered may include:

- formation problems
- loss of sample
- lost circulation
- pressure formations
- differential pressure sticking
- hole deviation
- loss of sample integrity
- encountering unexpected contaminants, or contaminants in higher than expected concentrations
- old mine workings
- fishing
- loss of penetration
- sudden loss of pump pressure.

Teams may vary in size, and composition depending on their purpose, functions and geographic locations.

Operating records may include:

- daily drill operations reports
- petty cash records
- records of other purchases, i.e. accounts/credit cards
- time sheets
- plant and vehicle logs
- maintenance records.

Reports may include:

- drill operations reports
- evaluation of sites
- evaluation of equipment
- injury and accident reports.

Evidence Guide**Critical aspects of evidence**

- A demonstrated understanding of the rights and responsibilities of employers and employees under the relevant State Workplace/Occupational Health and Safety Act.
- Compliance with company safety codes.
- Knowledge of how to communicate effectively, and with whom.
- The ability to transfer the competency to changing circumstances.
- Application of calculations, measurements eg annular volume; similarity and ratio to estimate depth, width, e.g. estimate the volume of a mud pit; basic geometry, e.g. when calculating the direction of a hole.
- Ability to complete the required documentation legibly and accurately within specified time frame.
- Ability to adapt to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness and contingency planning.

Interdependent assessment of units

Assessment of this unit will need to consider the relative literacy/numeracy skills as well as competence in the operation of a range of communications equipment.

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials
DRTNH04A	Set up/pack up drill site
DRTNH05A	Support drilling process
DRTNH06A	Undertake samples collection and recording
DRTNH07A	Conduct drilling operations

Underpinning knowledge

- Equipment and characteristics, technical capabilities and limitations.
- Operational and maintenance procedures.
- Soil samples and basic geological formation.
- Environmental aspects.
- Fault finding and troubleshooting techniques.
- Team work.
- Time management.
- Communication systems, processes and procedures, e.g. two way radio.
- Graphical representation, e.g. maps, diagrams, and their uses for interpretation and prediction.
- Conversions between metric and imperial.
- Required documentation, e.g. requisition forms, daily log reports.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	3
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTNH09A **Select, test and condition drilling fluids**

This unit covers the selecting, mixing and testing of a range of drilling fluids. *This unit may not apply to Foundation/ Construction.*

ELEMENT	PERFORMANCE CRITERIA
1. Select appropriate fluids	1.1 Drilling conditions are analysed/interpreted. 1.2 The most appropriate type of fluid to suit the conditions is determined. 1.3 Care is taken to ensure the drilling mud is non-polluting to the environment, or aquifers and formations penetrated. 1.4 Calculations of component quantities, desirable up-hole velocity, specific gravity and volume are demonstrated as required.
2. Test fluids	2.1 Reasons for testing are determined. 2.2 Correct procedures for using marsh funnel, mud balance and filter press are demonstrated.
3. Condition drilling fluids	3.1 Changes to drilling conditions are recognised and interpreted. 3.2 Results of tests on the fluid are analysed/interpreted. 3.3 Drilling fluid properties are adjusted to maintain optimum conditions.

Range of Variables

Drilling fluids and chemicals may include:

- water or oil and additives, e.g. polymer, bentonite
- air additives, e.g. foam.

Range of functions of a drilling fluid may include:

- hole clearing
- hole stabilising
- sample transport and protection
- prevention of fluid loss into formations.

Drilling fluid properties can include:

- pH
- salinity
- viscosity

- specific gravity
- sand content.

Evidence Guide

Critical aspects of evidence

Mud additives and chemicals used, may be noxious, toxic or in other ways hazardous and should be:

- treated in accordance with relevant OHS legislation
- correct lifting procedures for containers fluids, etc.
- accurate testing procedures.

Interdependent assessment of units

This unit is closely related to:

DRTNH06A	Undertake samples collection and recording
DRTNH10A	Construct monitoring bores

Underpinning knowledge

- Safety procedures.
- Properties and functions of fluids.
- Circulation systems.
- Types and uses of components, e.g. pumps, sumps, mixing hoppers.
- Formation stabilisation.
- Formation and aquifer protection.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	2
Working with others in teams	1
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTNH10A Construct monitoring bores

This unit covers the design and construction of monitoring bores, decontamination, and abandonment. *Waterwell, geotechnical and environmental drilling sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Liaise with client and/or other relevant parties	1.1 Scope of work is discussed with client to gain general agreement on drilling plan.
	1.2 Regular up to date information on progress, and/or problems encountered, is regularly communicated to client and /or other relevant parties.
2. Design monitoring bores	2.1 Most appropriate construction methods are determined from the reading and interpretation of all available documented information.
	2.2 Ability to differentiate between a single aquifer system and a multiple aquifer system is demonstrated.
	2.3 All necessary materials for the job prior to commencement of construction phase are available and on-site.
3. Construct monitoring bores	3.1 Approved procedures are used to assemble and insert casing and screens.
	3.2 Equipment for assembly is used safely and in accordance with approved procedures.
	3.3 Artificial pack material is placed in a manner so as to ensure uniform distribution in the annular space without bridging.
	3.4 Bore is constructed in accordance with any applicable regulations, standards and the organisation's internal procedures.
	3.5 A knowledge of basic geological data is demonstrated.
	3.6 Records are maintained accurately and legibly.
	3.7 A range of plans diagrams and logs are read and interpreted to determine the appropriate design for the monitoring well.
	3.8 Standing water level is recorded.
4. Develop bore	4.1 Development techniques are used with care to prevent collapsing of casing or screens.
	4.2 Development techniques are used to improve hydraulic transmissivity around the bore.

ELEMENT	PERFORMANCE CRITERIA
5. Disinfect/decontaminate bore and drilling equipment	5.1 Disinfection/decontamination, if required, comply with relevant standards or regulatory requirements. 5.2 Chemicals are handled in accordance with manufacturer's recommendations/instructions.
6. Abandon test/bore holes	6.1 Correct procedures for the abandonment (decommissioning) of test holes or bore holes in any given type of geological formation, are carried out. 6.2 Properly sealed hole is verified for future reference. 6.3 Drill and other fluids are disposed of safely.

Range of Variables

Documents to be read and interpreted to determine construction methods are:

- results of test hole
- hydrogeological data
- environmental data
- site reports
- geological data
- old bore hole logs.

Procedures that can be used for assembling and inserting casing and screens may include:

- solvent cement (PVC)
- stainless steel screws (PVC)
- threaded (PVC, FRP, ABS).

Equipment required for assembly and insertion may include:

- hand tools
- power driven (electric, hydraulic or air) hand tools
- solvent.

Basic geological knowledge may include:

- rock types

- aquifer systems
- drillability
- stability.

Numerical tasks may include:

- calculations such as
 - volume, e.g. mud pits, drums, tanks or bore holes of given dimensions
 - up hole velocity
 - cement/water/additives quantities
 - conversion from imperial to metric and vice versa.

Writing tasks may include:

- daily Drill Operation Report
- diagrams
- brief descriptions.

Reading and interpreting of materials may include:

- plans
- diagrams
- bore log
- graphs.

In environmental drilling, contaminants that may be encountered may include:

- hydrocarbons (MAH's, PAH's)
- organic compounds (pesticides)
- chlorinated Hydrocarbons (Dioxins) (PCB)
- heavy metals
- asbestos
- acids.

Procedures and standards that should be read and interpreted in constructing wells may include:

- other regulations and standards:
 - ANZECC/NHSMRC Guidelines (for working on contaminated sites)

- AWRC Guide to sampling contaminated groundwater
- U.S. OSHA Guidelines
- organisation's own internal procedures
- ARMCANZ "Minimum Construction Requirements for Water Bores in Australia" July 1997.

Evidence Guide

Critical aspects of evidence

A demonstrated understanding of:

- The rights and responsibilities of employers and employees under the relevant State Workplace/Occupational Health and Safety Act.
- Compliance with company safety codes.
- Environmental awareness.
- Isolation/work permits.
- Geological formations.
- Ability to complete required documentation legibly and accurately within specified time frame.
- Application of calculations, measurements eg annular volume; similarity and ratio to estimate depth, width, e.g. estimate the volume of a mud pit; basic geometry, e.g. calculating the direction of a hole.
- Effective communication in spoken and/or written form with crew, bore owner and Government.
- Ability to adapt to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness, contingency planning.

Interdependent assessment of units

Assessment of this unit will need to consider the relative literacy/numeracy skills as well as competence in the operation of a range of communications equipment.

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials
DRTNH04A	Set up/pack up drill site
DRTNH05A	Support drilling process
DRTNH06A	Undertake samples collection and recording

DRTNH07A	Conduct drilling operations
DRTNH08A	Manage on-site operations
DRTNH09A	Select, test and condition drilling fluids

Underpinning knowledge

- Equipment - characteristics, technical capabilities and limitations.
- Basic geological formations, i.e. various formations which permit groundwater movement and factors affecting groundwater quality.
- Characteristics of “good samples” required for Waterwell construction.
- Ways in which sampling errors can occur.
- Types of mud.
- Problem solving techniques.
- Grout placement methods and procedures.
- Range of numerical calculations.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	3
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTNH11A Construct production bores

This unit covers the design and construction of production bores, decontamination, bore maintenance and abandonment. *Waterwell drilling sector.*

ELEMENT	PERFORMANCE CRITERIA
1. Liaise with client and/or other relevant parties	1.1 Scope of work is discussed with client to gain general agreement on drilling plan. 1.2 Regular up to date information on progress, and/or problems encountered, is regularly communicated to client and /or other relevant parties.
2. Design production bores	2.1 Most appropriate construction methods are determined from the reading and interpretation of all available documented information. 2.2 If necessary, calculations are undertaken to determine appropriate screen design parameters, i.e. <ul style="list-style-type: none"> • diameter • length • aperture size. 2.3 Appropriate gravel pack design parameters are calculated, if required. 2.4 Information is plotted on graphs and interpreted. Ability to differentiate between a single aquifer system and a multiple aquifer system is demonstrated. 2.5 All necessary materials for the job prior to commencement of construction phase are available and on-site.
3. Construct production bores	3.1 Approved procedures are used to assemble and insert casing and screens. 3.2 Equipment for assembly is used safely and in accordance with approved procedures. 3.3 Appropriate artificial pack material grain size is determined. 3.4 Artificial pack material is placed in a manner so as to ensure uniform distribution in the annular space without bridging. 3.5 Bore is constructed in accordance with any applicable regulations, standards and the organisation's internal procedures.

ELEMENT	PERFORMANCE CRITERIA
Construct production bores (cont'd).	<p>3.6 A knowledge of basic geological data is demonstrated.</p> <p>3.7 Records are maintained accurately and legibly.</p> <p>3.8 A range of plans diagrams and logs are read and interpreted to determine the appropriate design for the production well.</p> <p>3.9 Ability to accurately calculate volume in cubic metres or litres is demonstrated.</p> <p>3.10 Standing water level and application of flow meters are measured/calculated and recorded.</p> <p>3.11 Symptoms of a formation kick are recognised and action taken to control the bore.</p>
4. Develop bore	<p>4.1 Development techniques are used with care to prevent collapsing of casing or screens.</p> <p>4.2 Development techniques are used to improve hydraulic transmissivity around the bore.</p> <p>4.3 Development is undertaken until a continuous, clean supply of water is obtained, in accordance with site, contractual or regulatory requirements.</p>
5. Disinfect/decontaminate bore and drilling equipment	<p>5.1 Disinfection/decontamination procedures to comply with relevant standards or regulatory requirements.</p> <p>5.2 Hazard codes and instructions in the use of hazardous chemicals are complied with to ensure hazardous chemicals are handled in accordance with manufacturer's recommendations/instructions.</p>
6. Carry out bore maintenance and rehabilitation	<p>6.1 A process of diagnosis is undertaken to determine likely cause of bore deterioration.</p> <p>6.2 A program of rehabilitation is devised to ensure that the site is restored to a reasonable condition.</p> <p>6.3 Protective equipment is worn when handling hazardous cleaning chemicals and manufacturer's recommendations are followed.</p>
7. Abandon test/bore holes	<p>7.1 Correct procedures for the abandonment (decommissioning) of test holes or bore holes in any given type of geological formation, are carried out.</p> <p>7.2 Properly sealed hole is verified for future reference.</p> <p>7.3 Drill and other fluids are disposed of safely.</p>

Range of Variables

Evidence for designing bore may include:

- geophysical logs
- physical samples
- interpretation of soft/hard zones
- losses of mud.

Documents to be read and interpreted to determine construction methods are:

- results of test hole
- hydrogeological data and reports
- geological data
- old bore hole logs
- results from Sieve Analysis tests
- geophysical logging results.

Procedures that can be used for assembling and inserting casing and screens may include:

- solvent cement (PVC)
- stainless steel screws (PVC)
- welding (steel)
- threaded (PVC, FRP, ABS)
- locking strip or wire rope.

Equipment required for assembly and insertion may include:

- hand tools
- power driven (electric, hydraulic or air) hand tools
- welder
- solvent.

Basic geological knowledge may include:

- rock types
- aquifer systems

- drillability
- stability.

Numerical tasks may include:

- calculations such as
 - volume, e.g. mud pits, drums, tanks or bore holes of given dimensions
 - up hole velocity
 - cement/water/additives quantities
 - mud weight, control of pressurised formations
 - screen design parameters
 - gravel pack design parameters
 - flow rates, e.g. L/sec, GPM etc
 - conversion from imperial to metric and vice versa
 - conducting a sieve analysis.

Writing tasks may include:

- State Bore Completion Report
- daily Drill Operation Report
- Diagrams
- brief descriptions
- plotting information on a graph, e.g. plotting results from a sieve analysis.

Reading and interpreting of materials may include:

- plans
- diagrams
- Bore Log
- graphs.

Licences required may include:

- Waterwell licence:
 - Class 1
 - Class 2
 - Class 3

- licence for particular machine, for example:
 - cable tool
 - auger
 - rotary air
 - rotary mud.

Procedures and standards that should be read and interpreted in constructing wells may include:

- Australian Standards, e.g. AS 2368 (Test Pumping Water Bores)
- organisation's own internal procedures
- ARMCANZ "Minimum Construction Requirements for Water Bores in Australia" July 1997.

Evidence Guide

Critical aspects of evidence

A demonstrated understanding of:

- The rights and responsibilities of employers and employees under the relevant State Workplace/Occupational Health and Safety Act.
- Compliance with company safety codes.
- Environmental awareness.
- Isolation/work permits.
- Geological formations.
- Ability to complete required documentation legibly and accurately within specified time frame.
- Application of calculations, measurements eg annular volume; similarity and ratio to estimate depth, width, e.g. estimate the volume of a mud pit; basic geometry, e.g. calculating hole direction.
- Effective communication in spoken and/or written form with crew, bore owner and Government.
- Ability to adapt to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness, contingency planning.

Interdependent assessment of units

Assessment of this unit will need to consider the relative literacy/numeracy skills as well as competence in the operation of a range of communications equipment.

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials
DRTNH04A	Set up/pack up drill site
DRTNH05A	Support drilling process
DRTNH06A	Undertake samples collection and recording
DRTNH07A	Conduct drilling operations
DRTNH08A	Manage on-site operations
DRTNH09A	Select, test and condition drilling fluids
DRTNH10A	Construct monitoring bores

Underpinning knowledge

- Equipment - characteristics, technical capabilities and limitations.
- Basic geological formations, i.e. various formations which permit groundwater movement and factors affecting groundwater quality.
- Characteristics of “good samples” required for Waterwell construction.
- Ways in which sampling errors can occur.
- Types of mud.
- Problem solving techniques.
- Grout placement methods and procedures.
- Range of numerical calculations.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	3
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTNH12A Carry out operational maintenance

This unit covers all components of maintenance including mechanical, hydraulic and electrical skills. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Perform routine checks	<p>1.1 Legislation, safety rules and site-specific instructions are observed.</p> <p>Timed and regular equipment inspection is carried out in accordance with manufacturer's instructions.</p> <p>1.2 Faults or potential faults are identified and reported immediately.</p> <p>1.3 Isolation/tag out procedures are observed.</p> <p>1.4 Requirement for repair or maintenance is identified, recorded and/or reported.</p> <p>1.5 Machine checks are performed regularly and efficiently, as prescribed in the operator's manual.</p>
2. Maintain all downhole tools and other drilling consumables	<p>2.1 Procedures for component maintenance are followed, and carried out safely and according to instructions.</p> <p>2.2 Site procedures for maintaining and storing tools and consumables are followed.</p>
3. Perform machinery maintenance	<p>3.1 Equipment breakdown is minimised by regular servicing, maintenance, and performance of overhauls to manufacturer's specifications.</p> <p>3.2 Minor servicing of equipment is carried out avoiding disruption to production.</p> <p>3.3 Routine servicing, lubrication and housekeeping tasks are carried out to manufacturer's and/or site requirements.</p> <p>3.4 Instructions on maintenance procedures, lubrication tasks, and filter change/service are read and followed accurately.</p> <p>3.5 Wear parts are identified and changed, and relative frequency of replacement is recorded.</p> <p>3.6 Service and repair requirements are reported and action taken according to prescribed procedures.</p> <p>3.7 Diagnostic and troubleshooting techniques are used and action taken.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Perform field repairs	<p>4.1 Equipment faults are isolated and rectified.</p> <p>4.2 Extent of repair needed is identified and spare parts obtained.</p> <p>4.3 Tools required for maintenance and repairs are correctly identified, selected and used.</p> <p>4.4 Re-usable components or accessories are returned in accordance with site requirements.</p> <p>4.5 Equipment is reviewed and re-set in response to variations in production needs.</p> <p>4.6 System faults are recognised and appropriate responses are formulated within agreed time lines.</p> <p>4.7 Records of action taken are maintained in accordance with site requirements.</p> <p>4.8 Ability to dismantle, assess, service, repair, reassemble and test a given drill component is demonstrated in a safe manner.</p>

Range of Variables

Checks of equipment used on drilling site may include:

- periodic visual inspection
- check on correct operation
- observation of display instruments and gauges
- observation of recording instruments and gauges
- access to manufacturers' handbooks should be made available.

Symptoms of faults may include:

- indications on instruments or gauges
- noises
- vibrations
- smells
- visual indicators, e.g. smoke.

Procedures for keeping tools and consumables may include:

- effective storage
- use of desiccants

- store chemicals (cement, bentonite, etc.) in safe dry conditions secure from livestock.

Lubricants and other service materials required for equipment on-site may include:

- oils - engine, gear box, hydraulic
- greases
- rig spare parts
- down hole tools spare parts.

Machinery maintenance may include:

- operating checks
- daily checks
- programmed maintenance
- breakdown maintenance
- prescribed lubrication.

Diagnostic and trouble shooting procedures may include:

- diagnostics built into equipment
- diagnostics applying externally
- troubleshooting procedures recommended by manufacturers
- troubleshooting procedures developed by organisation
- knowledge of sources of help for more complex problems.

Reporting requirements may include:

- tool records
- service and maintenance
- metres drilled.

Evidence Guide**Critical aspects of evidence**

A demonstrated understanding of:

- Operational safety compliance with OHS, and Environmental legislation/regulation and organisational policies and procedures.
- Hazards/potential hazards.
- Diagnostic and troubleshooting procedures.

- Compliance with company safety codes.
- Immediate identification and reporting of faults/potential faults.
- Ability to maintain records legibly and accurately.
- Ability to adapt to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness.

Interdependent assessment of units

Assessment of this unit will need to consider the relative literacy/numeracy skills as well as competence in the operation of a range of communications equipment.

Underpinning knowledge and skills

- Familiarity with manufacturers' handbooks.
- Characteristics, technical capabilities and limitations of equipment.
- Environmental aspects.
- Mechanical/electrical/hydraulic systems/power tools.
- Isolation and tag out procedures.
- Lubricants and their uses.
- All engine electric and hydraulic indicators and gauges.
- Transmission and drive systems.
- Recording and reporting.
- The ability to apply mechanical skills, e.g. welding, fabrication, and fitting and turning related tasks.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTNH13A Conduct downhole tests

This unit cover the downhole tests that are used in waterwell, geotechnical and environmental drilling and mineral exploration.

ELEMENT	PERFORMANCE CRITERIA
1. Develop schedule of downhole tests	1.1 Situation is assessed to determine appropriate test program. 1.2 Schedule of tests is prepared. 1.3 Members of the crew are assigned to carry out tests. 1.4 Instructions from client are interpreted and implemented, if appropriate.
2. Conduct downhole tests	2.1 Tests are carried out in accordance with company operational procedures and/or Australian Standards. 2.2 Oral reports and/or written records according to Standards may be required. 2.3 Relevant safety procedures are followed.

Range of Variables

Downhole tests may include:

- standard penetration test (SPT)
- bailing (water sampling)
- geophysical logging
- permeability
- Dutch cone testing
- pumping test
- downhole surveys
- undisturbed sampling.

Reading materials to be read and interpreted before designing a bore may include:

- graphs, e.g. relative water quality
- bore logs
- Australian Standards, AS 2368 - 1990
- plan, diagrams
- graphical/digital readouts.

Evidence Guide**Critical aspects of evidence**

A demonstrated understanding of:

- The rights and responsibilities of employers and employees under the relevant State Workplace/Occupational health and Safety Act.
- National Licensing System related to the particular State.
- Environmental awareness.
- Working to instruction.
- Geological formations.
- A range of numerical estimations and calculations.
- Oral and written reporting procedures.
- Compliance with company safety codes.
- The ability to transfer the competency to changing circumstances.

Interdependent assessment of units

Prerequisite units:

DRTNH10A	Construct monitoring bores
DRTNH11A	Construct production bores

Underpinning knowledge

- Equipment - characteristics, technical capabilities and limitations.
- Basic geological formations, i.e. various formations which permit groundwater movement and factors affecting groundwater quality.
- Characteristics of “good samples” required for Waterwell construction.
- Ways in which sampling errors can occur.
- Advantages of choosing a circulation medium to suit sampling requirements.

- Types of mud.
- Problem solving techniques.
- Range of numerical calculations.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	3
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTNH14A Carry out on the job training and assessing

This unit covers informal structured training in workplace routines. It is based on the Agricultural Earthmoving Competencies. *All sectors.*

Note:

The workplace Trainer and Assessor may or may not have formal training at this stage.

For delivery of more formal and structured training, competency in Workplace Trainer Category 1 and Workplace Assessor module from Category 2 is required.

ELEMENT	PERFORMANCE CRITERIA
1. Identify need for training	1.1 Training requirements are defined.
	1.2 Previous knowledge of the task is checked by questioning.
	1.3 Competencies required for specific training, are identified.
	1.4 Trainee(s) are informed of training opportunity.
	1.5 Training is planned and scheduled.
2. Prepare trainees for training	2.4 Information on proposed training is provided to prospective trainees.
3. Carry out informal on the job training	3.1 The task is separated into sequential steps.
	3.2 An overview of the process is given verbally, and task is demonstrated.
	3.3 Instructions are given clearly and in logical steps so that a particular task can be followed.
	3.4 A range of strategies is used to check that the trainee understands what is expected of him.
	3.5 Questions are asked to elicit specific information.
	3.6 Specific positive/negative feedback on aspects of trainee's performance is given regularly.
4. Provide opportunities for practice	4.1 Opportunities for practice are provided according to the specific learning situation and training objectives.
	4.2 Constructive feedback and reinforcement are provided during practice.
	4.3 Trainee's readiness for assessment is monitored.

ELEMENT	PERFORMANCE CRITERIA
5. Evaluate training	5.1 Trainee is encouraged to raise problems or difficulties with any aspect of the training.
	5.2 Trainee's reaction to the training is sought.
	5.3 Own performance is reviewed against training objectives and in response to trainee's comments.
	5.4 The results of the evaluation are used to guide further training.
6. Record training outcomes	6.1 Details of the training are accurately recorded according to the organisation's requirements.
	6.2 Other records as required by legislation or agreement are kept.
	6.3 Records are released to authorised personnel only.
	6.4 Records are securely stored.
7. Provide information on training	7.1 Information on training proposed, in progress or completed, is provided to management as required.
	7.2 Information on appropriate, available training is provided to employees on request.
8. Conduct assessment in accordance with established procedure	8.1 The assessment process is explained to the trainee.
	8.2 All evidence is gathered and documented as specified in the assessment procedure.
	8.3 Evidence gathered, is evaluated and the assessment decision is made in accordance with the criteria specified in the assessment procedure.
	8.4 Assessment results are recorded promptly and accurately.
	8.5 Performance is discussed and confirmed with the person being assessed.
	8.6 Access to assessment records is limited to authorised personnel.

Range of Variables

Subject matter of training (which must be limited to trainer's expertise) may include:

- operation and maintenance of drilling equipment
- operation and maintenance of ancillary equipment
- troubleshooting/problem solving for all operations and equipment
- techniques for drilling
- safety and health procedures
- first aid.

Type of training:

- one to one
- sometimes small group.

Methods of training may include:

- face to face instruction on-site by drillers, supervisors, etc.
- instruction on or off site by equipment suppliers.

Presentation of training:

- usually step by step demonstration of practical skills, and explanation
- may involve distance support by phone or other communication means.

Minimum documentation may include:

- lists of personnel trained in competencies
- information for trainer's use only
- outcomes data on assessment in trainee's record book.

All procedures must comply with, and stress, the provision of relevant health and safety acts, their regulations and legislative requirements.

Assessment techniques are selected which are appropriate for the skills and knowledge to be assessed.

Assessment includes such techniques as:

- direct observation
- third party reports
- practical tasks
- written/oral questioning
- simulation
- combination of techniques.

Evidence Guide**Critical aspects of evidence**

The ability to lead, demonstrate and pass on skills backed by a range of industry experience is critical to this unit.

Interdependent assessment of units

Training may well consist of “hands on” working activity and minimal records being kept. The completion of this unit should therefore be in full context of the technical units for this industry.

Underpinning knowledge and skills

A working background knowledge of the industry’s requirements, and technical experience.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Evidence of satisfactory performance is best obtained by observation of training delivery on a number of occasions. If this is not possible, then at least one direct observation should be supported by supplementary evidence, such as confirmation by supervisor or discussion with trainees.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH15A **Manage non routine, complex technical situations**

This unit covers the skills, knowledge and experience required to handle complex drilling operations. It relates to the role of an experienced driller, not a formal supervisor. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Collect and analyse information	1.1 Problems are anticipated by constantly monitoring and analysing all available information. 1.2 Operational problems are promptly identified and considered from an operational and client perspective. 1.3 Information is assessed for relevance and applicability. Other sources of information to assist in problem solving are accessed, if available and if required.
2. Diagnose and solve complex problems	2.1 Actual problem is diagnosed using all available information. 2.2 A range of possible solutions is determined from extensive knowledge and experience. 2.3 Problems are analysed for any long-term impact and potential solutions are assessed. 2.4 Most appropriate action is decided upon. 2.5 Calculations, necessary to implement action, are carried out as appropriate. 2.6 Action is implemented to resolve the immediate problem, where appropriate. 2.7 Effectiveness of action is monitored. 2.8 Results of action taken are fed through to supervisors and management.
3. Manage non-routine/complex drilling operations	3.1 A depth and breadth of knowledge and experience is applied to all operations. 3.2 Ability to work independently of management is demonstrated. 3.3 Responsibility is taken for decision-making processes on the job.
4. Use technology effectively	4.1 Well-developed physical and sensory skills are used to operate equipment to fullest capacity. 4.2 Apply scientific and technological principles to evaluate and reshape operational procedures.

Range of Variables

Downhole problems that may be encountered, include:

- formation problems
- loss of sample
- lost circulation
- pressure formations
- differential pressure sticking
- hole deviation
- loss of sample integrity
- encountering unexpected contaminants, or contaminants in higher than expected concentrations
- old mine workings
- fishing
- loss of penetration
- sudden loss of pump pressure.

Information sources may include:

- technical manuals
- team members
- previous experience
- drilling logs
- mine site plans
- geological data.

Non routine and complex drilling operations may include:

- deep holes
- formation kicks
- bore hole stability
- directional control.

The range of experience may include different:

- equipment
- ground conditions
- rigs
- drilling methods and techniques.

Evidence Guide**Critical aspects of evidence**

It is essential that the individual has the ability to apply the following skills to more difficult situations than experienced in lower level competency applications:

- Problem solving and decision making techniques.
- Ability to prepare reports on complex data within specified time frames.
- Ability to respond effectively to challenging situations as they arise.
- High level mathematical skills.
- Environmental awareness.
- Geological formations.
- The ability to transfer the competency to changing circumstances.

Interdependent assessment of units

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials
DRTNH04A	Set up/pack up drill site
DRTNH05A	Support drilling process
DRTNH06A	Undertake samples collection and recording
DRTNH07A	Conduct drilling operations
DRTNH08A	Manage on-site operations
DRTNH09A	Select, test and condition drilling fluids
DRTNH10A	Construct monitoring bores

DRTNH11A	Construct production bores
DRTNH12A	Carry out operational maintenance
DRTNH13A	Conduct downhole tests
DRTNH14A	Carry out on the job training and assessing

Underpinning knowledge

- Communications systems, processes and procedures.
- High level mathematical skills.
- Problem solving techniques and decision making.
- Extensive operational knowledge in the following areas:
 - geology and hydrogeology
 - downhole testing
 - procedures relevant to the sector
 - deep hole drilling
 - downhole and formation pressures
 - hole stability, including properties of mud systems
 - rig capacity
 - fishing
 - a range of drilling equipment and methods available and their applications
 - cementing and grouting.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment, by simulation or by demonstrating knowledge of troubleshooting procedures within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH16A **Maintain effective team/crew operations**

This unit covers all components of planning, organising, co-ordinating and managing a team operation at a drill site. It has a detailed element on implementing and monitoring OHS requirements on-site. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Organise transport and accommodation for team	<ul style="list-style-type: none"> 1.1 Transportation and accommodation is arranged to and from site. 1.2 Routes are planned and checked. 1.3 Camp facilities are established in reasonable proximity to rig. 1.4 Sites and methods of disposal of wastes are identified. 1.5 Availability of water and other local supplies are checked.
2. Implement and monitor the OHS requirements for the site	<ul style="list-style-type: none"> 2.1 Work site is prepared in accordance with site procedures and plan/instructions, including OHS equipment and materials layout. 2.2 Organisational procedures for consultation over OHS issues are implemented and monitored to ensure that all members of the team have an opportunity to contribute. 2.3 Issues raised through consultation are dealt with and resolved promptly or referred to appropriate personnel in accordance with workplace procedures. 2.4 Workplace procedures are provided and maintained to ensure that employees are not exposed to hazards or health risks. 2.5 Information, instruction, training and supervision are provided to ensure employee safety. 2.6 Arrangements are made for the safe use, handling, storage and transport of equipment and materials. 2.7 Provision and the wearing of adequate personal protective clothing is monitored. 2.8 Site/company incident reporting and injury related time loss statistics are identified, interpreted and acted upon in accordance with company policies and procedures.

ELEMENT	PERFORMANCE CRITERIA
3. Analyse and plan work of teams/crews	<p>3.1 Teamwork requirements are identified from analysis of enterprise and client needs.</p> <p>3.2 Preparations for work are completed including:</p> <ul style="list-style-type: none"> • acquisition and positioning of resources • agreed allocation of achievable targets and work loads • briefing of relevant parties • finalisation of co-ordination and clearances. <p>3.3 Work of team is planned taking into account</p> <ul style="list-style-type: none"> • enterprise and client priorities • human, material and financial resources. <p>3.4 Drilling crews are allocated for maximum effective operation.</p> <p>3.5 Standards of performance/goals required by team and individuals, are established.</p>
4. Co-ordinate the activities of work teams/crews	<p>4.1 Work requirements and priorities are identified from analysis of relevant enterprise and client needs.</p> <p>4.2 Resources required to support the work effort are forecast and acquired.</p> <p>4.3 Workloads and required resources are co-ordinated and allocated/reallocated to the appropriate work teams.</p> <p>4.4 Changes to work requirements are identified by monitoring enterprise needs and team achievements against goals.</p> <p>4.5 Team member's opinions are sought and adopted as appropriate.</p>
5. Manage team/crew	<p>5.1 Crew is trained to the standard required.</p> <p>5.2 Opportunities for further training are identified.</p> <p>5.3 Performance is monitored and constructive feedback is provided to individuals, indicating whether agreed standard of performance has been achieved.</p> <p>5.4 Company procedures are followed when/if additional staff is required.</p> <p>5.5 Recommendations for termination of employment are carried out in accordance with approved procedures.</p> <p>5.6 Hours of work are authorised for payment of staff in accordance with approved instructions/awards.</p> <p>5.7 Team performance is monitored and reviewed.</p>

ELEMENT	PERFORMANCE CRITERIA
6. Counsel team members on personal problems	6.1 Team members are counselled in accordance with company discipline/procedures.
7. Deal with local industrial relations issues	7.1 Local industrial relations problems are resolved immediately, if possible.
	7.2 Industrial relations problems requiring more expert knowledge are referred to the appropriate authority.
8. Facilitate teamwork	8.1 Actions are initiated to develop good teamwork and morale.
	8.2 Work of team members is communicated to team using company's standard procedures.
	8.3 Accurate information on job requirements is conveyed in a clear and succinct manner.
	8.4 A communication network is established and maintained to ensure reliable, timely and cost effective communication.
	8.5 Potential disagreements/conflicts are identified and action taken to resolve them.
	8.6 Team member's contributions are acknowledged and rewarded.
	8.7 Informal meetings are organised and conducted regularly.
	8.8 Actions are initiated to establish and maintain rapport with employer.
	8.9 Decisions and outcomes are conveyed to team members in a timely an accurate manner.
	8.10 Team and individual performances consistently meet quality, safety, resource and delivery standards.
	8.11 Coaching and mentoring support is provided to assist colleagues in achieving the required level of competence.
9. Maintain records	9.1 The form and style of written communication is appropriate to the circumstances and to enterprise requirements.
	9.2 Written communication is prepared within deadlines ensuring: <ul style="list-style-type: none"> • accurate and essential information is included • clear, consistent and appropriate language is used • writing is legible.
	9.3 Information is released in accordance with authorised enterprise procedures.

Range of Variables

Accommodation for staff at drilling sites may include:

- huts or caravans at site
- rented accommodation near site
- hotels/motels.

Methods of transport to and from site may include:

- 2 and 4-wheel drive vehicles
- helicopters.

Teams/crews may vary in size, and composition depending on their purpose, functions and geographic locations.

All relevant OHS legislation and codes of practice involving duties and responsibilities of all parties under general duty of care are applied.

Workplace procedures may include:

- inspection
- housekeeping
- consultation processes to provide OHS information
- specific hazard policies and procedures
- maintenance of equipment
- training and assessment.

Equipment for a drilling site may include:

- drill rigs:
 - rotary table
 - rotary top drive
 - cable tool
 - diamond drill
 - hand held (e.g. hand auger)
- ancillary equipment:
 - pumps
 - compressors
 - generators
 - grout mixing equipment

- vehicles:
 - as described previously
- downhole tools:
 - as described previously.

External advice to deal with problems of staff at drilling sites may include:

- counselling following exposure to toxins, poisons etc.

Industrial Relations regulations and procedures may include:

- awards
- organisation's industrial relations policies and procedures
- enterprise-based and certified agreements.

Communication systems may include:

- previous shift reporting
- written and/or verbal instructions and operating procedures
- equipment/machine tagging procedures
- telephones
- two way radios and radio network
- satellite phones.

Records to be maintained may include:

- daily drill reports, checked and signed and copies distributed
- requisition forms
- weekly reports of site activities
- OHS requirements.

Evidence Guide

Critical aspects of evidence

A demonstrated understanding of the rights and responsibilities of employers and employees under the relevant State Workplace/Occupational Health and Safety Act and the established organisational OHS policies/procedures.

- A recognition of the need for teamwork and a respect for the role that each individual performs.

- It is essential that competence is fully observed in the critical aspects of:
 - organisational skills
 - problem solving techniques
 - team leadership
 - ability to communicate effectively with all clients on a range of issues
 - application of calculations, measurements eg annular volume; similarity and ratio to estimate depth, width, e.g. estimate the volume of a mud pit; basic geometry, e.g. calculating hole direction
 - ability to prepare clear, concise and logical reports within specified time frame.
- Ability to adapt to new situations using appropriate strategies, e.g. innovation, contingency planning.

Interdependent assessment of units

Assessment of this unit will need to consider the relative literacy/numeracy skills as well as competence in the operation of a range of communications equipment.

Prerequisite units:

DRTNH01A	Apply Occupational Health and Safety in the work environment
DRTNH02A	Living away and interpersonal skills
DRTNH03A	Mobilise equipment and materials
DRTNH04A	Set up/pack up drill site
DRTNH05A	Support drilling process
DRTNH06A	Undertake samples collection and recording
DRTNH07A	Conduct drilling operations
DRTNH08A	Manage on-site operations
DRTNH09A	Select, test and condition drilling fluids
DRTNH10A	Construct monitoring bores
DRTNH11A	Construct production bores
DRTNH12A	Carry out operational maintenance
DRTNH13A	Conduct downhole tests
DRTNH14A	Carry out on the job training and assessing
DRTNH15A	Manage non routine, complex technical situations

Underpinning knowledge

- Site and equipment safety requirements and regulations.
- Equipment characteristics, technical capabilities and limitations, operational procedures.
- Basic geology and technical data.
- Resource acquisition policies and practices.
- Time management.
- Site and legislative policies and recording procedures.
- Communication systems, processes and procedures, e.g. two way radio, satellite phone.
- Graphical representation, e.g. maps, diagrams, and their uses for interpretation and prediction.
- Conversions between metric and imperial.
- Required documentation, e.g. requisition forms, daily log reports.
- Points of referral for industrial relations problems requiring more expert knowledge.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time.

Context of assessment

Competence shall be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH17A Manage equipment maintenance

This unit covers all components of planning, costing and organising maintenance. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Manage movement of stock	<p>1.1 Cost items needed for the worksite are identified/planned.</p> <p>1.2 Checklist of all materials, spares, etc., is prepared and maintained, to ensure the drilling operation continues effectively.</p> <p>1.3 Arrangements are made for the safe and secure storage on-site, of materials and spare parts.</p> <p>1.4 Wear parts and relative frequency of replacement are identified and replacement costs determined.</p> <p>1.5 Orders for stock or equipment maintenance are placed in advance of need, to ensure continuous availability.</p> <p>1.6 Procedures for issue, return and recording of stock movement are developed and implemented.</p> <p>1.7 Money tied up in stock is minimised and recorded.</p> <p>1.8 Parts usage is regularly and accurately recorded.</p>
2. Plan and organise maintenance and overhauls	<p>2.1 Type and frequency of maintenance tasks are determined.</p> <p>2.2 Equipment maintenance and service is organised to ensure availability is maintained and downtime minimised</p> <p>2.3 Performance of maintenance schedules is monitored and corrective action taken, if necessary.</p> <p>2.4 Sources for obtaining back up or replacement equipment are arranged.</p> <p>2.5 Personnel are allocated to carry out maintenance tasks.</p>
3. Evaluate new and used equipment	<p>3.1 Materials and equipment are regularly tested.</p> <p>3.2 Availability of new and used equipment is monitored.</p> <p>3.3 Costs/benefits of replacing equipment is evaluated, and the purchase/lease of replacement equipment is recommended/implemented.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Maintain inventories of all items needed on-site	<p>4.1 Individual machine records are monitored in line with replacement policies.</p> <p>4.2 Optimum stock levels are maintained by implementing a stock control system to record stock levels and stock usages.</p> <p>4.3 Performance of stock control system is monitored and corrective action taken if required.</p> <p>4.4 Approved requisition/purchasing procedures to order parts and supplies are used at the appropriate time and in the appropriate quantity.</p> <p>4.5 Regular stocktaking is carried out and on going stock levels rotated and monitored.</p> <p>4.6 Resources/stock required for servicing is available only on authorised access.</p> <p>4.7 Waste or damage to spare parts in storage is prevented/minimised.</p> <p>4.8 Approximate time lines for re-ordering are determined.</p> <p>4.9 Replacement of equipment, consumables, components and materials is calculated/estimated and ordered.</p> <p>4.10 Any problems with stock control or availability of parts is reported to appropriate personnel.</p>

Range of Variables

Cost items may include:

- plant equipment and hire
- fuel, materials, drilling stores and bits
- maintenance and drill string replacement.

Methods for planning and scheduling tasks can include the development of:

- flow charting
- time lines/diagrams.

Methods of identifying spare parts and consumables which may include:

- diagrams in makers' handbooks and other documents
- lists in makers' handbooks and other documents
- labels, bar codes, etc. on items.

Methods of maintaining appropriate stock levels which may include:

- two bin system
- re-order level system
- re-order cycle system
- any of the above operating with computer assistance
- replenishment system.

Evidence Guide**Critical aspects of evidence**

A demonstrated understanding of

- Operational safety in compliance with appropriate legislation.
- Designing and maintaining:
 - checklists of materials/spares
 - schedules/timelines for equipment maintenance
 - an effective stock control system.
- Application of estimations and calculations of time/costs of repairing, replacing, servicing.
- The ability to transfer the competency to changing circumstances.

Interdependent assessment of units

Assessment of this unit will need to consider the relative literacy/numeracy skills as well as competence in the operation of a range of communications equipment.

Underpinning knowledge

- Equipment and ancillary attachment characteristics, technical capabilities and limitations.
- Wear parts and relative frequency of replacement.
- Purpose of stock control.
- Financial transactions, e.g. cash flow, cost benefit analysis.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Assessment may be undertaken in a workplace or a simulated workplace environment. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH18A Manage financial resources

This unit covers all components of quoting, invoicing and maintaining financial records. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Prepare/receive invoices	1.1 All job components are accurately estimated using company procedures. 1.2 Company procedures for presentation and recording of quotation are followed. 1.3 Charges levied according to services, and account rendered to client. 1.4 Preparation of invoices is prompt and accurate to help ensure desired cash flow. 1.5 Accounts received are verified for accuracy and paid promptly.
2. Maintain cost records	2.1 Office procedures for financial controls and accountability are followed. 2.2 All cost records are promptly, legibly and accurately recorded.
3. Prepare reports on variances from cost estimates	3.1 Cost records are analysed to detect variances/reasons for variances. 3.2 Final costing is compared with original job tender. 3.3 Reports are prepared in accordance with organisation format.
4. Monitor financial performance	4.1 Strategies for managing cash flow are determined and maintained to monitor the relationship between budget/standard and actual performance. 4.2 Costs are determined and calculated to enterprise requirements. 4.3 Reporting and pricing records are completed in line with business policy. 4.4 Financial records are maintained to monitor overhead profits and costs. 4.5 Financial reports are produced in a clear and timely manner for distribution to relevant stakeholders.

Range of Variables

Financial data may include:

- production
- process
- control
- client
- market
- staff records of operational activities.

Cost items may include:

- wages
- accommodation and travel
- office administration, accounting and purchasing
- vehicles and transport
- purchased services on location.

Cost information can be obtained from these and other sources:

- time sheets
- log books
- invoices
- requisitions.

Numerical calculations required for managing finances may include:

- basic arithmetical calculations - addition, subtraction, multiplication, division
- place value for whole numbers and decimals
- percentages
- estimation, e.g. quantities/resources/time
- interpretation of statistical diagrams, including tables, charts, and graphs.

Calculations may be made by calculator.

Records may include:

- cash book
- petty cash book
- wages and salaries
- paid purchase and service invoices
- sales invoices
- machine usage
- consumables and fuel usage
- parts usage.

The record keeping system may be computerised or manual.

In some cases, variations may be initiated by the contractor for consideration by the client.

Evidence Guide**Critical aspects of evidence**

- Creates and maintains a work environment which conforms with legislation and standards.
- Satisfies client needs for products and services within quality, time and cost parameters.
- Maintains up to date records accurately and legibly.
- Application of estimations and calculations of time/costs of repairing, replacing, servicing.
- Interprets and balances a budget.
- The ability to transfer the competency to changing circumstances.

Interdependent assessment of units

Assessment of this unit will need to be considered in relation to:

DRTNH17A Manage equipment maintenance

Underpinning knowledge

- Equipment and ancillary attachment characteristics, technical capabilities and limitations.
- Wear parts and relative frequency of replacement.
- Purpose of stock control.

- Financial transactions eg cash flow, cost benefit analysis.
- Record keeping systems.
- Budgeting procedures.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies

Level

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH19A Plan drilling

This unit covers all components of planning a drilling program by middle management or owner/operator. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Liaise with clients and other relevant parties	1.1 Precise scope of work expected by client and other relevant parties, is defined. 1.2 Communication with all parties is clear and concise to ensure that priorities and special requirements are understood and acted upon. 1.3 An achievable and acceptable contract is negotiated with the client within the scope of the driller's legal requirements and responsibilities. 1.4 General agreement on the drilling plan is achieved and documented, by communicating and clarifying intended objectives and contract requirements with all relevant parties. 1.5 A time schedule for all operations is developed, (using Gant/bar charts).
2. Inspect/research site for accessibility, services, hazards, legal and environmental problems	2.1 Size and nature of intended drill sites and designated routes to reach them, are established. 2.2 Topographical and geological features are assessed and preferred drilling sites are identified. 2.3 Specific relevant information from maps, diagrams or from other data is located and interpreted. 2.4 Legal and environmental limitations, and hazards applying to site are identified and appropriate action taken. 2.5 Locations of socially or environmentally sensitive areas are identified and honoured according to the site agreement. 2.6 Availability of water and/or other local supplies is checked.
3. Select appropriate drilling method	3.1 Available data relevant to ground conditions is read and evaluated. 3.2 Optimum method of drilling and downhole tools, are selected in consultation with other personnel (where appropriate).

ELEMENT	PERFORMANCE CRITERIA
4. Prepare cost estimates, quotes and tenders	<p>4.1 Data for quote is prepared, listing all necessary activities, materials and sub-contracting services needed.</p> <p>4.2 A contingency sum is allowed for identifiable but uncertain factors.</p> <p>4.3 Basic mathematical calculations and estimations are used to determine job costs.</p> <p>4.4 Quote/tender is presented clearly and accurately in organisation's standard format.</p>
5. Arrange permits and licenses	<p>5.1 The required permits and licences are determined and obtained.</p> <p>5.2 Correct application procedures are followed.</p>
6. Design and organise drilling program	<p>6.1 Action plan is established to ensure completion of program to client satisfaction, within quality, time and cost parameters.</p> <p>6.2 Scope of work is communicated to crew involved in drilling program.</p> <p>6.3 Variations to scope of work/contractual requirements are noted on log.</p> <p>6.4 Crew and other resources selected for the job are appropriate and available.</p> <p>6.5 Communication with crew(s) about job requirements, working conditions and role and responsibilities, is clear and concise and if ambiguity occurs, immediate clarification is sought.</p> <p>6.6 Size and nature of intended drill rig sites, and routes for reaching them, are established.</p> <p>6.7 Availability of site amenities and back up support is clarified.</p> <p>6.8 Methods of controlling flow off site, disposing of wastes and restoring the site after the operations are decided upon.</p>
7. Prepare OHS plan for site.	<p>7.1 Plan to eliminate/mitigate hazards to designated level, is prepared.</p> <p>7.2 Signs, hazards and warnings are read and followed, and consequences are understood.</p> <p>7.3 Required safety equipment is determined and requisitioned or purchased.</p> <p>7.4 Safety rules and regulations, legislation and specific site instructions are incorporated.</p> <p>7.5 Sign off, on commitment to OHS plan is obtained from crew.</p>

Range of Variables

Scope of work may include:

- tendering/quoting
- site inspections
- liaising with clients
- crew selection/training
- purchase/acquisition of equipment.

Parties may include but not be limited to:

- landholders
- geologists
- engineers
- drilling crews
- Government departments.

Communication may be any of the following media:

- face to face
- telephone
- 2 way radio
- written documentation
- satellite phones.

Data to be reviewed for specific information, or read and interpreted, may include:

- maps, e.g. road, geological and topographical maps, site mud maps
- surveys
- written instructions
- drawings
- reports, e.g. mines reports, geological reports, logs from previous drilling, etc.

Features of site and methods of access can be determined by various methods including:

- geological and topographical maps
- air photos, photogrammetric methods generally
- site inspection (foot, 2 or 4 wheel drive).

Legislation and legal responsibilities to be understood and considered in planning and organising for drilling, may include:

- legislation:
 - environmental protection
 - groundwater protection
- legal responsibilities:
 - notice to the licensing body of intention to start work on hole or well, or in certain areas
 - provision of dates when drilling would be in progress
 - provision of statutory records and samples by due date.

Note:

Legislation or regulations emanating from all levels of Government must be considered.

Hazards that may affect planning at a drill site, may include:

- electricity wires
- (pressured) water pipes
- telephone lines
- gas pipes fibre optics
- pipes containing “other” fluids (e.g. petroleum).

Estimating data and methods may include:

- checklists of all activities and material
- wastage factors
- contingency allowances
- schedules of quantities and rates
- organisation’s procedures for calculating and presenting estimates
- inspection of cores or chip samples from earlier drilling programs.

Range of numerical calculations may include:

- carrying out addition, subtraction, multiplication, division length
- using appropriate instruments to measure:
 - width
 - height
 - diameter
 - weight

- angle
- temperature
- using calculator, if required
- using estimating skills, e.g. mental arithmetic, visualisation of size and quantity.

Permits and licences that may be needed, may include:

- Drillers Licence (Waterwell)
- Breathing Apparatus (BA) Certificate
- proof of attendance at OHS course
- Bore Licence
- Exploration Licence.

They can be obtained from such sources as:

- State Government
- Water Authorities
- Fire Department, Mines Rescue Organisations (BA Training)
- Environment Protection Authorities (EPA's)
- various groundwater consultants.

Equipment and methods that may be used in a drilling program may include:

- cable tool
- auger:
 - solid flight
 - hollow flight
 - bucket
 - short flight
- rotary mud
- rotary air:
 - rotary air blast
 - down hole hammer
 - reverse circulation hammer
 - air core
- vibro core
- sampling tools - push tubes, core barrels, bits and reamers.

OHS plan for site includes all relevant legislation and codes of practice particularly:

- general duty of care requirements
- maintenance of records of occupational injury and disease
- provision of information and training
- setting up/working with OHS committees.

Evidence Guide**Critical aspects of evidence**

- A demonstrated understanding of the rights and responsibilities of employers and employees under the relevant State Workplace/Occupational Health and Safety Act.
- Compliance with company safety codes.
- The ability to communicate effectively with a range of industry participants.
- Application of
 - calculations and estimations, e.g. job costs
 - ratio and scale, e.g. to determine dimensions on a plan.
- Ability to complete the required documentation legibly and accurately within specified time frame.
- It is essential that competence is fully observed in the critical aspects of:
 - site preparation and planning
 - knowledge of site inspection/research techniques
 - organisational and statutory operating requirements
 - environmental awareness
 - negotiating an issue to reach a satisfactory solution.
- Ability to transfer the competency to changing circumstances.

Interdependent assessment of units

Assessment of this unit will need to be considered in relation to:

DRTNH17A	Manage equipment maintenance
DRTNH18A	Manage financial resources

Underpinning knowledge

- Equipment and characteristics, technical capabilities and limitations.
- Inspection/research techniques for collection of data:
 - linear measurement
 - angular measurement
 - by manual/electronic means.
- Communication systems, processes and procedures.
- Communication documents including maps, geological and topographical data, diagrams.
- Graphical representation, e.g. maps, diagrams and its uses for interpretation and prediction.
- Conversions between metric and imperial.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competence in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH20A Manage business operations

This unit is relevant to those with managerial responsibilities or an owner of a small business. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Evaluate a business opportunity	1.1 Sources of information about a business opportunity are actively pursued in line with personal and business interests and values. 1.2 The new business opportunity is evaluated against current business involvement to identify overlaps, compatibilities and clashes.
2. Prepare business plans and budgets	2.1 The business plan is developed on the basis of information obtained through research into customer needs, resource requirements and business viability. 2.2 The business plan identifies sales strategies to optimise market exposure and profitability. 2.3 Plans and budgets are developed to achieve the organisation's goals and strategies and to meet client needs. 2.4 Plans contain a clear statement of priorities and schedules. 2.5 The business plan is clearly communicated to relevant stakeholders and staff to ensure their understanding and support. 2.6 Resource implications of the plans are identified and strategies are devised for their acquisition and use. 2.7 Pricing systems are established consistent with organisation's requirements.
3. Implement operational strategies	3.1 The provision of goods/services is carried out in accordance with established technical, legal and ethical standards. 3.2 Systems to control expenditure, wastage, stock and costs are established in accordance with the business plan. 3.3 Quality procedures are developed to address product/service and client requirements. 3.4 Business relationships with external sources are identified and a range of acceptable outcomes are negotiated. 3.5 Research and/or development of new technology is undertaken to improve business opportunities.

ELEMENT	PERFORMANCE CRITERIA
4. Implement and monitor continuous improvement systems and processes	<p>4.1 The organisation's systems and technology are used to monitor progress and to identify ways in which planning and operations could be improved.</p> <p>4.2 Performance deviations are investigated and analysed to establish causes and implement changes in procedures.</p> <p>4.3 Operational policies and procedures are changed to incorporate corrective action taken.</p> <p>4.4 The organisation's continuous improvement processes are communicated to individuals/teams.</p> <p>4.5 Individuals/teams are informed of savings and productivity improvements in achieving the business plan.</p>
5. Manage finances	<p>5.1 The financial requirements are calculated to establish, profitably operate and extend the business.</p> <p>5.2 The capital, profitability and cash flow requirements are identified to enable the business to operate according to plan.</p> <p>5.3 Adequate financial provision is made for taxation, superannuation and accruing staff leave.</p> <p>5.4 Essential books and records are established and maintained to ensure ongoing accessibility of financial records.</p> <p>5.5 Financial and statutory reporting is conducted in accordance with legal and administrative requirements.</p> <p>5.6 Cash flow estimates are prepared for each forward period.</p> <p>5.7 Appropriate action is taken to ensure the achievement of profit and return on investment targets.</p>

Range of Variables

Management must comply with statutory/legal requirements which may include:

- environmental – noise/air/water
- zonings
- boundaries
- rehabilitation
- contamination
- Mineral Resources or appropriate body.

Business plans may include:

- long term plans
- short term plans
- strategic plans
- marketing plans.

The comprehensiveness and extent of detailed documentation in the business plan will depend on a range of factors, which may include:

- proposed size and scale of business
- market focus of the business
- need to raise finance, and requirements of lenders
- level of risk involved.

External sources may include:

- banks
- accountants
- legal representatives
- sub-contractors
- suppliers of services
- suppliers of capital equipment
- Government departments.

Costs may include:

- operational
- capital
- ownership
- consumables
- total unit.

Operational factors may include:

- business premises (size, location, layout)
- plant and equipment
- physical and natural resources (e.g. land, fences, water supply)
- methods/techniques/technology
- management and administrative systems and procedures.

Numerical calculations required for managing a business may include:

- basic arithmetical calculations – addition, subtraction, multiplication, division
- place value for whole numbers and decimals
- percentages
- estimation, e.g. quantities/resources/time
- interpretation of statistical diagrams, including tables, charts and graphs.

Calculations may be made by calculator or software applications.

Financial books and records may include:

- job costing
- quotations
- income and expenditure
- petty cash book
- taxation
- wages/salaries books
- files of paid purchase and service invoices
- insurance
- time sheets
- bank account records.

Records may be paper based or computerised.

Evidence Guide**Critical aspects of evidence**

- Demonstrates effectiveness of documented business plan, market research, operational plan, financial strategies/reports.
- Achieves business and performance plans.
- Maintains a profit/productivity focus in managing resources.
- Records information, and reports to designated individuals/groups within established accountability requirements.
- Adapts to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness and contingency planning.

Interdependent assessment of units

Nil. Co-assessment may occur with other units.

Underpinning knowledge

- Legal rights and responsibilities.
- All relevant statutory and regulatory requirements which affect a small business.
- Inspection/research techniques for collection of data.
- Analysis and problem solving techniques.
- Contractual rights and responsibilities.
- Planning and control systems (sales, advertising and promotion, logistics).
- Record keeping systems.
- Communication systems, processes and procedures.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

It will be necessary to collect evidence across a range of events over a period of time to ensure the identified variables are consistently achieved.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH21A Manage human resources

This unit is relevant to those with managerial responsibilities or an owner of a small business. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Develop human resource strategies	<p>1.1 An appropriate organisational structure for the business is developed to ensure all functions are fulfilled.</p> <p>1.2 Human resource requirements to perform tasks are determined and specified in terms of number of staff, time commitment and competencies required.</p> <p>1.3 Existing skills/competencies of self and staff are identified and compared with requirements to identify any gaps.</p> <p>1.4 Tasks are scheduled systematically and efficiently to optimise utilisation of available human resources.</p> <p>1.5 Communication channels are structured and effective. Systems for recording staff data are selected to provide timely and accurate information.</p> <p>1.6 Industrial agreements are in place in accordance with current workplace and industrial requirements.</p>
2. Implement human resource strategies	<p>2.1 Work responsibilities are managed so that available staff resources balance the functions and responsibilities required by business.</p> <p>2.2 Objectives, responsibilities and performance measures are communicated to each employee and their agreement obtained to ensure expectations are understood.</p> <p>2.3 Effective staff contributions to the business are recognised/rewarded.</p> <p>2.4 Recruitment, promotion and termination functions are performed ethically and in accordance with legal requirements.</p> <p>2.5 Complex industrial relations problems are managed or referred to appropriate authorities.</p>
3. Provides leadership in the workplace	<p>3.1 High standards of performance serves as positive role model for others.</p> <p>3.2 Performance meets the organisation's requirements.</p> <p>3.3 Performance plans are developed and implemented in accordance with the organisation's goals and objectives.</p> <p>3.4 Individuals and drilling crews are influenced in a positive manner.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Organise and manage team performance	<p>4.1 Effective working relationships are established and maintained in the workplace through provision of appropriate leadership, support, communication and feedback.</p> <p>4.2 Teamwork is encouraged and developed.</p> <p>4.3 Individual and team responsibilities and levels of authority are clearly defined to enhance clear communication and understanding of performance expectations.</p> <p>4.4 The performance of individuals and teams is regularly reviewed in terms of agreed performance measures.</p> <p>4.5 Strategies are established to create a learning environment in which the team members share their expertise and experiences.</p> <p>4.6 Employees are encouraged to extend or develop relevant competencies by taking opportunities for training.</p> <p>4.7 Benefits to personal and business performance are maximised through effectively managing diversity of employees.</p>
5. Access and share legislation codes and standards	<p>5.1 Legislation, standards and the organisation's policies and practices relevant to the creation and maintenance of a safe workplace and environment are made available to individuals/teams.</p> <p>5.2 Arrangements are made to provide information in a language, style and format which is understood by colleagues.</p> <p>5.3 Individuals/teams know their legal responsibility for maintaining a safe workplace and environment.</p> <p>5.4 The complications of an unsafe workplace and environment are clear to all within the workplace.</p>
6. Establish and maintain the organisation's Occupational Health and Safety/Environmental training program	<p>6.1 Occupational Health and Safety/Environmental training needs are identified accurately.</p> <p>6.2 An Occupational Health and Safety/Environmental training program is developed and implemented to identify and fulfil employees' training needs as part of the organisation's general training program.</p> <p>6.3 Arrangements are made for fulfilling identified Occupational Health and Safety/Environmental training needs in both on and off-the-job training programs in consultation with relevant parties.</p>

ELEMENT	PERFORMANCE CRITERIA
7. Establish and maintain a system for maintaining OHS/Environmental records	<p>7.1 Occupational Health and Safety/Environmental records for work area are accurately and legibly completed and maintained in accordance with workplace and legal requirements.</p> <p>7.2 Aggregate information from the area's Occupational Health and Safety/Environmental records is used to identify hazards and monitor risk treatment procedures according to organisational procedures.</p>

Range of Variables

Human resource requirements of a small business may be met through engaging full-time, or part time staff on a permanent, temporary or casual basis. Human resources may involve self only and may include family and/or friends whose services are employed in the business.

Small businesses may include as few as 1 to 5 employees. Human resource requirements for such small businesses follow the same principles, but may require a less complex approach to management.

Numerical calculations required for managing a business may include:

- percentages
- estimation, e.g. quantities/resources/time
- interpretation of statistical diagrams, including tables, charts, and graphs.

Calculations may be made by calculator.

Appropriate records may include:

- job/position descriptions
- employee records
- records of taxation and superannuation payments made
- OHS reports, minutes of meetings
- environmental reports
- occupational injury and disease
- risk treatment procedures
- relevant awards and/or industrial agreements
- records of induction and training.

Records may be paper based or computerised

Monitoring of tasks and systems may include:

- review of written reports performance appraisal
- auditing procedures
- OHS and environmental systems and processes
- evacuation procedures
- general duty of care requirements
- provision of consultation and training.

Performance measures may include:

- performance of key people
- overall productivity of employees
- employee morale
- work satisfaction
- ratio of direct workers to those who support, supervise or manage them
- ratio of sales dollars per employee.

Managing diversity involves valuing and utilising the different skills, backgrounds and capabilities of self and employees. It includes developing strategies to encourage and enable their effective integration into the business.

OHS involves application and management of relevant OHS legislation and codes of practice, particularly general duty of care requirements for the maintenance of records of occupational injury and disease, and provision of information and training.

OHS policies and procedures may include:

- providing a safe working environment
- identifying and assessing workplace hazards and risks
- controlling hazards and risks
- providing adequate information and supervision
- establishing a process for consultation as set out in legislation
- establishing an OHS and environmental training program
- maintaining a system for OHS and environmental records
- promoting, maintaining and improving the system.

Documents to be read may include:

- OHS and environmental legislation
- organisation's policies and procedures
- risk assessment procedures
- budgets
- financial projections.

Evidence Guide**Critical aspects of evidence**

- Demonstrates a detailed knowledge of key people management concepts and practices.
- Uses effective consultative processes with colleagues to achieve results.
- Follows appropriate legal and statutory requirements and reporting obligations.
- Manages the OHS and environmental systems and processes effectively.
- Develops/promotes a safety conscious culture in the workplace.
- Adapts to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness, and contingency planning.

Interdependent assessment of units

Nil. Co-assessment may occur with other units.

Underpinning knowledge

- Legal rights and responsibilities.
- All relevant statutory and regulatory requirements which affect a small business.
- Safety legislation, standards and procedures.
- Inspection/research techniques for collection of data.
- Analysis and problem solving techniques.
- Record keeping systems.
- Communication systems, processes and procedures.
- Alternative leadership styles, e.g. role model, consensus, authoritarian.
- Legal and regulatory aspects of employing or contracting human resources.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

It will be necessary to collect evidence across a range of events over a period of time to ensure the identified variables are consistently achieved.

Context of assessment

Competence shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies

Level

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH22A **Manage client services**

This unit is relevant to those with managerial responsibilities or an owner of a small business. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Plan to meet client requirements	1.1 The needs of clients are researched, understood, assessed and included in the planning process.
	1.2 Provision is made in plans to achieve quality, time and cost specifications agreed with clients.
	1.3 Effective communication links and consultative processes are maintained with clients.
2. Identify opportunities for product and service enhancement	2.1 Existing and/or potential customer base is identified as a guide to establishing demand.
	2.2 Service opportunities are identified and promoted to potential clients.
	2.3 Client requirements and preferences in relation to services to be supplied are determined as a basis for the marketing strategy.
	2.4 Systems to receive, respond to and address client reactions are implemented.
	2.5 Marketing strategies aimed at improving the business' competitive position are implemented.
3. Explore opportunities to improve client satisfaction	3.1 Products and services are delivered to client satisfaction within quality, time, cost and resource parameters.
	3.2 Quality of products and services is maintained by establishing client feedback mechanisms.
	3.3 Problems are discussed and resolved where possible through agreed and accepted processes.
	3.4 Client complaints are investigated, regarded as an opportunity to improve service and acted upon accordingly.

ELEMENT	PERFORMANCE CRITERIA
4. Monitor marketing performance	<p>4.1 Achievement of performance targets is regularly monitored in accordance with the marketing plan.</p> <p>4.2 Causes of any serious performance deviations are investigated and corrective action taken.</p> <p>4.3 Production operations are monitored and optimised.</p> <p>4.4 Resources are used effectively and efficiently to provide a quality service to clients.</p> <p>4.5 Strategies are planned and introduced which support the establishment of long term relationships with clients.</p> <p>4.6 Product and service delivery is adjusted promptly and decisively to satisfy client and organisation requirements.</p> <p>4.7 Records, reports and recommendations are managed within the organisation's system and processes.</p>

Range of Variables

Clients may be drawn from existing or new sources.

Client services are provided within requirements established by:

- consumer protection legislation
- enterprise/client relations, policy and procedures.

Various marketing strategies may include:

- achieving lower costs than competitors
- pursuing cost leadership with a specialist market
- promotion and advertising.

Uses legislation, codes and national standards relevant to the workplace.

Client satisfaction data may be obtained through:

- survey/other feedback mechanisms
- informal discussion
- client meetings.

Numerical calculations required may include:

- basic arithmetical calculations – addition, subtraction, multiplication, division
- place value for whole numbers and decimals

- percentages
- estimation, e.g. quantities/resources/time
- interpretation of statistical diagrams, including tables, charts and graphs.

Calculations may be made by calculator.

Resources may include:

- people
- finance
- information
- equipment
- power/energy
- time
- buildings/facilities
- technology
- computer software.

Records may be paper based or computerised.

Evidence Guide

Critical aspects of evidence

- Satisfies client needs for products and services within quality, time and cost parameters.
- Uses effective consultative processes to achieve results.
- Maintains effective communication with clients.
- Manages services within budget constraints.
- Monitors/introduces ways to improve services
- Seeks client feedback and acts on constructive advice
- Adapts to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness, and contingency planning.

Interdependent assessment of units

Nil. Co-assessment may occur with other units.

Underpinning knowledge

- Legal rights and responsibilities.
- Inspection/research techniques for collection of data.
- Analysis and problem solving techniques.
- Contractual rights and responsibilities.
- Planning and control systems (sales, advertising and promotion, logistics).
- Key marketing concepts and methods.
- Methods of monitoring client satisfaction.
- Record keeping systems.
- Communication systems, processes and procedures.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

It will be necessary to collect evidence across a range of events over a period of time to ensure the identified variables are consistently achieved.

Context of assessment

Competency shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies

Level

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH23A**Manage non routine, complex situations**

This unit is relevant to those with managerial responsibilities or an owner of a small business. *All sectors.*

ELEMENT	PERFORMANCE CRITERIA
1. Collect and analyse information	1.1 Problems are anticipated by constantly monitoring and analysing all available information.
	1.2 Information is assessed for relevance and applicability.
	1.3 Other sources of information to assist in problem solving are assessed, if available and if required.
2. Manage non-routine, complex operations/procedures	2.1 A depth and breadth of knowledge and experience is applied to management of all operations/procedures.
	2.2 Creative and responsive approaches to resource management are taken to appropriately meet requirements of the operation/procedure.
	2.3 Responsibility is taken for decision-making processes on the job.
	2.4 Appropriate and timely actions are taken in response to unusual or changing situations.
	2.5 Behaviour is adapted to the needs of the situation to achieve planned outputs and outcomes.
3. Manage emerging challenges and opportunities	3.1 Opportunities are taken to make adjustments in response to changing needs of clients and the organisation.
	3.2 Individuals and teams are helped to handle change efficiently and effectively.
	3.3 Response to new situations is taken promptly by identifying critical information/issues and developing appropriate strategies.
4. Develop creative and flexible approaches and solutions	4.1 Alternative approaches to managing workplace issues and problems are identified and analysed.
	4.2 A range of possible solutions is determined from extensive knowledge and experience.
	4.3 Problems are analysed for any long-term impact and potential solutions are assessed.
	4.4 Risks are assessed and action taken to achieve a recognised benefit or advantage to the organisation.
	4.5 Effectiveness of action is monitored.
	4.6 The workplace is managed in a way which promotes the development of innovative approaches and outcomes.

Range of Variables

Managers will normally be engaged in a workplace context in which they:

- are autonomous, maybe working under broad guidance
- may supervise others
- may guide teams
- may have responsibility for planning and managing the work of others
- will be involved in self directed application of knowledge
- have a substantial depth of knowledge and skills in a range of roles and functions
- operate in varied or highly specific contexts
- have technical knowledge.

Managers normally operate in diverse and complex workplace environments in which they use:

- goals, objectives, plans, systems and processes
- business and performance plans
- quality and continuous improvement processes and standards
- resources.

They use legislation, codes and national standards relevant to the workplace.

Non routine and complex situations may include:

- emergency response
- conflict resolution
- industrial relations issues
- effects of legal ramifications of incidents, e.g. accident
- effects of complex technical problems.

A range of learning opportunities may be used, for example:

- mentoring
- coaching
- structured training programs
- distance learning.

Resources may include:

- people
- finance
- equipment
- power/energy
- buildings/facilities
- technology
- information
- time
- reports and records management systems.

Evidence Guide**Critical aspects of evidence**

It is essential that the individual has the ability to apply the following skills to more difficult situations than experienced in lower level competency applications:

- Problem solving and decision making techniques.
- Ability to prepare reports on complex data within specified time frames.
- Ability to respond effectively to challenging situations as they arise.
- Ability to develop appropriate strategies and plans.
- High level mathematical skills.
- Use of effective consultation processes.
- The ability to transfer the competency to changing circumstances.

Interdependent assessment of units

Nil. Co-assessment may occur with other units.

Underpinning knowledge

- Communication systems, processes and procedures.
- High level mathematical skills.
- Problem solving techniques and decision making.
- Extensive operational knowledge.

- Legislation, codes and national standards relevant to the workplace.
- Organisation's goals, objectives, plans, systems and processes.
- Operational factors relating to business.
- Control systems.
- Methods of monitoring performance.
- Records systems.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Context of assessment

Competency shall be assessed in the normal work environment, by simulation or by demonstrating knowledge of troubleshooting procedures within the bounds of safety and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG52A **Implement and maintain statutory/legal compliance system**

This unit covers the implementation and maintenance of the organisation's statutory/legal compliance policies, procedures and programs in the relevant work areas.

ELEMENT	PERFORMANCE CRITERIA
1. Provide information about statutory/legal compliance and the organisation's policies	<p>1.1 Relevant provisions of legislation and codes of practice are accurately and clearly explained to site Supervisors.</p> <p>1.2 Information on the organisation's policies, procedures and programs is accurately and clearly explained to the group.</p>
2. Manage organisation's procedures for treating compliance	<p>2.1 Work procedures to treat compliance are implemented and adherence monitored in accordance with workplace procedures.</p> <p>2.2 Existing compliance treatment measures are monitored and results reported regularly in accordance with workplace procedures.</p> <p>2.3 Inadequacies in resource allocation for implementation of compliance measures are identified and reported to designated personnel.</p> <p>2.4 Organisational procedures for consultation over issues ensure that all members of the work group have an opportunity to contribute.</p> <p>2.5 Issues raised through consultation are dealt with and resolved promptly or referred to the appropriate personnel for resolution in accordance with workplace procedures.</p> <p>2.6 The outcomes of consultation over issues are made known to the work group promptly.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Manage organisation's procedures for identifying potential and existing non-compliance	3.1 Inadequacies in existing compliance measures are identified and reported to designated personnel in a timely way. 3.2 Information about potential non-compliance is evaluated and treatment procedures are accurately and clearly explained to the group. 3.3 Existing and potential non-compliance in the work area are identified and reported so that assessment and treatment procedures can be applied. 3.4 Measures to prevent recurrence and minimise non-compliance are implemented or alternatively referred to designated personnel for implementation.
4. Implement and monitor procedures for providing statutory/legal compliance training	4.1 Training needs for work group members are accurately identified. 4.2 Training programs are developed and implemented to fulfil employees' statutory/legal compliance training needs as part of the organisation's general training program. 4.3 Appropriate statutory/legal compliance training programs are carried out on and/or off the job in consultation with relevant parties.
5. Implement and monitor procedure for maintaining statutory/legal records	5.1 Records for work area are accurately and legible completed in accordance with workplace legal requirements. 5.2 Aggregate information from the work area's records is used to identify non-compliance. 5.3 Systems for reporting maintenance of statutory/legal compliance are in place.

Range of Variables

This competency standard is applicable for those with managerial responsibilities. This would typically be an *Operations Manager*.

To be exhibited in the work area of responsibility this would typically be in the office but may include site work areas.

Involves application of relevant legislation and codes of practice, the maintenance of records, provision of information and training; dealing with committees, statutory/legal agencies and site personnel.

Processes for consultation include committees, consultation with statutory/legal agencies/site representatives, issue resolution procedures and participative/consultative procedures conducted by supervisory staff within the area of managerial responsibility.

Monitoring of activities may include review of written reports, performance appraisal or auditing procedures.

Statutory/legal compliance may include but is not limited to:

- licensing requirements
- duty of care
- ASO (Australian Standards)/ISO
- OHS&E.

In accordance with all relevant statutory/legal requirements, particularly:

- requirements for the maintenance of records of statutory/legal breaches
- provision of information and training
- regulations and codes of practice relating to statutory/legal compliance
- site representatives and committees
- issue resolution.

Statutory and regulatory requirements

May include local, state, national and/or international legislation:

- business registration
- licence to practice
- industrial
- fire
- taxation
- OHS and environmental
- superannuation.

Legal Documentation

- Legal documents include:
 - partnership agreement
 - insurance
 - constitution documents
 - acts
 - statutory books for companies
 - tender documents
 - financial documentation.

Managers operate within:

- work schedules which may include shift work and varying hours of duty
- environments ranging from simple to complex and diverse
- appropriate policies, guidelines and processes
- a level of autonomy which may range from limited to substantial
- quality and continuous improvement processes and standards
- business and performance plans
- ethical standards established by the organisation
- productivity and profitability objectives and targets
- best practice and benchmarking principles and practices
- legislation, codes and practices
- resource parameters which may be defined or negotiated
- training and development principles and practices
- human resource policies and practices including interviewing, counselling, dispute settling and discipline
- financial accountability including profit and loss statements
- enterprise/industrial agreements/awards.

Managers may assume varying roles including:

- leader
- coach
- facilitator
- mentor
- participant
- director
- trainer
- assessor.

Managers will typically make decisions to:

- maintain statutory/legal compliance
- influence operational performance

- plan production schedules
- maximise production and minimise operating costs/risks and non-conformances
- analyse and review market/production predictions and costs
- manage projects and tasks.

Resources may include, but are not limited to:

- Acts
- legislation/regulations
- information
- Common Law

Negotiations may be with a variety of internal or external sources and be:

- formal or informal
- short term or ongoing
- multi-lingual and cross-cultural
- enterprise agreements
- legislation regulation compliance

and include relevant authorities, project managers, employees, contractors, customers and the community.

Consultation would typically include:

- regulatory authorities
- tenderers
- project managers
- contractors
- employees
- community
- customers
- suppliers.

Record keeping may include:

- statutory/legal records
- training needs
- resource allocation

- OHS
- financial
- personnel
- taxation.

Documentation to be read may include:

- legislation
- codes of practice
- organisation's policies/procedures
- statutory and regulatory requirements
- legal compliance.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Rig operations.
- Statutory/legal compliance.
- Procedure/work instruction development.
- Appraisal and auditing procedures.
- Acts.

Underpinning knowledge and skills

A knowledge of:

- Legal rights and responsibilities.
- Statutory/legal control.
- Environmental management.

- Work procedure/instruction writing.
- Human resource management.
- Company policy.
- Insurance requirements.
- Contractual rights and responsibilities.
- Organisational reporting structures and record keeping duties and systems.

The ability to:

- Develop and maintain statutory/legal and organisational procedures and policies.
- Use effective consultative mechanisms to negotiate processes and procedures appropriate to statutory/legal requirements.
- Explain complex information to superiors/subordinates.
- Provide coaching and mentoring support.
- Read, interpret and apply legislation.

Resource implications

The resources available will be specific to this competency, the individual employer and the particular worksite as required to comply to the other elements of this unit.

Relevant statutory/legal standards and guidelines relating to Federal, State and Local Government Acts applicable to a rig site.

Interdependence of units:

Assessment of this unit may need to be considered in line with operational requirements. Co-assessment may occur with other units.

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of environments, using a range of assessment instruments.

Context of assessment

Competence will be assessed in the normal working environment. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG53A **Implement and maintain OHS&E site risk management processes**

This unit covers the responsibilities in implementing and maintaining the organization's risk management, occupational health and safety/environmental policies, procedures and programs.

ELEMENT	PERFORMANCE CRITERIA
1. Provide information about OHS/ environmental policies, procedures and programs	1.1 Relevant OHS/Environmental legislation and codes of practice are accurately and clearly explained to site management.
	1.2 Information about identified hazards, outcomes of risk assessment, risk minimisation and control procedures is regularly provided and is accurately and clearly explained to the work group.
2. Manage the OHS/ environmental systems	2.1 Consultation procedures for OHS/Environmental issues are implemented and monitored to ensure that all members of the work group have the opportunity to contribute.
	2.2 Issues raised through consultation are dealt with and resolved promptly or referred to the appropriate personnel.
	2.3 Outcomes of consultation are made known to the work group promptly.
3. Develop and maintain procedures for control, minimisation and/or elimination of risks	3.1 Work procedures to control risks are developed, implemented and monitored.
	3.2 Existing risk minimisation and control measures are monitored and results reported regularly in accordance with workplace procedures.
	3.3 Inadequacies in existing risk minimisation and control measures are identified and reported to designated personnel.
	3.4 Inadequacies in resource allocation for implementation of risk minimisation and control measures are identified and reported to designated personnel.

ELEMENT	PERFORMANCE CRITERIA
4. Establish the organization's site procedures for dealing with hazardous events	4.1 Workplace procedures for dealing with hazardous events are implemented in line with company procedures.
	4.2 Existing and potential hazards in the work area are reported so that risk assessment and risk minimisation and control procedures can be applied.
	4.3 Hazardous events are investigated to identify their cause in accordance with investigation procedures.
	4.4 Control measures to prevent recurrence and minimise risks of hazardous events are implemented.
5. Implement and maintain the organization's OHS/Environmental training	5.1 Occupational Health and Safety/Environmental training needs are identified accurately.
	5.2 Arrangements are made for the delivery of Occupational Health and Safety/Environmental training in consultation with relevant parties.
6. Establish and maintain an OHS/Environmental record system	6.1 Occupational Health and Safety/Environmental records are accurately and legibly completed in accordance with workplace requirements.
	6.2 Aggregate information from the Occupational Health and Safety/Environmental records is used to identify hazards and monitor risk minimisation and control procedures within work area.

Range of Variables

Management operates within:

- work schedules which may include shift work and varying hours of duty
- environments ranging from simple to complex and diverse
- appropriate policies, guidelines and processes
- a level of autonomy which may range from limited to substantial
- quality and continuous improvement processes and standards
- business and performance plans
- ethical standards established by the organisation
- productivity and profitability objectives and targets
- best practice and benchmarking principles and practices
- legislation, codes and practices
- resource parameters which may be defined or negotiated
- training and development principles and practices

- a continuous improvement environment
- human resource policies and practices including interviewing, counselling, dispute settling and discipline
- enterprise/industrial agreements/awards.

Management may assume varying roles including:

- leader
- coach
- facilitator
- mentor
- participant
- director
- trainer
- assessor.

Management will typically make decisions to:

- legislative application
- influence operational performance
- plan production schedules
- maximise production and minimise operating costs, safety and environmental risks
- manage projects and tasks
- co-ordinate resources – human, financial and physical.

Resources may include, but are not limited to:

- people
- finance
- equipment/technology
- water
- buildings/facilities
- information
- minerals
- legislation.

Negotiations may be with a variety of internal or external sources and be:

- formal or informal
- short term or ongoing
- multilingual and cross-cultural
- enterprise agreements
- legislative/regulative compliance

and include relative authorities, tenderers, suppliers, project managers, employees, contractors, customers and the community.

Consultation would typically include:

- company senior management
- regulatory authorities
- tenderers
- contractors
- employees
- community
- customers
- suppliers.

Documentation to be read may include:

- OHS legislation
- environmental legislation
- organisation's policies/procedures
- risk assessment and procedures.

Other skills that may be required include:

- training and assessment skills
- meeting skills.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Rig operations.
- Statutory/legal compliance.
- Policy/procedure development.
- OHS and Environmental systems.
- Continuous improvement processes.
- Appraisal and auditing procedures.
- Risk management.
- Acts.

Underpinning knowledge and skills

Knowledge:

A knowledge of:

- Statutory/legal control.
- OHS auditing.
- Environmental legislation.
- Environmental management.
- Environmental auditing.

Skills:

The ability to:

- Develop and maintain statutory/legal and organisational procedures.
- Develop and introduce practices to improve the work environment.
- Use effective consultative mechanisms to negotiate processes and procedures appropriate to workplace and environmental safety.
- Explain complex information to superiors/subordinates.
- Provide coaching and mentoring support.
- Audit Occupational Health and Safety and Environmental systems and recommend strategies for improvement.

Resource implications

The resources available will be specific to this competency, the individual employer and the particular worksite as required to comply with the other elements of this unit.

Relevant statutory/legal standards and guidelines relating to Federal, State and Local Government Acts applicable to rig site.

Interdependence of units

Assessment of this unit may need to be considered in line with units:

DRTNH20A Manage business operations

DRTNH21A Manage human resources

and operational requirements.

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of environments, using a range of assessment instruments.

Context of assessment

Competence shall be assessed in the normal working environment and in accordance with work procedures. It needs to be demonstrated within those aspects of the Range of Variables that relate to the industry sector in which the person works.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG54A **Manage multiple drilling operations**

This unit covers the responsibilities in planning, implementing, monitoring and recording performance to achieve the business plans of the team/organization.

ELEMENT	PERFORMANCE CRITERIA
1. Co-ordinate resource use to achieve profit productivity	<p>1.1 Resource information for use in operational plans is collected, analysed and organised in consultation with colleagues and specialist resource managers.</p> <p>1.2 Operational plans contribute to the achievement of the organisation's performance/business plan.</p> <p>1.3 Operational plans identify available resources, taking into account customer needs and the organisation's plans.</p> <p>1.4 Plans to maximise value gained from the diversity of the organization's resources.</p> <p>1.5 Contingency plans are prepared in the event that initial plans need to be varied.</p>
2. Acquire resources to achieve operational plan	<p>2.1 Employees are recruited and inducted within the organisation's human resource management policies and practices.</p> <p>2.2 Physical resources and services are acquired in accordance with the organisation's practices and procedures.</p>
3. Monitor operational performance of drill supervisors and drilling operations	<p>3.1 Performance systems and processes are monitored to assess progress in achieving profit/productivity plans and targets.</p> <p>3.2 Budget and actual financial information is analysed and interpreted to monitor profit/productivity performance.</p> <p>3.3 Unsatisfactory performance is identified and prompt action is taken to rectify the situation.</p> <p>3.4 Recommendations for variation to operational plans are negotiated and approved by the designated persons/groups.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Monitor resource usage	<p>4.1 Systems and processes are monitored to establish whether resources are being used as planned.</p> <p>4.2 Problems with resource usage are investigated and rectified and/or reported to designated persons/groups.</p> <p>4.3 Mentoring and coaching is provided to support individuals/teams who have difficulties in using resources to the required standard.</p> <p>4.4 Systems, procedures and records associated with documenting resource acquisition and usage are managed in accordance with the organisation's requirements.</p>

Range of Variables

At AQF Level 6 Managers will normally be engaged in a workplace context in which they:

- are autonomous, working under broad guidance
- may supervise others
- may guide teams
- may have responsibility for planning and managing the work of others
- will be involved in self-directed application of knowledge
- have substantial depth of knowledge in some area and a range of skills for work tasks, roles and functions
- operate in varied or highly specific contexts
- use competencies independently for routine and non-routine purposes
- use judgement for self and others in planning and using resources, services and processes to achieve outcomes within time constraints.

Managers at this level will normally operate in diverse and complex workplace environments in which they use the organisation's:

- goals, objectives, plans, systems and processes
- business and performance plans
- ethical standards
- quality and continuous improvement processes and standards
- resources, which may be subject to negotiation.

They use legislation, codes and national standards relevant to the workplace.

A range of learning opportunities may be used, for example:

- mentoring
- coaching
- exchange/rotation
- action learning
- structured training programs.

Resources may include:

- people
- finance
- equipment
- power/energy
- buildings/facilities
- technology
- information
- time
- computer software.

Documentation may include:

- business plans/proposals
- submissions.

Financial data may include:

- budgets
- estimates
- financial projections.

Other skills required may include:

- research skills
- computer skills.

Evidence Guide

Critical aspects of evidence

- Demonstrates effectiveness of documented business plan, market research, operational plan, and financial strategies/reports.
- Achieves business and performance plans.
- Maintains a profit/productivity focus in managing resources.
- Records/reports information, and reports to designated individuals/groups within established systems.
- Uses information management systems.
- Identifies resources required to achieve operational plans for multiple sites.
- Maintains a profit/productivity focus in managing resources for multiple sites.
- Adapts to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness and contingency planning.

Interdependent assessment of units

Assessment of this unit may need to be considered in relation to other units.

Underpinning knowledge

- Legal rights and responsibilities.
- All relevant statutory and regulatory requirements which affect multiple sites.
- Inspection/research techniques for collection of data.
- Analysis and problem solving techniques.
- Contractual rights and responsibilities.
- Planning control systems (sales, advertising and promotion, logistics).
- Record keeping systems for multiple sites.
- Communication systems, processes and procedures.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

It will be necessary to collect evidence across a range of events over a period of time to ensure the identified variables are consistently achieved.

Context of assessment

Competency shall be assessed in the normal work environment within the bounds of safety and in accordance with work procedures.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF01A Assist with the health and safety of the working environment

This unit covers the assistance provided to the health and safety of the working environment by an offshore roustabout.

ELEMENT	PERFORMANCE CRITERIA
1. Conform to legislative and general health and safety requirements	1.1 Working practices are safe and conform to current legislative and operational requirements. 1.2 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements. 1.3 Safety equipment is used as required by legislative and operational requirements. 1.4 Agreed procedures regarding personal health and safety and the health and safety of others are adhered to. 1.5 Agreed procedures are followed in the event of fire, accident and other emergency. 1.6 Organisational requirements regarding conduct in the workplace are adhered to. 1.7 Reporting of incidents is in line with enterprise requirements.
2. Monitor and maintain pollution control measures	2.1 Controlled discharges from the area within the functional responsibility are within prescribed limits. 2.2 Unplanned discharges are identified and reported according to operational requirements. 2.3 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements. 2.4 Agreed procedures as required by legislative requirements and working practices are adhered to. 2.5 Work to permit system is complied with when disposing of materials. 2.6 Reporting of incidents is in line with enterprise requirements.

ELEMENT	PERFORMANCE CRITERIA
3. Monitor and maintain the health and safety of the individual, other workers and visitors	<p>3.1 Area within functional responsibility is maintained clean and free of hazards.</p> <p>3.2 Required safety equipment and machine guards are safely and securely in position and used.</p> <p>3.3 Unsafe equipment and dangerous occurrences are identified and reported according to operational requirements.</p> <p>3.4 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements.</p> <p>3.5 Materials are handled safely in accordance with legislative and operational requirements.</p> <p>3.6 Tools and equipment are handled, operated and stored safely and securely.</p> <p>3.7 Storage requirements for incompatible substances are understood and fulfilled.</p> <p>3.8 Incidents/accidents are reported in accordance with site/company procedures.</p>

Range of Variables

This unit covers the role of an offshore roustabout in contributing to the health and safety of the working environment.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Written tasks may include:

- note taking for pre-tour safety meetings
- weekly safety meetings
- stop for Safety meetings.

Reading materials may include:

- Job Safety Analysis (JSA)
- safety/first aid materials
- chemical labels.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Pollution control measures relate to:

- spills
- leaks.

Safety equipment includes:

- fire protection
- first aid
- survival.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Emergency duties/procedures.
- Safety rules and procedures.
- Permit to work system.
- Housekeeping.
- Fire prevention.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Height safe work practices.
- Working over water, safe work practices.
- Housekeeping/fire prevention procedures.
- Confined space and tank entry.
- OHS obligations.
- Permit to work.
- Job skills analysis and hazard identification.
- Company and statutory guidelines, procedures and practices.
- Evacuation and fire procedures.
- Workplace safety policy.
- Hazardous materials/chemical handling.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.
- Offshore technology.
- Chain of command and responsibilities.

Skills

The ability to:

- Use and care of personal protective equipment.
- Apply manual lifting and handling techniques.
- Implement workplace accident/incident reporting procedures.
- Source interpret and apply safety information (MSDS sheets).
- Safe lifting and manual handling techniques apply.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF02A	Assist in maintaining rig safety and emergency procedures
DRTOGOF03A	Assist in establishing and maintaining effective working relationships
DRTOGOF04A	Maintain equipment and hull
DRTOGOF05A	Carry out deck operations
DRTOGOF06A	Handle and store cargo
DRTOGOF07A	Assist in the transfer of passengers and freight during helicopter operations

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of environments, using a range of assessment instruments.

Key competencies

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	

DRTOGOF02A Assist in maintaining rig safety and emergency procedures

This unit covers the assistance provided with maintenance of rig safety and emergency procedures carried out by an offshore roustabout.

ELEMENT	PERFORMANCE CRITERIA
1. Assist with the control of critical situations	<p>1.1 Relevant alarms are activated in accordance with operational requirements.</p> <p>1.2 Actions to control and alleviate the hazardous situation are taken in accordance with operational and legislative requirements.</p> <p>1.3 The hazardous situation is monitored and relevant actions taken to minimise risks to personnel, environment, process, plant and equipment.</p> <p>1.4 Any hazards/potential hazards observed are reported immediately in accordance with operational requirements and safety management system.</p>
2. Participate in fire drills	<p>2.1 Fire alarm signals are recognised and activated.</p> <p>2.2 Emergency drills for evacuation are understood.</p> <p>2.3 Emergency personal protection equipment is obtained and worn, as appropriate.</p> <p>2.4 Fire Team Leader instructions are followed.</p> <p>2.5 Fire fighting equipment (portable extinguishers and fire hoses) are operated according to manufacturers and site procedures.</p> <p>2.6 Fire team member responsibilities are identified and complied with.</p>
3. Receive, interpret and apply emergency response procedures	<p>3.1 Emergency personal protection equipment is obtained and worn as appropriate.</p> <p>3.2 Responsibilities are identified and complied with.</p> <p>3.3 Alarm systems are understood and activated, in accordance with site requirements.</p> <p>3.4 Muster procedures are understood and complied with.</p> <p>3.5 Assistance is provided and instructions followed in accordance with site procedures.</p>

Range of Variables

This unit covers the role of an offshore roustabout in maintaining rig safety and emergency procedures.

Briefings/handover details may include:

- post drill critique
- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards)
- Environmental
- Station Bill (international requirement).

Emergency Situations may include but are not limited to:

- fire drills
- gas and collision drills
- escape and evacuation drills
- man-overboard drills
- helicopter emergency drills
- oil drills
- general emergency drills.

Communications may include:

- two-way radio.
- hand signals
- special signals for use with lifeline
- telephone
- public address system
- written work instructions.

Records to be completed may include:

- hazard observation reports
- rig safety audits.

Reading materials may include:

- Job Safety Analysis (JSA)
- manufacturers' instructions
- training materials
- emergency response bulletins.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Safety equipment includes:

- fire protection
- first aid
- survival.

Alarms may include, but are not limited to:

- audible
- visual alarm signals
- fixed system specific to installation.

Spillages may be:

- flammable
- toxic
- pollution.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators
- apparel.

Critical situations may include, but are not limited to:

- poor weather
- poor visibility
- equipment/systems failure
- communications failure
- blocked escape routes
- loss of chain of command
- loss of structural integrity

- loss of stability
- vessel movement
- fire/smoke/explosions
- injured personnel
- helicopter crash
- well control.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies
- risk assessment (JSA)
- Job Safety Analysis (JSA).

Relevant actions may include but are not limited to:

- proceed to muster point
- follow instructions
- possible evacuation
- prevent escalation
- make safe.

Critical aspects may include but are not limited to:

- initiate alarms
- identify alarm signals
- proceed to correct muster station
- act as fire/emergency team member
- follow instructions.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Rig emergency procedures.
- Rig layout and muster points.
- Alarm systems.
- Evacuation procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rig emergency procedures as per station drill (fire, escape and evacuation, gas, man overboard, cyclone, first aid, helicopter emergency, blow out, collision).
- Roustabout emergency duties.
- Location of alarm stations.
- Identify alarm signals.
- Life raft launching procedure.
- Fire team procedures.
- Fire, emergency and lifesaving equipment appropriate to the incident.
- Survival craft boarding procedures.
- Location of muster points.
- Means of evacuation (e.g. Lifeboat, life raft, ladders).

Skills

The ability to:

- Activate alarms.
- Make announcement on the public address system.
- Proceed to muster point.
- Don emergency gear (e.g. Fire suit, life jacket).
- Operate specific pieces of fire fighting, life saving and emergency equipment.
- Follow instructions.
- Determine wind direction.
- Assist carrying injured person in stretcher.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF01A	Assist with the health and safety of the working environment
DRTOGOF03A	Assist in establishing and maintaining effective working relationships
DRTOGOF04A	Maintain equipment and hull
DRTOGOF05A	Carry out deck operations
DRTOGOF06A	Handle and store cargo
DRTOGOF07A	Contribute to the transfer of passengers and freight during helicopter operations

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGOF03A Assist with establishing and maintaining effective working relationships

This unit covers the establishment and maintenance of effective working relationships by an offshore roustabout.

ELEMENT	PERFORMANCE CRITERIA
1. Establish and maintain effective working relationships with colleagues	1.1 Colleagues are treated in a manner which promotes and maintains goodwill. 1.2 Reasonable requests from colleagues are met promptly and willingly. 1.3 Where colleagues appear to be in work related difficulties, appropriate support is offered or sought. 1.4 Where a breakdown in working relationships cannot be resolved, prompt reporting action is taken with an appropriate authority.
2. Establish and maintain effective communications with colleagues	2.1 Communications are clear, concise and accurate and are delivered in a manner appropriate to the workplace. 2.2 Communications received are acted on promptly in accordance with operational requirements. 2.3 Difficulties in interpreting communications are identified and prompt clarification sought. 2.4 Language and terminology are appropriate to the workplace and the situation.
3. Establish and maintain relationships with visitors to the working environment	3.1 Visitors are greeted in a manner which provides goodwill in accordance with operational requirements. 3.2 Visitors are provided with sufficient information to meet their identified need. 3.3 Information requested is provided clearly in a manner which facilitates understanding. 3.4 Where information requests are outside of the functional responsibility, these are passed on to an appropriate person promptly. 3.5 Visitors are not endangered in any way by acts or omissions of the individual.

ELEMENT**4. Carry out work handovers****PERFORMANCE CRITERIA**

- 4.1 Relevant information is recorded accurately and legibly in accordance with operational requirements.
- 4.2 Current operational status relayed to and received from relevant personnel is accurate and complete.
- 4.3 Operating instructions are relayed accurately and completely to relevant personnel.
- 4.4 Work area is left clean and hazard free in accordance with operational requirements.

Range of Variables

This unit covers the role of an offshore roustabout in establishing and maintaining effective working relationships.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Visitors may include:

- approved and authorised visitors
- third parties.

Colleagues include:

- co-workers
- supervisors
- managers
- other company employees
- third parties.

Information may include:

- oral
- written
- visual
- safety
- operational
- statutory.

Situations may include, but are not limited to:

- informal meeting
- formal meeting
- normal work situation
- team briefings
- contingency situation
- tool box meetings.

Work handovers may include, but are not limited to:

- to next shift
- to next job
- to next person
- from previous shift
- from previous job
- from previous person.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Read, interpret and apply statutory guidelines, procedures and practices.
- Communication techniques appropriate to worksite.
- Briefings/handover.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Company and statutory guidelines, procedures and practices.
- Workplace reporting procedures.
- Permit to work system.
- Emergency procedures.

Skills

The ability to:

- Obtain and implement operational policies, procedures, instructions, codes of practice, standards and schedules.
- Pass on information accurately and completely and clarify information received.
- Control/minimise risks of work area hazards.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF01A	Assist with the health and safety of the working environment
DRTOGOF02A	Assist in maintaining rig safety and emergency procedures
DRTOGOF04A	Maintain equipment and hull
DRTOGOF05A	Carry out deck operations
DRTOGOF06A	Handle and store cargo
DRTOGOF07A	Contribute to the transfer of passengers and freight during helicopter operations

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGOF04A Maintain equipment and hull

This unit covers the maintenance of rig equipment and hull carried out by an offshore roustabout.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	<p>1.1 Working practices are safe and conform to operational requirements.</p> <p>1.2 Operational instructions are obtained and the work to be carried out is organised accordingly.</p> <p>1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel.</p> <p>1.4 Availability and status of necessary permits to work are confirmed in accordance with operational requirements.</p> <p>1.5 Availability of necessary auxiliary equipment is confirmed in accordance with operational requirements.</p>
2. Prepare and paint metal surface	<p>2.1 Surface is prepared using correct equipment.</p> <p>2.2 Coatings are applied in accordance with manufacturers specifications.</p> <p>2.3 Potential hazards are identified, rectified and/or recorded/reported.</p> <p>2.4 Equipment is masked and protected against overspray, where necessary.</p> <p>2.5 Finishing coat is applied using brush, roller or spray gun.</p> <p>2.6 Cleaning of equipment is carried out in accordance with site requirements.</p>
3. Assist in maintenance of materials and equipment	<p>3.1 Faults/potential faults are identified and reported immediately.</p> <p>3.2 Requirement for repair or maintenance is identified, recorded and/or reported.</p> <p>3.3 Maintenance is carried out on equipment as directed and in accordance with company and/or manufacturers specifications.</p> <p>3.4 Periodical examination of hooks, shackles, slings, rigging register and strops for defects, correct marking of SWL and ease of operation is conducted.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Clean and maintain decks in non-slippery condition	<p>4.1 Correct protective clothing and equipment is obtained and worn/used during handling of solvents.</p> <p>4.2 Approved instructions and Occupational Health and Safety requirements in the use of hazardous chemicals for cleaning are applied.</p> <p>4.3 Solvent solutions and rig wash are prepared and applied in accordance with company and/or manufacturers specifications to maintain work areas in non-slippery conditions.</p> <p>4.4 Area being washed is isolated and safety warning signs erected to indicate slippery decks.</p> <p>4.5 Correct cleaning and stowage of equipment is carried out at the completion of deck cleaning.</p>

Range of Variables

This unit covers the role of an offshore roustabout in equipment and hull maintenance.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Data to be reviewed for specific information may include:

- operator's manuals
- manufacturer's specifications for paint, rust remover, rust converter
- materials safety data sheets (MSDS)
- chemical labels.

Maintenance/periodical maintenance may include:

- crane hoists
- chains
- blocks
- comealongs.

Periodical maintenance examination may include:

- hooks
- shackles
- slicks
- strops.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions.

Equipment may include:

- hand chipping and scaling equipment
- pneumatic or electric wire buffing equipment
- hand wire brush
- paint and spraying compressor.

Reading tasks may include:

- work schedules
- manufacturers' instructions
- material and data sheets (MSDS).

Numerical tasks may include:

- measurement
- mass
- load dimensions
- safety working load calculations.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Identify and select maintenance tools and equipment.
- Prepare rig surfaces for painting.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Company equipment maintenance procedures.
- Surface preparation equipment.
- Safety pins and air hose fittings.
- Safe operating procedures and practices.
- Paint types and applications.
- Rust treatment.

- Equipment cleaning and preservation techniques.
- Chain blocks, comealongs and crane hoist maintenance procedures.
- Deck cleaning procedures.

Skills

The ability to:

- Prepare surfaces for painting.
- Work within the company safety guidelines, procedures and practices.
- Use safe operational practices when handling equipment.
- Report regularly to the crane operator on equipment condition.
- Assemble surface preparation equipment correctly.
- Ensure safety pins are in air hose fittings.
- Wear appropriate protective clothing/equipment.
- Prepare and paint surfaces.
- Apply rust treatment undercoat/final coat correctly.
- Clean and preserve equipment on completion.
- Check, identify and report defects on rigging equipment.
- Examine hooks, shackles, slings, straps and baskets correctly.
- Clean decks correctly.
- Report immediately any malfunction or equipment failure.
- Work as directed by the crane operator.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

- DRTOGOF01A Assist with the health and safety of the working environment
- DRTOGOF02A Assist in maintaining rig safety and emergency procedures
- DRTOGOF03A Assist in establishing and maintaining effective working relationships

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGOF05A Carry out deck operations

This unit covers the carrying out of deck operations by an offshore roustabout.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	<p>1.1 Working practices are safe and conform to operational requirements.</p> <p>1.2 Operational instructions are obtained and the work to be carried out is organised accordingly.</p> <p>1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel.</p> <p>1.4 Availability and status of necessary permits to work are confirmed in accordance with operational requirements.</p> <p>1.5 Availability of necessary auxiliary utilities is confirmed in accordance with operational requirements.</p>
2. Carry out deck operations	<p>2.1 Deck operations are safely carried out according to operational requirements.</p> <p>2.2 Faults are identified and appropriate remedial action taken within functional responsibility.</p> <p>2.3 Spillages are dealt with in accordance with operational requirements.</p> <p>2.4 Working practices are safe and conform to current operational requirements.</p>
3. Assist drill crew as directed	<p>3.1 Tubulars are placed and tiered in appropriate racks.</p> <p>3.2 Tubulars are measured, labelled and details recorded, as required.</p> <p>3.3 Air tugger winches are operated, as directed.</p> <p>3.4 Assistance is given in positioning BOP over moonpool.</p> <p>3.5 Assistance is given to crane operator in supplying marine riser and running tools to the drill floor.</p>
4. Operate pneumatic and electric power tools	<p>4.1 Appropriate protective clothing and equipment is worn.</p> <p>4.2 Pneumatic and electric power tools are operated in accordance with company and manufacturers specifications.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Provide labour for loading and discharge of helicopters as directed	<p>5.1 Approved safety approach sectors are used for access to and from the aircraft.</p> <p>5.2 Fuelling procedures are carried out under the direction of the aircraft captain and using approved fuelling procedures.</p> <p>5.3 Baggage and cargo are lifted/moved between rig and helicopter using correct lifting techniques.</p>
6. Provide labour for making up drilling mud	<p>6.1 Mud material data sheets are read, interpreted and applied.</p> <p>6.2 Correct protective clothing and equipment is worn in accordance with company requirements.</p> <p>6.3 Correct lifting techniques for handling of sack material are applied.</p>
7. Carry out post job operations	<p>7.1 Equipment is confirmed clean and ready for re-use according to operational requirements.</p> <p>7.2 Equipment is stored safely and securely in the designated location according to operational requirements.</p> <p>7.3 Faults in the equipment are identified and appropriate remedial action taken within functional responsibility.</p>

Range of Variables

This unit covers the role of an offshore roustabout in carrying out deck operations.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Equipment preparation may include, but is not limited to:

- chipping and painting
- cleaning
- lubricating
- basic maintenance
- equipment handling.

Safety equipment includes:

- fire protection
- first aid
- personal protective equipment (PPE).

Spillages may be:

- hazardous
- non-hazardous.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- rectify
- record.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Care and maintenance of hard tools.
- Permit to work system.
- OHS & Environmental procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Deck operations.
- Company and statutory safety guidelines, procedures and practices.

- Safe operating procedures.
- Equipment operations.
- Reporting procedures.

Skills

The ability to:

- Carry out duties of a crane chaser/dogger according to company and statutory requirements.
- Select and fit correct stinger/slings appropriate for crane load.
- Effect the transfer of personnel by crane.
- Place, measure, label and record details of tubulars.
- Correctly operate power tools, as directed.
- Wear appropriate personal protective clothing and equipment during operation of power tools.
- Assist in running/recovery of bop stack.
- Operate air tugger winch correctly.
- Assist in supply of marine riser and equipment to drill floor.
- Assist in loading/discharge and fuelling of helicopter.
- Assist derrickman in making up drilling mud.
- Identify and report faults.
- Communicate and report in accordance with company and statutory requirements.
- Read and interpret standard operating procedures, work instructions and data sheets.
- Apply correct lifting techniques.
- Fuel aircraft under direction and in accordance with approved fuelling procedures.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF01A	Assist with the health and safety of the working environment
DRTOGOF02A	Assist in maintaining rig safety and emergency procedures
DRTOGOF03A	Assist in establishing and maintaining effective working relationships
DRTOGOF04A	Maintain equipment and hull
DRTOGOF06A	Handle and store cargo
DRTOGOF07A	Contribute to the transfer of passengers and freight during helicopter operations

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGOF06A Handle and store cargo

This unit covers the handling and storage of cargo as carried out by an offshore roustabout.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment	<p>1.1 Operational instructions are obtained and the work to be carried out organised accordingly.</p> <p>1.2 Difficulties in carrying out the instructions are clarified with relevant personnel.</p> <p>1.3 Availability and status of necessary permits to work are confirmed in accordance with operational requirements.</p> <p>1.4 Availability of necessary auxiliary equipment is confirmed in accordance with operational requirements.</p> <p>1.5 Errors, omissions and shortages are identified and appropriate remedial action taken within functional responsibility.</p> <p>1.6 Equipment and tools are suitable for the job and the environment in which they are used.</p> <p>1.7 Storage area is prepared for cargo arrival in accordance with operational requirements.</p>
2. Handle and store cargo	<p>2.1 Working practices are safe and conform to operational requirements.</p> <p>2.2 Cargo is handled using safe handling techniques in accordance with operational requirements.</p> <p>2.3 Assistance is provided with crane operations.</p> <p>2.4 Containers are packed and unpacked in accordance with operational requirements.</p> <p>2.5 Cargo is checked, using marks, numbers, quantities/weights, to ensure correct identification.</p> <p>2.6 Faults are identified and reported and appropriate remedial action taken within functional responsibility.</p> <p>2.7 Equipment and cargo is stored safely and securely in the designated location according to operational requirements.</p>
3. Handle and store bulk cargo	<p>3.1 Working practices are safe and conform to operational requirements.</p> <p>3.2 Bulk cargo transfer is carried out according to operational requirements.</p> <p>3.3 Transfer of cargo is monitored in accordance with operational requirements.</p> <p>3.4 Faults are accurately identified and reported and appropriate remedial action taken within functional responsibility.</p>

ELEMENT**PERFORMANCE CRITERIA****4. Assist with crane operations**

- 4.1 Working practices are safe and conform to operational requirements.
- 4.2 Appropriate signals are used to direct movement of loads.
- 4.3 Faults are identified, reported and appropriate remedial action taken within functional responsibility.
- 4.4 Information relayed to crane operator is in accordance with operational requirements.

Range of Variables

This unit covers the role of an offshore roustabout in handling cargo.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Written reports may include:

- Plant Movement Advice (PMA)
- transport manifests.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Cargo includes:

- fluids
- powder
- containers
- restrained palletised
- loose palletised
- tubulars.

Equipment includes:

- hoses
- pumps
- transfer equipment
- slings
- shackles
- specialist handling equipment.

Utilities may include, but are not limited to:

- air
- fuel
- power
- craneage
- lighting.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Difficulties may include, but are not limited to:

- unclear instructions
- imprecise details
- lack of information.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record
- rectify
- repair
- adjust
- replace.

Information may include:

- oral
- written
- visual.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Working knowledge of crane directions.
- Lifting and slinging practices.
- Selection and inspection of lifting gear.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Safe lifting and handling techniques.
- Slinging requirements.
- Permit to work system.
- Operational requirements and principles of equipment.

Skills

The ability to:

- Implement safe working limits when handling and lifting cargo.
- Assess, interpret and apply information including technical information.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

- DRTOGOF01A Assist with the health and safety of the working environment
- DRTOGOF02A Assist in maintaining rig safety and emergency procedures
- DRTOGOF03A Assist in establishing and maintaining effective working relationships
- DRTOGOF04A Maintain equipment and hull

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGOF07A Assist in the transfer of passengers and freight during helicopter operations

This unit covers the assistance in the transfer of passengers and freight during the helicopter operations by an offshore roustabout.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Working practices are safe and conform to operational requirements. 1.2 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.4 Availability and status of necessary permits to work are confirmed in accordance with operational requirements. 1.5 Availability of necessary auxiliary equipment is confirmed in accordance with operational requirements.
2. Prepare for helicopter landing	2.1 Working practices are safe and conform to operational requirements. 2.2 Equipment is sited for safe and optimum use in accordance with operational instructions. 2.3 Freight and baggage is assembled for transportation in accordance with operational instructions.
3. Load and unload helicopter	3.1 Working practices are safe and conform to operational requirements. 3.2 Helicopter is made safe in accordance with operational requirements. 3.3 Assistance is provided in controlling the transfer of passengers in accordance with operational instructions. 3.4 Freight and baggage is assembled for transportation in accordance with operational instructions.
4. Refueling	4.1 Assistance is provided during refuelling. 4.2 Faults are identified and reported. 4.3 Refuelling equipment is properly stored after use.
5. Carry out helicopter 'standby' duties	5.1 Appropriate personal protective equipment is obtained and worn. 5.2 Correct position on landing helipad is held. 5.3 Landing and take off is monitored. 5.4 Faults are reported and appropriate action taken within functional responsibility.

ELEMENT	PERFORMANCE CRITERIA
6. Prepare for helicopter departure	6.1 Working practices are safe and conform to operational requirements.
	6.2 Equipment is safely and securely stored in designated location in accordance with operational requirements.
	6.3 Faults are identified, reported and appropriate remedial action taken.

Range of Variables

This unit covers the role of an offshore roustabout in assisting with the transfer of passengers and freight during helicopter operations.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Equipment includes:

- fire and safety equipment
- chocks
- hand tools
- nets
- power supply.

Operational instruction may include, but are not limited to:

- passengers
- baggage
- freight
- refuelling
- shutdown
- rotors turning
- helicopter type.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record

- rectify
- repair
- adjust
- replace.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Arrival/departure procedures.
- Stand-by duties.
- Loading/off-loading procedures.
- Helicopter approach procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Safe lifting and handling techniques.
- Safe handling of passengers.
- Safe boarding methods.
- Hazards associated with approaching the aircraft.
- Cargo handling/weight distribution requirements.
- Rig maintenance.
- Normal drilling operations.

- Non-routine drilling operations.
- Man management/rig management.
- Offshore technology.

Skills

The ability to:

- Understand effects of environmental conditions.
- Implement cargo handling/weight distribution requirements.
- Understand air regulations covering carriage of dangerous goods.
- Understand reasons for clearing away equipment.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF01A Assist with the health and safety of the working environment

DRTOGOF02A Assist in maintaining rig safety and emergency procedures

DRTOGOF03A Assist in establishing and maintaining effective working relationships

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGOF08A Contribute to the health and safety of the working environment

This unit covers the contribution to the health and safety of the working environment by an offshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Conform to legislative and general health and safety requirements	1.1 Working practices are safe and conform to current legislative and operational requirements. 1.2 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements. 1.3 Safety equipment is used as required by legislative and operational requirements. 1.4 Agreed procedures regarding personal health and safety and the health and safety of others are adhered to. 1.5 Agreed procedures are followed in the event of fire, accident and other emergency. 1.6 Organisational requirements regarding conduct in the workplace are adhered to. 1.7 Reporting of incidents is in line with enterprise requirements.
2. Monitor and maintain pollution control measures	2.1 Controlled discharges from the area within the functional responsibility are within prescribed limits. 2.2 Unplanned discharges are identified and reported according to operational requirements. 2.3 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements. 2.4 Agreed procedures as required by legislative requirements and working practices are adhered to. 2.5 Materials for disposal are accurately identified, appropriately packaged and labelled and transferred to the responsible person for disposal.
3. Monitor and maintain the health and safety of the individual, other workers and visitors	3.1 Area within functional responsibility is maintained clean and free of hazards. 3.2 Required safety equipment and machine guards are safely and securely in position and used. 3.3 Unsafe equipment and dangerous occurrences are identified and reported according to operational requirements.

ELEMENT	PERFORMANCE CRITERIA
Monitor and maintain the health and safety of the individual, other workers and visitors (cont'd)	3.4 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements.
	3.5 Materials are handled safely in accordance with operational requirements.
	3.6 Tools and equipment are handled, operated and stored safely and securely.
	3.7 Storage requirements for incompatible substances are understood and fulfilled.
	3.8 Incidents/accidents are reported in accordance with site/company procedures.

Range of Variables

This unit covers the role of an offshore floorman in contributing to the health and safety of the working environment.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Written tasks may include:

- note taking for:
- pre tour
- safety meetings
- weekly safety meetings
- stop for safety meetings.

Reading tasks may include:

- Job Safety Analysis (JSA)
- safety/first aid manuals
- chemical labels.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Safety equipment includes:

- fire protection
- first aid
- survival.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Emergency duties and procedures.
- Safety rules and procedures.
- Permit to work system.
- Fire prevention.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Evacuation and fire procedures.
- Workplace safety policy.
- Workplace reporting procedures.

Skills

The ability to:

- Use and care of personal protective equipment.
- Apply safe lifting and handling techniques.
- Implement workplace reporting procedures.
- Source safety information.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF09A	Contribute to the control of emergencies and critical situations
DRTOGOF10A	Establish and maintain effective working relationships
DRTOGOF11A	Prepare and operate drilling fluid systems
DRTOGOF12A	Perform drill floor operations

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGOF09A Contribute to the control of emergencies and critical situations

This unit covers the contribution to control of emergencies and critical situations by an offshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Contribute to the control of critical situations	<p>1.1 Working practices are safe and conform to operational requirements.</p> <p>1.2 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>1.3 Relevant alarms are activated in accordance with operational requirements.</p> <p>1.4 Duties of floorman and drill floor crew in quickly and competently closing the well are identified, interpreted and applied.</p> <p>1.5 Well kick signs are identified, interpreted and applied.</p> <p>1.6 Full opening safety valve, BOP and flow control head are located.</p> <p>1.7 Actions to control and alleviate the situation are taken in accordance with operational requirements.</p> <p>1.8 The situation is monitored and relevant actions taken to minimise risks to personnel, environment, process, plant and equipment.</p> <p>1.9 Reporting requirements in the event of a critical situation are maintained in accordance with safety management systems.</p>
2. Respond to emergencies in other areas	<p>2.1 Working practices are safe and conform to operational requirements.</p> <p>2.2 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>2.3 Relevant alarms are activated in accordance with operational requirements.</p> <p>2.4 Information in relation to the emergency is clear, accurate and in a suitable format for the needs of relevant personnel.</p> <p>2.5 Agreed emergency procedures are adhered to in accordance with operational requirements.</p> <p>2.6 Immediate action taken to make the situation safe minimises risks to personnel, environment, process, plant and equipment.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Comply with rig safety procedures	<p>3.1 Assist as directed in hang-off procedures and securing for severe weather in accordance with rig procedures.</p> <p>3.2 Signals and safe working procedures for operation of man riding and air hoists are read, interpreted and applied.</p> <p>3.3 Lift authorisation is obtained.</p> <p>3.4 Riding harness and hoist is inspected.</p> <p>3.5 Signalman's duties are read, interpreted and applied.</p> <p>3.6 Lock-out and tagging procedures as detailed in company policy and procedural documents are read, interpreted and applied.</p> <p>3.7 Permit to Work system as detailed in company policy and procedural documents is ready, interpreted and applied.</p> <p>3.8 Pit drills and safety meetings are attended and participated in.</p>
4. Participate in fire drills	<p>4.1 Fire alarm signals are recognised and complied with.</p> <p>4.2 Portable extinguishing equipment, fire hose, nozzles and breathing apparatus are operated in accordance with manufacturers and/or company procedures.</p> <p>4.3 Fire team responsibilities are identified and complied with.</p> <p>4.4 Fire resistant clothing is obtained and worn where available.</p> <p>4.5 Boundary cooling procedures and emergency ventilation shutdown are read, interpreted and applied.</p> <p>4.6 Assigned boat station is identified and procedure followed.</p>
5. Participate in gas and collision drills	<p>5.1 Gas alert alarms are identified, interpreted and applied.</p> <p>5.2 Watertight and gaslight openings are closed in correct sequence.</p> <p>5.3 Emergency ventilation shutdown procedure is read, interpreted and applied.</p> <p>5.4 Assistance is provided with flood control procedures, as directed.</p> <p>5.5 Assigned boat station is identified and procedure followed.</p>

ELEMENT	PERFORMANCE CRITERIA
6. Participate in rig abandonment drills	6.1 Orders for rig abandonment are received, interpreted and applied. 6.2 Correct boat assigned station is identified. 6.3 Correct survival capsule boarding procedure is read, interpreted and applied. 6.4 Inflatable life raft is launched in accordance with manufacturers and/or company procedure. 6.5 Survival suit/life jacket is obtained and worn. 6.6 Survival capsule is started in accordance with manufacturers and/or company procedures, as directed. 6.7 Survival capsule is lowered and released in accordance with manufacturers and/or company procedure. 6.8 Survival capsule spray protection and air pressurisation system is operated as directed. 6.9 First aid and medivac procedures are read, interpreted and applied.
7. Participate in “man overboard” drills	7.1 Lifebuoy and marker are launched in accordance with manufacturers and/or company procedures. 7.2 Correct alarms are identified, located and raised. 7.3 Watch on man in water is maintained until rescue is effected. 7.4 Crane basket recovery is directed, where appropriate.

Range of Variables

This unit covers the role of an offshore floorman in contributing to the control of emergencies and critical situations.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Alarms may include, but are not limited to:

- audible
- warning gestures
- oral warnings
- fixed system specific to installation.

Critical situation may include, but are not limited to:

- operational difficulties
- extreme weather
- equipment failure
- leaks
- fires
- kicks.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Information formats may include, but are not limited to:

- oral
- telephone
- public address system
- radio
- hand signals.

Reporting requirements may include, but are not limited to:

- oral
- written.

Safety management systems may include, but are not limited to:

- organisational
- installation.

Relevant actions taken to control and alleviate critical situations may include, but are not limited to:

- make safe
- isolate
- shutdown
- evacuate work area
- report
- record
- contain
- rectify.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Rig and emergency procedures.
- OHS guidelines.
- Rig layout and muster points.
- Evacuation procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Emergency procedures.
- Fire and gas control system.

- Emergency shutdown control system.
- Effects of loss of any utility and its reinstatement.
- Functioning of process control, including instrumentation.
- Equipment layout and its connection with other systems.

Skills

The ability to:

- Implement personal protection requirements appropriate to the environment.
- Recognise effects of changes of ambient conditions on operations.
- Locate sources of information and interpret drawings and manuals.
- Operate equipment.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGOF09A	Contribute to the control of emergencies and critical situations
DRTOGOF10A	Establish and maintain effective working relationships
DRTOGOF11A	Prepare and operate drilling fluid systems
DRTOGOF12A	Perform drill floor operations

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGOF10A Establish and maintain effective working relationships

This unit covers the operation of the establishment and maintenance of effective working relationships by an offshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Establish and maintain effective working relationships with colleagues	1.1 Colleagues are treated in a manner which promotes and maintains goodwill. 1.2 Reasonable requests from colleagues are met promptly and willingly. 1.3 Essential information relating to daily work schedules is provided clearly, accurately and promptly. 1.4 Where colleagues appear to be in work related difficulties, appropriate support is offered or sought. 1.5 Where a breakdown in working relationships cannot be resolved, prompt reporting action is taken with an appropriate authority.
2. Establish and maintain relationships with visitors to the working environment	2.1 Visitors are greeted in a manner which provides goodwill in accordance with operational requirements. 2.2 Visitors are provided with sufficient information to meet their identified need. 2.3 Information requested is provided clearly in a manner which facilitates understanding. 2.4 Where information requests are outside of the functional responsibility, these are passed on to an appropriate person promptly. 2.5 Visitors are not endangered in any way by acts or omissions of the individual.
3. Establish and maintain effective communications with colleagues	3.1 Given communications are clear, concise and accurate and are delivered in a style appropriate to the workplace. 3.2 Communications received are acted on promptly in accordance with operational requirements. 3.3 Difficulties in interpreting communications are identified and prompt clarification sought. 3.4 Language and terminology are appropriate to the workplace and the situation.

ELEMENT	PERFORMANCE CRITERIA
4. Carry out work handovers.	<p>4.1 Relevant information is recorded accurately and legibly in accordance with operational requirements.</p> <p>4.2 Current operational status relayed to and received from relevant personnel is accurate and complete.</p> <p>4.3 Operating instructions are relayed accurately and completely to relevant personnel.</p> <p>4.4 Work area is left clean and hazard free in accordance with operational requirements.</p>

Range of Variables

This unit covers the role of an offshore floorman in establishing and maintaining effective working relationships.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone

- public address system
- written work instructions.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Visitors include:

- approved and authorised visitors
- third parties.

Colleagues include:

- co-workers
- supervisors
- managers
- other company employees
- third parties.

Information may include:

- oral
- written
- visual
- safety
- operational
- statutory.

Situations may include, but are not limited to:

- informal meeting
- formal meeting
- normal work situation
- team briefings
- contingency situation

Working handovers may include, but are not limited to:

- to next shift
- to next job
- to next person
- from previous shift
- from previous job
- from previous person.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Company and statutory guidelines, procedures and practices.
- Communicate effectively to work team and superiors.
- Maintain visitor safety.
- Conduct handovers

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Company and statutory guidelines, procedures and practices.
- Workplace reporting procedures.
- Permit to work system.
- Emergency procedures.
- Workplace practices relating to visitors.
- Normal drilling operations.

- Non-routine drilling operations.
- Man management/rig management.
- Offshore technology.

Skills

The ability to:

- Obtain and implement operational policies, procedures, instructions, codes of practice, standards and schedules.
- Pass on information accurately and completely and clarify information received.
- Control/minimise risks of work area hazards.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF09A	Contribute to the control of emergencies and critical situations
DRTOGOF08A	Contribute to the health and safety of the working environment
DRTOGOF11A	Prepare and operate drilling fluid systems
DRTOGOF12A	Perform drill floor operations

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGOF11A Prepare and operate drilling fluid systems

This unit covers the operation of drilling fluid systems as carried out by an offshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	<p>1.1 Geographic layout of the active, reserve and slug pits is assessed.</p> <p>1.2 Operation of mud mixers, dump valves and equalising valves is assessed.</p> <p>1.3 Mud pump and discharge system is identified and located.</p>
2. Establish operational requirements	<p>2.1 Operational instructions are obtained and the work to be carried out is organised accordingly.</p> <p>2.2 Difficulties in carrying out the instructions are clarified with the relevant personnel.</p> <p>2.3 Availability and status of necessary permits to work are confirmed in accordance with operational requirements.</p> <p>2.4 Availability of necessary auxiliary equipment is confirmed in accordance with operational requirements.</p> <p>2.5 Availability of required quantities and type of consumables are confirmed against operational requirements.</p> <p>2.6 Errors, omissions and shortages are identified and appropriate remedial action taken with functional responsibility.</p>
3. Select and test equipment	<p>3.1 Working practices are safe and conform to operational requirements.</p> <p>3.2 Equipment identified and selected is appropriate for the work to be performed and conforms to operational requirements.</p> <p>3.3 Equipment is confirmed functional and fit for the purpose and the environment in which it will be used.</p> <p>3.4 Defects in the equipment are identified, reported and appropriate remedial action taken within functional responsibility.</p>
4. Prepare drilling fluids	<p>4.1 Working practices are safe and conform to operational requirements.</p> <p>4.2 Tanks and mixing equipment are confirmed clean and free from contamination in accordance with instructions.</p> <p>4.3 Defects in the equipment are identified and appropriate remedial action taken within functional responsibility.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Pump drilling fluids	<p>5.1 Working practices are safe and conform to operational requirements.</p> <p>5.2 Equipment is operated in accordance with operational requirements.</p> <p>5.3 Faults and defects are accurately identified, reported and appropriate remedial action taken within functional responsibility.</p> <p>5.4 Samples are obtained, weighed, viscosity measured and details recorded as per instructions.</p>

Range of Variables

This unit covers the role of an offshore floorman in operating drilling fluid systems.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions.

Recorded information may include:

- drilling fluids
- faults/defects
- pipe tallys
- mud properties.

Numerical tasks may include:

- measurement of mud properties, e.g. viscosity, density
- flow rate.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Equipment may include, but is not limited to:

- pumps
- lines
- manifolds
- shale shakers
- degaser
- centrifugers
- desanders/desilters.

Fluid systems include:

- mixing
- transfer
- bulk
- circulating.

Fluid mix specification includes:

- volume
- density
- viscosity
- mud properties.

Parameters include:

- flow rate
- density.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record
- adjust
- repair.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Preparation may include:

- geographic layout of the active, reserve and slug pits
- operation of mud mixers, dump valves and equalising valves
- mud pump discharge system
- read and interpret mud materials safety data sheets (MSDS)
- layout of shaker pits, degasser pit, settling pit and sand trap.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- OHS obligations.
- Operating principles of the systems equipment and their relationship to other plant.
- Rig safety and emergency procedures.
- Knowledge of pressure rates.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Chemical handling procedures.
- Operating principles of the systems equipment and their relationship to other plant.
- Fluid types and composition.
- Rig safety and emergency procedures.
- Safe operating procedures when operating equipment.

Skills

The ability to:

- Understand layout of mud circulating, mixing and suction systems.
- Understand geography of active, reserve and slug pits.
- Maintain and operate mud mixers, dump valves and equalising valves in the mud pits system.
- Safely add mud materials to the mud systems under the mud engineer's instructions.
- Operate and maintain all the mud treatment units.
- Understand layout of shaker, degasser and settling pits, and sand traps.
- Accurately take mud properties readings and legibly record them.
- Interpret and act on additional flow in the mud returns or an increase in mud pit volume.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGOF08A	Contribute to the health and safety of the working environment
DRTOGOF09A	Contribute to the control of emergencies and critical situations
DRTOGOF10A	Establish and maintain effective working relationships
DRTOGOF12A	Perform drill floor operations

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGOF12A Perform drill floor operations

This unit covers the performance of drill floor operations as carried out by an offshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment	<p>1.1 Operational instructions are obtained and the work to be carried out is organised accordingly.</p> <p>1.2 Difficulties in carrying out the instructions are clarified with the relevant personnel.</p> <p>1.3 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements.</p> <p>1.4 Availability of necessary auxiliary equipment is confirmed in accordance with operational requirements.</p> <p>1.5 Availability of required quantities and type of consumables are confirmed against operational requirements.</p> <p>1.6 Errors, omissions and shortages are identified and appropriate remedial action taken with functional responsibility.</p>
2. Select handling equipment	<p>2.1 Working practices are safe and conform to operational requirements.</p> <p>2.2 Equipment identified and selected is appropriate for the work to be performed and conforms to operational requirements.</p> <p>2.3 Equipment is confirmed functional and fit for the purpose and the environment in which it will be used.</p> <p>2.4 Faults in the equipment are identified, reported and appropriate remedial action taken within functional responsibility.</p>
3. Handle tubulars and equipment	<p>3.1 Working practices are safe and conform to operational requirements.</p> <p>3.2 Tubulars and equipment are positioned according to operational requirements.</p> <p>3.3 Connections are safely made and broken in accordance with operational requirements.</p> <p>3.4 Faults and defects are identified, reported and appropriate remedial action taken within functional responsibility.</p> <p>3.5 Equipment is handled using safe lifting and handling techniques.</p> <p>3.6 Data is accurately recorded at appropriate times and frequencies in accordance with operational requirements.</p>

ELEMENT**PERFORMANCE CRITERIA****4. Prepare and run drill string**

- 4.1 Personal protective equipment, appropriate to task, is obtained and worn.
- 4.2 All down hole tools and pipe are measured and recorded.
- 4.3 Pipe and tools are conveyed to drill floor correctly protected and in accordance with company operating procedures.
- 4.4 Tongs and slip dies are checked for cleanliness and sharpness and long lines are secured.
- 4.5 Manual slips are inspected, serviced and operated correctly.
- 4.6 Make-up and break-out manual tongs are operated correctly.
- 4.7 Drill floor drilling tools and equipment are moved in accordance with operating procedures.
- 4.8 Correct manual handling techniques are applied.
- 4.9 Cleaning, inspection and lubrication is carried out in accordance with operating procedures.
- 4.10 Drill string is made up and run applying correct use of equipment.

5. Prepare, run and cement casing

- 5.1 Preparation is carried out in accordance with rig operating procedures.
- 5.2 Shoe joints are prepared in accordance with company and manufacturers requirements.
- 5.3 Well heads/casing hangers are prepared in accordance with manufacturers and site requirements.
- 5.4 Running tools and cementing equipment are prepared in accordance with company and manufacture's requirements.
- 5.5 Lifting appliances are checked, faults identified and reported.
- 5.6 Handling equipment is checked and prepared.
- 5.7 Casing centralisers are prepared correctly.
- 5.8 Guide frames are prepared and installed as required.
- 5.9 Appropriate well control equipment and mitigation control equipment is prepared in accordance with site requirements.
- 5.10 Casing is run in correct sequence.
- 5.11 Casing is filled safely.
- 5.12 Appropriate cement line is connected as per company procedure.

ELEMENT	PERFORMANCE CRITERIA
Prepare, run and cement casing (cont'd)	5.13 Cementing room duties are carried out while mixing. 5.14 Assistance is provided, as directed in preparing, running and cementing of cementing casings. 5.15 Cementing room duties are carried out whilst mixing.
6. Run cement stinger assembly (non-standard)	6.1 Casing is landed at appropriate joint. 6.2 Appropriate equipment to run cement stinger is assembled. 6.3 Drill Pipe stringer is run inside casing as per rig specific operating procedure.
7. Assist in preparation and running of blow out prevention (BOP) stack, riser and diverter package	7.1 Preparation of running BOP equipment is in accordance with rig operating procedures. 7.2 BOP is positioned over the wellhead using the appropriate system. 7.3 Riser running equipment is assembled and checked. 7.4 Appropriate pressure test caps are assembled and checked. 7.5 Appropriate handling equipment is assembled and checked. 7.6 Riser angle beacon and hole positioning equipment is assembled and checked.
8. Examine and service drill floor equipment	8.1 Drill floor and equipment is maintained to company standard. 8.2 Lubrication schedules are read, interpreted and applied. 8.3 Lubrication is carried out in accordance with company and manufacturers requirements. 8.4 Correct types and quantities of lubricants for applications are identified and used. 8.5 Tools and portable equipment are cleaned, well maintained and correctly stowed. 8.6 Flammable substances are sealed and stowed according to company requirements. 8.7 Covers and gratings are in place, except when in use. 8.8 Tongs, slips and dies are maintained in a clean and sharp condition. 8.9 All decks are maintained in a clean and free from oil and grease condition. 8.10 Rig husbandry is maintained in accordance with site requirements.

Range of Variables

This unit covers the role of an offshore floorman in performing drill floor operations.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- Duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions.

Recorded information may include:

- tubulars and equipment
- faults and defects
- downhole tools and pipe measurements
- quantities of lubricants used.

Data to be reviewed may include:

- job instructions
- company/manufacturers' safe operating procedures
- national standards and codes of practice for manual handling
- lubrication schedules
- labels on hazardous materials
- Job Safety Analysis (JSA)
- training materials.

Numerical tasks may include:

- length
- quantities
- volumes
- conversion rates.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Equipment may include, but is not limited to:

- elevators - manual/automatic
- bails
- tongs - manual/power
- slips - manual/power
- bushings
- well control equipment
- job specific tools
- winches
- downhole

- handling
- hoisting/lifting equipment
- consumables - dope/rope
- casing stabbing basket/platform.

Tubulars include:

- drill pipe
- drill collars
- casing
- tubing
- riser.

Equipment may include:

- drill pipe
- stinger running equipment
- Temporary Guide Bases (TGB/PGB)
- riser
- diverter
- bopis
- wellheads
- casing running tools
- cementing hose
- running tools
- winches.

Safety equipment may include:

- safety harness
- inertia reels
- belts.

Personal protective equipment may include:

- safety helmet
- safety footwear
- safety glasses
- gloves
- riding belt
- safety belt
- life vest.

Utilities may include, but are not limited to:

- air
- fuel
- power
- craneage
- lighting.

Difficulties in carrying out instructions may include, but are not limited to:

- unclear instructions
- imprecise details
- lack of information.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record
- rectify
- replace
- repair
- adjust.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Assess hazards.
- Safe operation of drill floor equipment.
- Use safety devices.
- Operate and maintain well control tools.
- Care and maintenance of tubulars.
- Service down hole tools.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rig safety and emergency procedures.
- Company and statutory safety guidelines, procedures and practices.

- Equipment safe operating procedures.
- Equipment condition and reporting mechanisms.
- Conversion between metric and imperial.
- Range of numerical calculations and measurements.
- Well control.

Skills

The ability to:

- Assess a hazard (hazard assessment).
- Work as a team in all operations.
- Operate a winch.
- Maintain tubulars.
- Run drill strings.
- Measure and record tubulars, sub and tools correctly.
- Check the rig tongs and slips.
- Check and use a safety clamp.
- Install a float valve correctly.
- Service after use all down hole tools.
- Run casing safely.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF08A	Contribute to the health and safety of the working environment
DRTOGOF09A	Contribute to the control of emergencies and critical situations
DRTOGOF10A	Establish and maintain effective working relationships
DRTOGOF11A	Prepare and operate drilling fluid systems

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGOF13A Apply Occupational Health and Safety in the workplace

This unit covers the application of Occupational Health and Safety in the workplace as carried out by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Demonstrate safe working procedures	<p>1.1 Personal protective equipment, appropriate to task, is obtained and worn.</p> <p>1.2 Manual slips are set and pulled correctly.</p> <p>1.3 Make-up and break-out manual tongs are operated correctly.</p> <p>1.4 Drill floor drilling tools and equipment are moved in accordance with company and statutory safe operating procedures.</p> <p>1.5 National Standards and Code of Practice for Manual Handling are read, interpreted and applied.</p> <p>1.6 Correct manual handling techniques are applied when lifting pushing, pulling, carrying or restraining animate or inanimate objects.</p>
2. Participate in fire drills	<p>2.1 Fire alarm signals are recognised and complied with.</p> <p>2.2 Portable extinguishing equipment is operated in accordance with manufacturers and/or company procedures.</p> <p>2.3 Fire hose and nozzles are operated in accordance with manufacturers and/or company procedures.</p> <p>2.4 Fire team responsibilities are identified and complied with.</p> <p>2.5 Breathing apparatus is operated in accordance with manufacturers and/or company procedures.</p> <p>2.6 Fire resistant clothing is obtained and worn (fearnought suit), where available.</p> <p>2.7 Boundary cooling procedures are read, interpreted and applied.</p> <p>2.8 Emergency ventilation shutdown procedures are read, interpreted and applied.</p> <p>2.9 Assigned boat station is identified and procedure followed.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Participate in gas and collision drills	3.1 Gas alert alarms are identified, interpreted and applied. 3.2 Watertight and gastight openings are closed in correct sequence. 3.3 Emergency ventilation shutdown procedure is read, interpreted and applied. 3.4 Assistance is provided with flood control procedures, as directed. 3.5 Assigned boat station is identified and procedure followed.
4. Participate in rig abandonment drills	4.1 Orders for rig abandonment are received, interpreted and applied. 4.2 Correct boat assigned station is identified. 4.3 Correct survival capsule boarding procedure is read, interpreted and applied. 4.4 Inflatable life raft is launched in accordance with manufacturers and/or company procedure. 4.5 Survival suit/lifejacket is obtained and worn. 4.6 Survival capsule is started in accordance with manufacturers and/or company procedures, as directed. 4.7 Survival capsule is lowered and released in accordance with manufacturers and/or company procedure. 4.8 Survival capsule spray protection and air pressurisation system is operated as directed.
5. Carry out helicopter emergency duties	5.1 Fire resistant clothing (fearnought suit) is obtained and worn. 5.2 Flight deck fire monitors are operated in water and foam modes. 5.3 Available rescue equipment is operated in accordance with manufacturers and/or company procedures. 5.4 Evacuation assistance from crash site is given to injured personnel.
6. Participate in “man overboard” drills	6.1 Lifebuoy and marker are launched in accordance with manufacturers and/or company procedures. 6.2 Correct alarms are identified, located and raised. 6.3 Watch on man in water is maintained until rescue is effected. 6.4 Crane basket recovery is directed, where appropriate.

ELEMENT	PERFORMANCE CRITERIA
7. Carry out emergency drilling situation	7.1 Standby in pump room.
	7.2 Mud circulating system is aligned.
	7.3 Drilling fluids are mixed.
	7.4 Equipment is activated, as directed.

Range of Variables

This unit covers the role of an offshore derrickman in applying OHS in the Workplace.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Personal protective equipment may include:

- safety helmet
- safety footwear
- safety glasses
- gloves
- riding belt
- safety belt

- life vest
- safety goggles
- H₂S equipment.

Communications may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions.

Data to be reviewed for specific information may include:

- national standards and code of practice for manual handling
- manufacturers'/company procedures
- Job Safety Analysis (JSA)
- safety/first aid manuals.

Written tasks may include:

- note taking for:
 - pre-tour meetings
 - weekly safety meetings
 - stop for safety meetings.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Safety equipment includes:

- fire protection
- first aid
- survival.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- OHS procedures.
- Rig emergency procedures.
- Permit to work system.
- Fire prevention.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Company and statutory safety standard and procedures, including duty of care.
- Rig emergency procedures and signals.
- Training of subordinates.
- Safety meeting conduct.
- Cyclone securing procedures.
- Fire alarm signals.
- Fire extinguishing equipment.
- Fire team procedures.
- Breathing apparatus operation.
- Fearnought suit.
- Assigned emergency evacuation/boat stations.
- Gas alarm signals.
- Orders for rig abandonment.
- ILR launching procedure.

- Capsule boarding procedures.
- Survival capsule operation, including spray protection and air pressurisation systems.

Skills

The ability to:

- Apply rig safety and emergency procedures.
- Work within company and statutory safety guidelines, procedures and practices.
- Use safe operating procedures when operating equipment.
- Secure for cyclone.
- Operate helicopter deck monitor in both water and foam modes.
- Operate flight deck rescue equipment.
- Operate for emergency drilling situation.
- Apply man overboard recovery procedures.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF14A	Control emergencies and critical situations
DRTOGOF15A	Create, maintain and enhance productive working relationships
DRTOGOF16A	Operate and maintain derrick
DRTOGOF17A	Operate ancillary equipment
DRTOGOF18A	Run casing
DRTOGOF19A	Trip tubular
DRTOGOF20A	Monitor, operate and maintain mud pits and equipment
DRTOGOF21A	Operate drilling fluids and mud pits

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF14A Control emergencies and critical situations

This unit covers the control of emergencies and critical situations by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Control critical situations	<p>1.1 Working practices are safe and conform to operational requirements.</p> <p>1.2 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>1.3 Relevant alarms are activated in accordance with operational requirements.</p> <p>1.4 Actions to control and alleviate the situation are taken in accordance with operational requirements.</p> <p>1.5 The situation is monitored and relevant actions taken to minimise risks to personnel, environment, process, plant and equipment.</p> <p>1.6 Reporting requirements in the event of a critical situation are maintained in accordance with safety management systems.</p>
2. Co-ordinate the response to emergencies	<p>2.1 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>2.2 Relevant alarms are activated in accordance with operational requirements.</p> <p>2.3 Information and instructions given are clear, accurate and in a suitable format for the needs of relevant personnel.</p> <p>2.4 Advice received is clarified and acted upon as appropriate to the situation.</p> <p>2.5 Agreed emergency procedures are adhered to in accordance with operational requirements.</p> <p>2.6 Information recorded on to relevant documentation is accurate, complete and legible.</p> <p>2.7 Immediate action taken to make the situation safe minimises risks to personnel, environment, process, plant and equipment.</p> <p>2.8 Symptoms/effects of contaminants, toxic materials and heat stress are recognised and appropriate action taken.</p>

Range of Variables

This unit covers the role of an offshore derrickman in controlling emergencies and critical situations.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions.

Written reports may include:

- hazard observation reports
- rig safety audits.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Alarms may include, but are not limited to:

- audible
- warning gestures
- oral warnings
- fixed system specific to installation.

Critical situation may include, but are not limited to:

- operational difficulties
- extreme weather
- equipment failure
- leaks
- fires
- kicks.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Safety management systems may include, but are not limited to:

- organisational
- installation.

Reporting requirements may include, but are not limited to:

- oral
- written.

Relevant actions taken to control and alleviate critical situations may include, but are not limited to:

- make safe
- isolate
- shutdown
- evacuate work area
- report
- record
- contain
- rectify.

Immediate actions may include, but are not limited to:

- inform external services
- do nothing
- activate internal emergency response teams
- inform duty personnel
- inform adjacent facilities
- activate ESD
- account for people
- evacuate.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Emergency shutdown control system.
- Rig and emergency procedures.
- Rig layout and muster points.
- Evacuation procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Emergency procedures.
- Evacuation procedures and personnel responsibilities.
- Fire and gas control system.
- Alarm system.
- Emergency shutdown control system.
- Effects of loss of any system upon the operation.
- Functioning of process control, including instrumentation.
- Equipment layout and its connection with other systems.
- Consequences of emissions to the environment.
- Operating parameters and tolerances.

Skills

The ability to:

- Implement personal protection requirements appropriate to the environment.
- Recognise effects of changes of ambient conditions on operations.
- Locate sources of information and interpret drawings and manuals.
- Operate equipment

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF16A	Operate and maintain derrick
DRTOGOF17A	Operate ancillary equipment
DRTOGOF18A	Run casing
DRTOGOF19A	Trip tubular
DRTOGOF20A	Monitor, operate and maintain mud pits and equipment
DRTOGOF21A	Operate drilling fluids and mud pits

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF15A **Create, maintain and enhance productive working relationships**

This unit covers the creation, maintenance and enhancement of productive working relationships by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Create and enhance productive working relationships with colleagues	<p>1.1 Efforts are made to establish and maintain productive working relationships.</p> <p>1.2 Opportunities to discuss work-related matters are readily provided.</p> <p>1.3 Advice is offered in a helpful manner and, where necessary, individuals are referred to specialists.</p> <p>1.4 Differences are dealt with in ways that maintain productive working relationships.</p> <p>1.5 Undertakings to others are met.</p> <p>1.6 People are sufficiently informed about changes in policy and working practices which may affect them.</p> <p>1.7 Where there is concern over the quality of work, the matter is directly raised and discussed with the people concerned.</p> <p>1.8 Individuals are encouraged to offer ideas and view and due recognition of these is given.</p> <p>1.9 Where ideas are not taken up, the reasons are clearly given.</p> <p>1.10 Opportunities for individuals to discuss personal problems are readily available.</p>
2. Carry out work handovers	<p>2.1 Relevant information is recorded accurately and legibly in accordance with operational requirements.</p> <p>2.2 Current operational status relayed to and received from relevant personnel is accurate and complete.</p> <p>2.3 Operating instructions are relayed accurately and completely to relevant personnel.</p> <p>2.4 Work area is left clean and hazard free in accordance with operational requirements.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Enhance productive working relationships with one's immediate manager	<p>3.1 Immediate manager is kept informed in an appropriate level of detail about activities, progress, results and achievements.</p> <p>3.2 Information about problems and opportunities is clear, accurate and provided with an appropriate degree of urgency.</p> <p>3.3 Information and advice on matters within the given area of responsibility are sought from immediate manager as necessary.</p> <p>3.4 Clear proposals for action are presented at an appropriate time and with the right level of detail.</p> <p>3.5 Where proposals are not accepted, the reasons are considered and, where appropriate, alternative proposals are put forward.</p> <p>3.6 Where there are disagreements, efforts are made to avoid damaging the relationship with the immediate manager.</p> <p>3.7 Ways of improving the relationship with the immediate manager are actively sought.</p> <p>3.8 Requirements of job role are satisfied.</p> <p>3.9 Activities are performed in a helpful and willing manner.</p>

Range of Variables

This unit covers the role of an offshore derrickman in creating, maintaining and enhancing productive working relationships.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox

- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- Duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Information may include, but is not limited to:

- formal
- informal
- oral
- written.

People includes, but is not limited to:

- staff representatives
- colleagues
- line managers
- co-workers
- supervisors
- customers
- suppliers.

Information and advice on/operational requirements:

- organisational policies, plans and procedures
- legislation
- quality assurance standards
- approved codes of practice
- personal and interpersonal issues
- proposals concerning new courses of action
- working arrangements of those for whom one has responsibility
- safety, operational.

Communications may include, but are not limited to:

- written
- oral
- computer-based
- practical demonstration
- visual/pictorial.

Handovers may include, but are not limited to:

- to next shift
- to next job
- to next person
- from previous shift
- from previous job
- from previous person.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- implement and maintain communications
- minimise hazards (hazard assessment)
- ensure adherence to organisational procedures and practices.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- company and statutory guidelines, procedures and practices.
- workplace reporting procedures
- barriers to communications
- emergency procedures
- permit to work system
- normal drilling operations
- non-routine drilling operations
- man management/rig management
- offshore technology.

Skills

The ability to:

- pass on information accurately and completely
- control/minimise work area hazards
- locate and implement organisational policies, procedures, instructions.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF13A	Apply OHS in the workplace.
DRTOGOF14A	Control emergencies and critical situations.
DRTOGOF16A	Operate and maintain derrick.
DRTOGOF17A	Operate ancillary equipment
DRTOGOF18A	Run casing.
DRTOGOF19A	Trip tubular.
DRTOGOF20A	Monitor, operate and maintain mud pits and equipment.
DRTOGOF21A	Operate drilling fluids and mud pits.

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF16A Operate and maintain derrick

This unit covers the operation and maintenance of the derrick as carried out by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment	<p>1.1 Working practices are safe and conform to operational requirements.</p> <p>1.2 Operational instructions are obtained and the work to be carried out is organised accordingly.</p> <p>1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel.</p> <p>1.4 Availability and status of necessary permits to work are confirmed in accordance with operational requirements.</p> <p>1.5 Availability of necessary auxiliary equipment is confirmed in accordance with operational requirements.</p> <p>1.6 Availability of required quantities and type of consumables are confirmed against operational requirements.</p> <p>1.7 Errors, omissions and shortages are identified and appropriate remedial action taken with functional responsibility.</p>
2. Handle tubulars and equipment	<p>2.1 Working practices are safe and conform to operational requirements.</p> <p>2.2 Derrick is inspected, faults identified and reported as per derrick checklist and site requirements.</p> <p>2.3 Equipment is handled using safe lifting and handling techniques.</p> <p>2.4 Tubulars and equipment are positioned and run according to operational requirements.</p> <p>2.5 Assistance is given to make and break connections where appropriate.</p> <p>2.6 Faults and defects are accurately identified and appropriate remedial action taken within functional responsibility.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Inspect and perform routine maintenance of derrick and connected equipment	3.1 Derrick is inspected and faults identified and reported as per derrick checklist and site requirements. 3.2 Equipment is lubricated as required. 3.3 Defective parts are replaced and minor repairs effected. 3.4 Derrick escape system is visually inspected and defects identified and reported. 3.5 Derrick climbing equipment is inspected, defects identified and reported.
4. Assist in running of casing	4.1 Casing stabbing board is rigged up, friction tested, lubricated and operated. 4.2 Casing is stabbed, as required.

Range of Variables

This unit covers the role of an offshore derrickman in conducting and maintaining the derrick.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- Duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio.
- hand signals
- telephone
- public address system
- written work instructions.

Reading material may include:

- job instructions
- technical information
- mud engineers program
- manufacturers' instructions
- Job Safety Analysis (JSA)
- training materials.

Range of numerical calculations may include:

- fractions, decimals, percentages
- using appropriate instruments to measure:
 - volume
 - quantities
 - weight
 - length
 - density/specific gravity
 - temperature
 - Ph
- basic geometry, interpreting depth, direction and azimuth and dip of hole.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Equipment may include, but is not limited to:

- winches
- backing system - manual/automated
- casing stabbing system - board/basket
- racking board
- safety appliances and personal protective equipment
- consumables
- derrick climbing system
- derrick escape system.

Inspections and routine maintenance may include but is not limited to:

- safety lines
- ropes
- air hoists
- monkey board
- sheaves
- crown block
- derrick bolts
- pins and welds
- all other lines and equipment in or attached to the derrick.

Lubrication of equipment may include but is not limited to:

- air hoists, sheaves
- crown block
- fast line guide.

Tubulars include:

- drill pipe
- drill collars
- casing
- tubing.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record
- replace
- repair
- adjust.

Difficulties may include, but are not limited to:

- unclear instructions
- imprecise details
- lack of information.

Utilities may include, but are not limited to:

- air
- fuel
- power
- cramage
- lighting.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- application of calculations and measurements, e.g. volume, similarity to ratio to estimate depth, width, basic geometry
- ability to adapt to new situations using appropriate strategies, innovation, persistence, resourcefulness
- derrick safety systems
- communication system
- full knowledge of racking system
- well control.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- normal and non-routine drilling operation
- company and statutory safety guidelines, procedures and practices.
- safe operating procedures when operating equipment.
- rig maintenance
- normal drilling operations
- non-routine drilling operations
- man management.

Skills

The ability to:

- recognise and report equipment malfunction or failure
- supervise and train employees to provided standards
- work safely as directed by driller
- conduct routine maintenance of derrick
- assist in safe operation in all aspects of drilling operation
- assist on drill floor, as required
- aware of rig floor operations.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF13A Apply Occupational Health and Safety in the workplace.

DRTOGOF14A Control emergencies and critical situations.

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF17A Operate ancillary equipment

This unit covers the operation of ancillary equipment as carried out by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Working practices are safe and conform to operational requirements. 1.2 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.4 Availability and status of necessary permits to work are confirmed in accordance with operational requirements. 1.5 Availability of necessary auxiliary equipment is confirmed in accordance with operational requirements.
2. Maintain pumps in pump room	2.1 Lubrication, and oil flushing pumps are inspected for leaks or abnormal operation. 2.2 Pumps are lubricated. 2.3 Packing in centrifugal pumps is replaced.
3. Operate, maintain and repair valves associated with the mud system	3.1 For desired operation, valves are aligned, opened and closed. 3.2 Valves are lubricated as required. 3.3 Defective parts and malfunctioning parts are replaced.
4. Operate and maintain chemical mixing pumps and equipment	4.1 Valves are properly lined up. 4.2 Mixing and transfer pumps are engaged in line with operational requirements. 4.3 Valves, mixing pumps and transfer pumps are lubricated. 4.4 Defective or malfunctioning parts and valves on pumps are replaced. 4.5 Mixing hopper and mixing area are cleaned and inspected. 4.6 Faults or potential faults are identified and reported. 4.7 Requirement for repair or maintenance is identified, recorded and/or reported. 4.8 Records of action taken are maintained in accordance with site requirements.

Range of Variables

This unit covers the role of an offshore derrickman in operating ancillary equipment.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions.

Recording requirements can include:

- service and maintenance
- replacement and parts.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Safety equipment includes:

- fire protection
- first aid
- survival
- vessel entry equipment.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive.

Equipment may include:

- mixing pumps
- change pumps
- desander
- desilter
- centrifuges
- degaser
- piping
- valves
- agitators
- caustic mixing system

- mud guns
- mixing hoppers
- shearing devices
- (PVT) system
- pit volume totaliser
- lubrication pumps
- bolt material system
- chemical handling system
- dust/fuel extraction system.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Recognise and report equipment malfunction or failure.
- Isolation and containment procedures.
- Knowledge of equipment.
- Knowledge of maintenance procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Mud system ancillary equipment.
- Company and statutory safety guidelines, procedures and practices.
- Safe operating procedures when operating equipment.
- Company maintenance system.
- Permit to work system.
- Equipment isolation procedures.
- Specialised hand tools.

Skills

The ability to:

- Recognise and report equipment malfunction or failure.
- Supervise and train subordinates to provided standards.
- Work as directed by driller timely and efficiently.
- Maintain pumps in pump room.
- Align, open and close valves as appropriate.
- Lubricate valves.
- Replace defective parts in valves.
- Operate and maintain chemical mixing pumps and equipment.
- Clean and inspect mixing hopper and mixing area.
- Use hand tools.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF13A	Apply Occupational Health and Safety in the workplace
DRTOGOF14A	Control emergencies and critical situations
DRTOGOF15A	Create, maintain and enhance productive working relationships
DRTOGOF16A	Operate and maintain derrick
DRTOGOF18A	Run casing
DRTOGOF19A	Trip tubular
DRTOGOF20A	Monitor, operate and maintain mud pits and equipment
DRTOGOF21A	Operate drilling fluids and mud pits

Key competencies

Level

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF18A Run casing

This unit covers the preparation and operation of the trip casing as carried out by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Working practices are safe and conform to operational requirements. 1.2 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.4 Availability and status of necessary permits to work are confirmed in accordance with operational requirements. 1.5 Availability of necessary third party utilities is confirmed in accordance with operational requirements.
2. Preparation to trip casing	2.1 Grade or grades of casing are checked. 2.2 Positioning of casing in pipe bays by deck crew is supervised. 2.3 Casing to be measured and recorded. Joint to be identified by the numerical order in which it will be run in the hole and its measured length. 2.4 Thread protectors and rabbit casing removed, threads cleaned and lubricated in accordance with good oilfield practice. 2.5 Casing shoe and hanger joints checked for damage to threads, sealing surfaces and flapper valves where fitted. 2.6 Operating conditions of casing running equipment, including slips, tongs, elevators, rubber clamp, protectors and tailing ropes, assembled and checked. 2.7 Pumps line up to fill casing during running operation.
3. Operate derrick during tripping of casing	3.1 Casing steadied during stabbing. 3.2 Pick-up elevators released. 3.3 Casing for make-up correctly aligned. 3.4 Side door latched or type elevators slipped. 3.5 Relieves casing stabber during casing running operations.

Range of Variables

This unit covers the role of an offshore derrickman in operating the trip casing.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio
- hand signals
- telephone
- double address system
- written work instructions.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Safety equipment includes:

- fire protection
- first aid
- survival.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Running casing.
- Supervise deck crew.
- Assemble and check casing.
- Work derrick.
- Recognise and report malfunctions/failures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Drilling operation.
- Company and statutory safety guidelines, procedures and practices.
- Safe operating procedures when operating equipment.

Skills

The ability to:

- Recognise and report equipment malfunction or failure.
- Supervise and train subordinates to provided standards.
- Work as directed by driller timely and efficiently.
- Check grades of casing and supervise deck crew in correctly positioning casing in pipe bays.
- Measure and record casing in the numerical order in which it will be run into the hole.
- Remove thread protectors, rabbit casing, clean and lubricate threads.
- Check casing shoe and hanger joints for damage to threads, sealing surfaces and flapper valves where fitted.

- Assemble and check operating condition of casing running equipment, including slips, tongs, elevators, rubber clamp, protectors and tailing rope.
- Line up pumps to fill casing during running operations.
- Work derrick correctly during tripping of casing.
- Steady casing during stabbing.
- Release pick-up elevators when directed.
- Correctly align casing for make-up.
- Correctly latch side door or slip type elevators.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF13A	Apply Occupational Health and Safety in the workplace
DRTOGOF14A	Control emergencies and critical situations
DRTOGOF15A	Create, maintain and enhance productive working relationships
DRTOGOF16A	Operate and maintain derrick
DRTOGOF17A	Operate ancillary equipment
DRTOGOF19A	Trip tubular
DRTOGOF20A	Monitor, operate and maintain mud pits and equipment
DRTOGOF21A	Operate drilling fluids and mud pits

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF19A Trip tubular

This unit covers the preparation and operation of the trip pipe as carried out by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Working practices are safe and conform to operational requirements. 1.2 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.4 Availability and status of necessary permits to work are confirmed in accordance with operational requirements. 1.5 Availability of necessary third party utilities is confirmed in accordance with operational requirements. 1.6 Safety lines, ropes and air hoists are checked. 1.7 Equipment is checked for safety and operations.
2. Prepare to trip tubulars	2.1 Trip tank is lined up. 2.2 Pipe racking system is prepared to stand back, run in, lay down or pick-up pipe, where applicable.
3. Trip tubulars	3.1 Elevators are latched onto the tubulars which is stabilised by the derrickman while being stabbed by pulling out of the hole. 3.2 Elevators are latched on to the tubular which is being stabilised by the derrickman while running into hole. 3.3 Visual checks of the elevator latch is carried out, faults identified and reported. 3.4 Air hoist is operated to manoeuvre tubulars in the derrick.
4. Operate racking system	4.1 Pipe from elevators and rack is released in proper position when pulling out of the hole. 4.2 Elevators are latched onto drill string and stabilised while stand stabbed by roughnecks when running in the hole. 4.3 Air hoists which manoeuvre drill string in the derrick operated.

Range of Variables

This unit covers the role of an offshore derrickman in operating the trip pipe.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio
- hand signals
- telephone
- double address system
- written work instructions.

Recording tasks may include:

- pipe tally sheets.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Safety equipment includes:

- fire protection
- first aid
- survival
- safety harness.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators
- fall arrester.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Safe operation of equipment.
- Work knowledge of equipment.
- Awareness of operations on the rig floor.
- Maintain communication with driller while operating racking board.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Drilling operation (Well Control Certificate).
- Company and statutory safety guidelines, procedures and practices.
- Safe operating procedures when operating equipment.

Skills

The ability to:

- Prepare pill.
- Put trip tank on line and fill it.
- Check safety equipment.
- Stand back, run in, lay down and pick up pipe cracker.
- Operation of a manual or automated racking system.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF13A	Apply Occupational Health and Safety in the workplace
DRTOGOF14A	Control emergencies and critical situations
DRTOGOF15A	Create, maintain and enhance productive working relationships
DRTOGOF16A	Operate and maintain derrick
DRTOGOF17A	Operate ancillary equipment
DRTOGOF18A	Run casing
DRTOGOF20A	Monitor, operate and maintain mud pits and equipment
DRTOGOF21A	Operate drilling fluids and mud pits

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF20A Monitor, operate and maintain mud pits and equipment

This unit covers the operation of mud pumps as carried out by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	<ul style="list-style-type: none"> 1.1 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.2 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.3 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements. 1.4 Availability of necessary third party utilities is confirmed in accordance with operational requirements. 1.5 Working practices are safe and conform to current legislative and operational requirements.
2. Monitor operation of mud pump	<ul style="list-style-type: none"> 2.1 Mud pumps are visually inspected and listened to for abnormal sounds and leaks. 2.2 Lubricating system is checked and faults identified and reported. 2.3 Pressure relief valve (PRV) setting is checked. 2.4 Flow path is checked. 2.5 Discharge dampener charged with nitrogen, to correct pressure, as required. 2.6 Suction dampener is charged to correct pressure.
3. Maintain and repair mud pumps	<ul style="list-style-type: none"> 3.1 All clamps are checked when pump is turned off. 3.2 Gear end of pump is lubricated and oil levels in gear end of pump are checked. 3.3 Defective consumables are replaced. 3.4 Liners and swabs are checked for size. 3.5 Faults or potential faults are identified and reported immediately.

Range of Variables

This unit covers the role of an offshore derrickman in operating the mud pumps.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions.

Recording requirements can include:

- service and maintenance
- replacement parts
- pump operating logs.

Reading materials may include:

- job instructions
- manufacturers instruction.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Consumables include:

- fluid
- liner
- valves
- seats
- wear plates.

Safety equipment includes:

- fire protection
- first aid
- survival.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Safe operation of mud pump.
- Internal workings of mud pumps.
- Permit to work and equipment isolation procedure.
- Manual handling techniques.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Mud pumps.
- Company and safety guidelines, procedures and practices.
- Specified maintenance procedures.
- Emergency signals and procedures.
- Safe operating procedures when operating equipment.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.
- Offshore technology.

Skills

The ability to:

- Recognise and report equipment malfunction or failure.
- Supervise and train subordinates to provided standards.
- Work as directed by driller timely and efficiently.
- Check pumps visually and audibly.
- Check lubrication system.
- Set pressure relief valve.
- Check pressure of suction and discharge dampeners.
- Charge discharge damper with nitrogen.
- Check clamp.
- Lubricate and check oil levels in gear end of pump.
- Replace swabs, liners, valves, seats and wear plates of fluid end of pump.
- Prepare replacement parts for fluid end.
- Ensure correct liners and swabs are in use.
- Align correctly mud pump discharge valves.
- Use of mechanical lifting equipment.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units:

DRTOGOF13A	Apply Occupational Health and Safety in the workplace
DRTOGOF14A	Control emergencies and critical situations
DRTOGOF15A	Create, maintain and enhance productive working relationships
DRTOGOF16A	Operate and maintain derrick
DRTOGOF17A	Operate ancillary equipment
DRTOGOF18A	Run casing
DRTOGOF19A	Trip tubular
DRTOGOF21A	Operate drilling fluids and mud pits

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGOF21A Operate drilling fluids and mud pits

This unit covers the operation of drilling fluids and mud pits as carried out by an offshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.2 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.3 Availability and status of necessary permits to work are confirmed in accordance with operational requirements. 1.4 Availability of necessary third party utilities is confirmed in accordance with operational requirements. 1.5 Working practices are safe and conform to operational requirements.
2. Operate mud pits	2.1 Valves in pits aligned to ensure correct pit usage as directed. 2.2 Safety is of the highest priority during the operation and entry of mud pits. 2.3 Valves in pits are aligned to ensure correct pit usage as directed. 2.4 Plugs are double checked for operation. 2.5 Tanks are sealed or secured to prevent accidental entry. 2.6 High and low alarms are set, where applicable. 2.7 Mud pit room ventilation system is operating, as required. 2.8 Hoppers are operated in accordance with operating procedures. 2.9 Dust extraction system is operated during mixing, if applicable. 2.10 Safety showers and eye washes are accessible and checked for operation. 2.11 Forklifts operations are supervised. 2.12 Chemicals are stored in appropriate storage area. 2.13 MSDS sheets are read, interpreted and placed in an accessible place.

ELEMENT	PERFORMANCE CRITERIA
3. Operate, maintain and repair mud conditioning equipment	<p>3.1 Appropriate equipment to be engaged and/or adjusted as directed by supervisors or mud engineer.</p> <p>3.2 All equipment is cleaned and visually inspected for leaks, proper operation, in accordance with company and/or manufacturers specifications.</p> <p>3.3 Faults or potential faults are identified and reported immediately.</p> <p>3.4 Periodic or scheduled preventative maintenance is performed on all mud treatment units in accordance with company and/or manufacturers specifications.</p>
4. Monitor mud	<p>4.1 Mud properties/parameters are monitored and recorded. Alarms are set to monitor mud.</p> <p>4.2 Viscosity and weight of mud are checked to conform to specifications as directed by Mud Engineer.</p> <p>4.3 Appropriate volumes and types of drilling fluids are maintained as required by well program or company.</p> <p>4.4 Appropriate mixing procedures are used to obtain desired properties.</p> <p>4.5 Proper safety procedures and equipment for mixing and handling of chemicals are applied.</p> <p>4.6 Warning signs of a kick are recognised and reported immediately.</p>

Range of Variables

This unit covers the role of an offshore derrickman in operating the mud pits.

Briefings/handover details may include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- toolbox
- permit to work.

Statutory adherence may include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- AS (Australian Standards).

Communications may include:

- alarm systems
- two-way radio
- hand signals
- telephone
- public address system
- written work instructions.

Recording requirements can include:

- shaker screens
- mud properties
- volume of liquid mud
- size of cuttings
- pit level
- service and maintenance
- replacement parts
- chemical stocks.

Reading materials may include:

- job instructions
- manufacturer's specifications
- chemical labels
- MSDS.

Numerical calculations may include but not limited to:

- mud viscosity
- mud weight

- volume
- uphole velocity
- quantities
- pressure
- water loss.

Alarm systems may include:

- gas
- fire.

Equipment may include:

- shaker
- degasser
- desilter
- desander
- mud cleaner
- agitators.

Weather conditions may include:

- sun, rain, wind, storms
- hot and cold
- calm to severe weather conditions
- 24 hour operation.

Safety equipment includes:

- fire protection
- first aid
- survival.

Discharges may include:

- liquids
- gases
- solids
- dry powder.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators
- aprons
- rubber boots
- full face visors
- rubber gloves.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Recognised warning signs of a kick are:

- pit level change is observed and reported immediately
- mud property change is observed and reported immediately
- volume of mud change is observed and reported immediately
- size of cuttings change is observed and reported immediately
- pump pressure is observed and reported immediately.

Alarm systems may include but are not limited to:

- high and low alarm
- mud density alarm
- low/high pressure
- gas
- fire.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Safety is highest priority during operation and entry of mud pits.
- Application of calculations such as:
 - flow rates
 - mud weight, control of pressurised formation.
- Adequate training in the use of well control and system procedure.
- Ability to adapt to new situations using appropriate strategies, e.g. innovations, persistence, resourcefulness.
- Recognise kick signs.
- Inadvertent opening of chump valves.
- Well control and system procedure.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Drilling operation.
- Functions of the mud pits.
- Warning signs of kicks.
- Company and statutory safety guidelines, procedures and practices.
- Safe operating procedures when operating equipment.
- Troubleshooting techniques.

Skills

The ability to:

- Recognise and report equipment malfunction or failure.
- Supervise and train subordinates to provided standards.
- Work as directed by driller and assistant driller.
- Operate equipment in accordance with good oilfield practice and company policy.
- Align valves in pits for operability and safety.
- Operate and service mud treatment equipment.
- Perform periodic or scheduled preventative maintenance on mud condition equipment.
- Replace screens and cones on shakers and desilters/desanders.
- Operate and service transfer valve.
- Weigh mud and perform viscosity checks.
- Maintain volumes and types of drilling fluids as required.
- Use correct mixing procedures to ensure required properties in drilling fluid.
- Use correct safety procedures and equipment for mixing and handling chemicals in accordance with manufacturer's data sheet.
- Regularly monitor pit levels, mud properties and cuttings size.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGOF13A	Apply Occupational Health and Safety in the workplace
DRTOGOF14A	Control emergencies and critical situations
DRTOGOF15A	Create, maintain and enhance productive working relationships
DRTOGOF16A	Operate and maintain derrick
DRTOGOF17A	Operate ancillary equipment
DRTOGOF18A	Run casing
DRTOGOF19A	Trip tubular
DRTOGOF20A	Monitor, operate and maintain mud pits and equipment

Consistency of performance:

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance: in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON01A Assist with the health and safety of the working environment

This unit covers the assistance with the health and safety of the working environment by an onshore leasehand.

ELEMENT	PERFORMANCE CRITERIA
1. Conform to legislative and general health and safety requirements	1.1 Working practices are safe and conform to current legislative and operational requirements. 1.2 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements. 1.3 Safety equipment is used as required by legislative and operational requirements. 1.4 Agreed procedures regarding personal health and safety and the health and safety of others are adhered to. 1.5 Agreed procedures are followed in the event of fire, accident and other emergency. 1.6 Organisational requirements regarding conduct in the workplace are adhered to.
2. Monitor and maintain pollution control measures	2.1 Controlled discharges from the area within the functional responsibility are within prescribed limits. 2.2 Unplanned discharges are identified and reported according to operational requirements. 2.3 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements. 2.4 Agreed procedures as required by legislative requirements and working practices are adhered to. 2.5 Materials for disposal are accurately identified, appropriately packaged and labelled and transferred to the responsible person for disposal.
3. Monitor and maintain the health and safety of the individual, other workers and visitors	3.5 Area within functional responsibility is maintained clean and free of hazards. 3.6 Required safety equipment and machine guards are safely and securely in position and used. 3.7 Unsafe equipment and dangerous occurrences are identified and reported according to operational requirements. 3.8 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements.

ELEMENT	PERFORMANCE CRITERIA
Monitor and maintain the health and safety of the individual, other workers and visitors (cont'd)	3.9 Materials are handled safely in accordance with legislative and operational requirements.
	3.10 Storage requirements for incompatible substances are understood and fulfilled.
	3.11 Incidents/accidents are reported in accordance with site/company procedures.
	3.12 Tools and equipment are handled, operated and stored safely and securely.

Range of Variables

This unit covers the role of an onshore leasehand in contributing to the health and safety of the working environment.

Briefings/handover details may include:

- toolbox safety meeting
- task specific - Job Safety Analysis (JSA)
- pre-tour safety meeting.

Statutory adherence may include:

- State Occupational Health and Safety Acts and regulations
- codes of practice
- Commonwealth legislation
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- telephone
- hand signals.

Written tasks may include:

- notetaking for:
 - pre-tour safety meetings
 - weekly safety meetings
 - stop for safety meetings.

Reading material may include:

- Job Safety Analysis (JSA)
- safety/first aid manuals
- chemical labels.

Weather conditions may include:

- extreme heat
- extreme cold
- wet weather - muddy conditions
- dust storms
- high winds/cyclone
- day/night.

Safety equipment includes:

- fire protection
- first aid
- survival.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Work as part of a team.
- Work independently with some supervision.
- Follow direction and work in a safe manner.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Evacuation and fire procedures.
- Workplace safety policy.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Use and care of personal protective equipment.
- Apply safe lifting and handling techniques.
- Implement workplace reporting procedures.
- Source safety information.

Resource implications

Work environment must be used as a training environment. On the job training should be supplemented with theory modules such as the I.A.D.C. Rotary Drilling course and relative TAFE courses. 'Rig Pass' Safety Induction to set standard for Safety Orientation.

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

Literacy and numeracy initially to assess ability of employee to complete training levels.

- DRTOGON02A Assist with the control of emergencies and critical situations
- DRTOGON03A Assist in maintaining rig safety and emergency procedures
- DRTOGON04A Assist in establishing and maintaining effective working relationships
- DRTOGON05A Carry out equipment and basic rig maintenance
- DRTOGON06A Carry out rig lease operations
- DRTOGON07A Move loads

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

Level

Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGON02A Assist with the control of emergencies and critical situations

This unit covers the assistance provided to control of emergencies and critical situations by an onshore leasehand.

ELEMENT	PERFORMANCE CRITERIA
1. Assist in securing rig in any emergencies, as directed	1.1 Communication requirement is identified, analysed, clarified and confirmed and acted on in accordance with company policies and procedures. 1.2 Communication and information systems are accessed, interpreted, applied and maintained in a current and accurate state.
2. Participate in fire drills	2.1 Fire alarm signals are recognised and complied with. 2.2 Portable extinguishing equipment, fire hose, nozzles and breathing apparatus are operated in accordance with manufacturers and/or company procedures. 2.3 Fire team responsibilities are identified and complied with. 2.4 Assigned fire stations are known.
3. Demonstrate safe working procedures	3.1 Personal protective equipment, appropriate to task, is obtained and worn. 3.2 Manual slips are set and pulled correctly. 3.3 Make-up and break-out manual tongs are operated correctly. 3.4 Drill floor drilling tools and equipment are moved in accordance with company and statutory safe operating procedures.
4. Assist in manual handling risk assessment	4.1 National Standards and Code of Practice for Manual Handling are read, interpreted and applied. 4.2 Correct manual handling techniques are applied when lifting pushing, pulling, carrying or restraining animate or inanimate objects.

Range of Variables

This unit covers the role of an onshore leasehand in contributing to the control of emergencies and critical situations.

Briefings/handover details may include:

- toolbox safety meeting
- task specific - Job Safety Analysis (JSA)
- pre-tour safety meeting.

Statutory adherence may include:

- State Occupational Health and Safety Acts and Regulations
- codes of practice
- Commonwealth legislation
- Australian Standards.

Personal protective equipment may include:

- safety helmet
- safety footwear
- safety glasses
- gloves
- riding belt
- safety belt
- life vest
- safety goggles
- H₂S equipment.

Communications may include:

- two-way radio
- intercom
- telephone
- hand signals.

Weather conditions may include:

- extreme heat
- extreme cold
- wet weather - muddy conditions
- dust storms
- high winds/cyclone
- day/night.

Alarms may include, but are not limited to:

- audible
- warning gestures
- oral warnings
- fixed system specific to installation.

Critical situation may include, but are not limited to:

- operational difficulties
- extreme weather
- equipment failure
- leaks
- fires
- kicks.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Information formats may include, but are not limited to:

- oral
- telephone
- public address system

- radio
- hand signals.

Reporting requirements may include, but are not limited to:

- oral
- written.

Safety management systems may include, but are not limited to:

- organisational
- installation.

Relevant actions taken to control and alleviate critical situations may include, but are not limited to:

- make safe
- isolate
- shutdown
- evacuate work area
- report
- record
- contain
- rectify.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Working practices.
- Information format.
- Relevant actions.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Emergency procedures.
- Permit to work system.
- Bop, gas and fire alarm signals.
- Assigned fire station.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Set and pull manual slips.
- Operate manual make-up tongs.
- Operate manual break-out tongs.
- Operate portable extinguishing equipment.
- Move drills, tools and equipment around drill floor.
- Wear correct protective clothing for the execution of duties and tasks.
- Assist in the risk assessment of a manual handling task.
- Demonstrate correct manual handling technique.
- Correctly apply and use the permit to work and lock out procedure.

- Act as chairman of safety meeting.
- Report regularly to derrickman on equipment condition.

Resource implications

Work environment plays a key role in training environment.

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON01A	Assist with the health and safety of the working environment
DRTOGON03A	Assist in maintaining rig safety and emergency procedures
DRTOGON04A	Assist in establishing and maintaining effective working relationships
DRTOGON05A	Carry out equipment and basic rig maintenance
DRTOGON06A	Carry out rig lease operations
DRTOGON07A	Move loads

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGON03A Assist in maintaining rig safety and emergency procedures

This unit covers the maintenance of rig safety and emergency procedures carried out by an onshore leasehand.

ELEMENT	PERFORMANCE CRITERIA
1. Assist with the control of critical situations	<p>1.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>1.2 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>1.3 Any hazards/potential hazards observed are reported immediately.</p> <p>1.4 Relevant alarms are activated in accordance with operational requirements.</p> <p>1.5 Actions to control and alleviate the situation are taken in accordance with operational and legislative requirements.</p> <p>1.6 The situation is monitored and relevant actions taken to minimise risks to personnel, environment, process, plant and equipment.</p> <p>1.7 Reporting requirements in the event of a critical situation are maintained in accordance with safety management systems.</p>
2. Assist in securing rig for cyclone and rig moves	<p>2.1 Communication requirement is identified, analysed, clarified and confirmed and acted on in accordance with company policies and procedures.</p> <p>2.2 Communication and information systems are accessed, interpreted, applied and maintained in a current and accurate state.</p>
3. Participate in fire drills	<p>3.1 Fire alarm signals are recognised and complied with.</p> <p>3.2 Portable extinguishing equipment is operated in accordance with manufacturers and/or company procedures.</p> <p>3.3 Fire hose and nozzles are operated in accordance with manufacturers and/or company procedures.</p> <p>3.4 Fire team responsibilities are identified and complied with.</p>

ELEMENT	PERFORMANCE CRITERIA
Participate in fire drills (cont'd)	3.5 Breathing apparatus is operated in accordance with manufacturers and/or company procedures. 3.6 Fire resistant clothing is obtained and worn (fearnought suit), where available. 3.7 Boundary cooling procedures are read, interpreted and applied. 3.8 Emergency ventilation shutdown procedures are read, interpreted and applied.
4. React to emergencies in other areas	4.1 Working practices are safe and conform to current legislative and operational requirements. 4.2 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation. 4.3 Relevant alarms are activated in accordance with operational requirements. 4.4 Information in relation to the emergency is clear, accurate and in a suitable format for the needs of relevant personnel. 4.5 Agreed emergency procedures are adhered to in accordance with operational requirements. 4.6 Immediate action taken to make the situation safe minimises risks to personnel, environment, process, plant and equipment.

Range of Variables

This unit covers the role of an onshore leasehand in maintaining rig safety and emergency procedures.

Briefings/handover details may include:

- work inspection
- location of potential hazards
- reference to Job Safety Analysis (JSA)
- understanding of PTW system.

Statutory adherence may include:

- OHS
- duty of care
- environmental
- relevant State Acts
- Australian Standards (basic knowledge of their existence and use).

Communications may include:

- two-way radio
- intercom
- telephone
- hand signals.

Records to be completed may include:

- hazard observation reports
- rig safety audits.

Reading materials may include:

- Job Safety Analysis (JSA)
- manufacture's instructions.

Weather conditions may include:

- day/night
- storms and lightning
- dust
- hot/cold.

Alarms may include, but are not limited to:

- audible
- warning gestures
- oral warnings
- fixed system specific to installation.

Spillage may be:

- hazardous
- non-hazardous.

Critical situation may include, but are not limited to:

- operational difficulties
- extreme weather
- equipment failure
- leaks
- fires
- kicks.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Relevant actions may include, but are not limited to:

- make safe.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Briefings/handover.
- Communications.
- Alarms.
- Critical situations.
- Working practices.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.
- Leasehand emergency duties.

Skills

The ability to:

- Activate alarms.
- Operate communications system.
- Don emergency gear.
- Operate specific pieces of fire fighting, life saving and emergency equipment.
- Follow instructions.
- Assist in carrying injured person on stretcher.

Resource implications

Work environment plays a key role in training environment.

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON01A	Assist with the health and safety of the working environment
DRTOGON02A	Assist with the control of emergencies and critical situations
DRTOGON04A	Assist in establishing and maintaining effective working relationships
DRTOGON05A	Carry out equipment and basic rig maintenance
DRTOGON06A	Carry out rig lease operations
DRTOGON07A	Move loads

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGON04A Assist in establishing and maintaining effective working relationships

This unit covers the assistance provided in establishing and maintaining effective working relationships by an onshore leasehand.

ELEMENT	PERFORMANCE CRITERIA
1. Establish and maintain effective working relationships with colleagues	1.1 Colleagues are treated in a manner which promotes and maintains goodwill. 1.2 Reasonable requests from colleagues are met promptly and willingly. 1.3 Essential information relating to daily work schedules is provided clearly, accurately and promptly. 1.4 Where colleagues appear to be in work related difficulties, appropriate support is offered or sought. 1.5 Where a breakdown in working relationships cannot be resolved, prompt reporting action is taken with an appropriate authority.
2. Establish and maintain effective communications with colleagues	2.1 Given communications are clear, concise and accurate and are delivered in a style appropriate to the workplace. 2.2 Communications received are acted on promptly in accordance with operational requirements. 2.3 Difficulties in interpreting communications are identified and prompt clarification sought. 2.4 Language and terminology are appropriate to the workplace and the situation.
3. Establish and maintain relationships with visitors to the working environment	3.1 Visitors are greeted in a manner which provides goodwill in accordance with operational requirements. 3.2 Visitors are provided with sufficient information to meet their identified need. 3.3 Information requested is provided clearly in a manner which facilitates understanding. 3.4 Where information requests are outside of the functional responsibility, these are passed on to an appropriate person promptly. 3.5 Visitors are not endangered in any way by acts or omissions of the individual.

ELEMENT	PERFORMANCE CRITERIA
4. Carry out work handovers	<p>4.1 Relevant information is recorded accurately and legibly in accordance with operational requirements.</p> <p>4.2 Current operational status relayed to and received from relevant personnel is accurate and complete.</p> <p>4.3 Operating instructions are relayed accurately and completely to relevant personnel.</p> <p>4.4 Work area is left clean and hazard free in accordance with operational requirements.</p>

Range of Variables

This unit covers the role of an onshore leasehand in establishing and maintaining effective working relationships.

Briefings/handover details may include:

- work inspection
- location of potential hazards
- review of Job Safety Analysis (JSA)
- pre-tour safety meetings
- communication.

Statutory adherence may include:

- Occupational Health and Safety Acts and regulations
- petroleum regulations
- codes of practice
- Australian Standards
- environmental regulations
- company policies and procedures.

Communications may include:

- two-way radio
- intercom
- telephone
- hand signals
- verbal.

Weather conditions may include:

- day/night
- wet/dry
- hot/cold
- storms.

Visitors include:

- approved and authorised visitors
- third parties.

Colleagues include:

- co-workers
- supervisors
- managers
- other company employees
- third parties.

Information may include:

- oral
- written
- visual
- safety
- operational
- statutory.

Situations may include, but are not limited to:

- informal meeting
- form meeting
- normal work situation
- team briefings
- contingency situation.

Work handovers may include, but are not limited to:

- to next shift
- to next job
- to next person
- from previous shift
- from previous job
- from previous person.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Briefings/handovers.
- Communication.
- Situation.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Company and statutory guidelines, procedures and practices.
- Workplace reporting procedures.
- Permit to work system.
- Emergency procedures.

- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Obtain and implement operational policies, procedures, instructions, codes of practice, standards and schedules.
- Pass on information accurately and completely and clarify information received.
- Control/minimise risks of work area hazards.

Resource implications

Work environment plays a key role in training environment.

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON01A	Assist with the health and safety of the working environment
DRTOGON02A	Assist with the control of emergencies and critical situations
DRTOGON03A	Assist in maintaining rig safety and emergency procedures
DRTOGON05A	Carry out equipment and basic rig maintenance
DRTOGON06A	Carry out rig lease operations
DRTOGON07A	Move loads

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGON05A Carry out equipment and basic rig maintenance

This unit covers the maintenance of equipment and rig by an onshore leasehand.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare and paint metal surface	<p>1.1 Personal protective equipment is identified, located and applied.</p> <p>1.2 Rust is removed using pneumatic chipping and scaling equipment, hand chipping and scaling equipment, pneumatic or electric wire buffing equipment and hand wire brush.</p> <p>1.3 Rust remover, rust converter and undercoat are applied in accordance with manufacturer's specifications.</p> <p>1.4 Epoxy and Paracryl paints are mixed in correct proportions in accordance with manufacturer's specifications.</p> <p>1.5 Equipment is masked and protected against overspray, where necessary.</p> <p>1.6 Finishing coat is applied using brush, roller and spray gun.</p>
2. Assist in maintenance of materials handling equipment	<p>2.1 Fork lift pre operating checks are conducted in accordance with manufacturer's specifications.</p> <p>2.2 Faults/potential faults are identified and reported immediately.</p> <p>2.3 Requirement for repair or maintenance is identified, recorded and/or reported.</p> <p>2.4 Periodical maintenance is performed on chains blocks and comealongs (where fitted), ensuring equipment is corrosion free, lubricated and operating freely.</p> <p>2.5 Periodical examination is conducted of hooks, shackles, slings and strops for defects, correct marking of SWL and ease of operation.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Prepare and use solvent solutions and rig wash to clean and maintain work areas in non-slippery condition	<p>3.1 Protective clothing and equipment is correctly used during handling of solvents.</p> <p>3.2 Approved instructions and OHS requirements on the use of hazardous chemicals for cleaning are applied.</p> <p>3.3 Area being washed is isolated or warning signs are provided to indicate slippery decks.</p> <p>3.4 Equipment is correctly cleaned and stowed on completion.</p> <p>3.5 Painting equipment is cleaned, preserved and reassessed in accordance with manufacturers' recommendations.</p>

Range of Variables

This unit covers the role of an onshore leasehand in maintaining equipment and rig.

Briefings/handover details may include:

- work inspections
- location of potential hazards
- completion of maintenance records
- colour coding for slings and ropes.

Statutory adherence may include:

- safe working practices
- plant and equipment regulations
- Occupational Health and Safety Acts and regulations
- Australian Standards
- maintenance procedures
- policies and procedures.

Communications may include:

- two-way radio
- intercom
- verbal
- written.

Data to be reviewed for specific information may include:

- operator's manuals
- manufacture's specifications for paint, rust remover, rust converter
- materials safety data sheets (MSDS)
- chemical labels.

Weather conditions may include:

- day/night
- hot/cold
- wet/dry
- storms - (dust) lightning.

Personal protective equipment includes but is not limited to:

- gloves
- goggles - sealed protective eyewear
- breathing apparatus
- hearing protection
- correct footwear.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Briefings/handovers.
- Statutory adherence.
- Communications.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Maintenance procedures.
- Safe operational practices.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Report regularly to and work as directed by the driller/derrickman timely and efficiently.
- Assemble rust scaling equipment.
- Fit safety pins, where applicable.
- Wear appropriate protective clothing and equipment.
- Prepare surfaces for painting.
- Apply rust treatment undercoat/final coat correctly.
- Clean and preserve equipment on completion.
- Conduct pre-operating checks on forklift.
- Conduct periodic maintenance on chain blocks, comealongs and crane hoists.
- Examine hooks, shackles, slings, straps and baskets.
- Keep work area clean.

Resource implications

Work environment plays a key role in training environment.

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON01A	Assist with the health and safety of the working environment
DRTOGON02A	Assist with the control of emergencies and critical situations
DRTOGON03A	Assist in maintaining rig safety and emergency procedures
DRTOGON04A	Assist in establishing and maintaining effective working relationships
DRTOGON05A	Carry out equipment and basic rig maintenance
DRTOGON06A	Carry out rig lease operations
DRTOGON07A	Move loads

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGON06A Carry out rig lease operations

This unit covers the operation of a rig lease by an onshore leasehand.

ELEMENT	PERFORMANCE CRITERIA
1. Assist drill crew in positioning and recording detail of tubulars	1.1 Tubulars are placed and tiered in appropriate racks.
	1.2 Tubulars are measured, labelled and recorded as required.
	1.3 Front end loader is operated in accordance with Manufacture's' specifications.
2. Operate pneumatic and electric power tools as directed	2.1 Appropriate protective clothing and equipment is worn.
	2.2 Tools are used in accordance with manufacturer's instructions.
3. Assist drill crew as directed in running and recovery of BOP stack	3.1 Operator of air tugger winches is assisted, as directed.
	3.2 Assistance is given in positioning BOP, as directed.
	3.3 Crew is assisted by supplying tools to the drill floor as required.
4. Provide labour for loading and unloading transport	4.1 Approved safety approach is used.
	4.2 Correct lifting techniques are used and forklift is used in a safe manner.
5. Provide labour for making up drilling mud, as directed	5.1 Mud material data sheets are comprehended.
	5.2 Protective clothing and equipment is used in accordance with data sheet recommendations.
	5.3 Sack material is correctly lifted.
	5.4 Safety equipment is correctly used in event of personal contact with hazardous materials.

Range of Variables

This unit covers the role of an onshore leasehand in operating a rig lease.

Briefings/handover details may include:

- location of potential hazards
- pre-tour safety meeting
- task specific/Job Safety Analysis (JSA) review
- environmental requirements.

Statutory adherence may include:

- Occupational Health and Safety Acts and regulations
- petroleum regulations
- environmental regulations
- safe working procedures
- protective clothing
- environmental.

Communications may include:

- two-way radio
- hand signals
- verbal
- written.

Reading tasks may include:

- work schedules
- manufacturers' instructions
- mud material data sheets.

Weather conditions may include:

- wet/dry
- hot/cold
- storms (dust storms) lightning
- day/night.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Briefings/handover.
- Communications.
- Weather conditions.
- Current licences for forklift, front end loader.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Drill floor operations.
- Safe operational practices.
- Numerical tasks involving measurement, e.g. Tapes, rulers, calibration devices.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Report regularly to and work as directed by the driller/derrickman timely and efficiently.
- Select and fit correct stinger/slings appropriate for loads.
- Transfer equipment by forklift.
- Place, measure, label and record details of tubulars.
- Operate power and pneumatic tools, wearing appropriate protective clothing.
- Assist in running/recovery of bop stack.

- Operate air tugger winch.
- Assist in supply of transport equipment to drill floor and loading/unloading.
- Assist derrickman in making up drilling mud.

Resource implications

Work environment plays a key role in training environment.

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON01A	Assist with the health and safety of the working environment
DRTOGON02A	Assist with the control of emergencies and critical situations
DRTOGON03A	Assist in maintaining rig safety and emergency procedures
DRTOGON04A	Assist in establishing and maintaining effective working relationships
DRTOGON05A	Carry out equipment and basic rig maintenance
DRTOGON07A	Move loads

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGON07A Move loads

This unit covers the moving of equipment using forklifts, cranes and other loading equipment by onshore leasehand.

ELEMENT	PERFORMANCE CRITERIA
1. Plan job	<ul style="list-style-type: none"> 1.1 Potential hazards associated with the use of cranes and other load moving equipment are identified and measures to eliminate or control these hazards are planned. 1.2 Site information is obtained as necessary. 1.3 Optimum prevention/control measures are selected. 1.4 Adequate site access and egress is identified. 1.5 Co-ordination requirements with other site personnel are determined. 1.6 Appropriate materials, tools and equipment are identified. 1.7 Appropriate approvals for work and persons are checked. 1.8 The job method and sequence is developed to include hazard prevention control measures and safety procedures. 1.9 The job is developed to include hazard prevention/control measures and to applicable Australian Standards, codes of practice and to equipment manufacturer's specifications.
2. Prepare site for rigging work	<ul style="list-style-type: none"> 2.1 The site is isolated using barriers as necessary. 2.2 Safety procedures are implemented, including necessary signage. 2.3 Where appropriate, assemble and erect lifting or pulling device.
3. Carry out load movement	<ul style="list-style-type: none"> 3.1 Load moving is performed in accordance with planned hazard prevention and control measures, to approved safe work practices, and to appropriate Australian Standards, codes of practice and manufacturer's specifications. 3.2 Work is performed safely at heights and/or on uncompleted structures and/or within uncompleted structures and/or in confined and enclosed spaces. 3.3 Load connection equipment and where appropriate load movement equipment is inspected for safety. 3.4 Equipment is connected to load to manufacturer's specifications and Australian Standards as appropriate.

ELEMENT	PERFORMANCE CRITERIA
4. Carry out load movement	<p>4.1 Connect load to movement device with appropriate techniques using appropriate equipment.</p> <p>4.2 Calculate loads and appropriate safe working loads using load charts and standard calculation rules.</p> <p>4.3 Appropriate communication and signal methods are used to co-ordinate the load movement with safety.</p> <p>4.4 Signals are given both within sight and out of sight of equipment operator.</p> <p>4.5 The load is moved with due regard for load centre of gravity, access, obstacles, wind conditions and final resting position(s).</p> <p>4.6 Any specifications given by the designer relative to the load are followed.</p> <p>4.7 The stability of the load is ensured throughout the load movement procedure.</p> <p>4.8 Load shifting equipment is used in a manner that maintains adequate stability.</p> <p>4.9 Rigging gear is used in accordance with codes of practice and guides.</p>
5. Place and secure the load	<p>5.1 Appropriate materials for fixing and anchoring the load are checked and selected.</p> <p>5.2 Appropriate fixing methods are used to secure the load. Load securing may include both temporary and permanent methods including appropriate temporary bracing and load supports.</p> <p>5.3 Temporary securing is installed where hazards and weather conditions may vary during the load movement and/or construction.</p> <p>5.4 The load is lowered safely using appropriate equipment and communication methods.</p> <p>5.5 Appropriate designer's specifications are following during the placement and securing of the load.</p>
6. Ensure continuing stability	<p>6.1 Load movement procedure is followed to ensure load and/or structural stability.</p> <p>6.2 Any temporary bracing and/or load support is maintained until continuing stability is ensured.</p> <p>6.3 Manufacturer's and/or designer's specifications relating to load stability are followed.</p> <p>6.4 The load and/or structure is completed to manufacturer's, designer's specifications and to appropriate Australian Standards.</p> <p>6.5 Local conditions which may affect the continuing stability are identified and measures taken to ensure continuing stability.</p>

ELEMENT	PERFORMANCE CRITERIA
7. Dismantle and remove loadshifting equipment	7.1 Loadshifting equipment is dismantled in a safe and orderly manner.
	7.2 Appropriate steps are taken to dismantle and remove items brought on-site during site preparation.

Range of Variables

This unit covers the role of an onshore leasehand in planning and preparing work for basic rigging.

Briefings/handover details may include:

- work inspection
- location of potential hazards.

Statutory adherence may include:

- OHS
- duty of care
- environmental.

Communications may include:

- two-way radio
- oral instruction.

Data to be reviewed for specific information may include:

- Australian Standards for hazard control
- job schedule/instructions
- lubrication schedule
- manufacturers' specifications
- work specification
- plans/drawings
- safe working loads
- instructions from load designer.

Written tasks may include:

- basic line drawings
- site sketches
- inspection/repair records.

Range of numerical tasks may include:

- mass
- load dimensions
- safe working load calculations.

Reading materials may include:

- load charts
- manufacture/designer specifications
- appropriate Australian standards
- work schedules.

Numerical tasks may include:

- length
- quantities
- volume
- conversion factors.

Weather conditions may include:

- day/night
- storms and lightning
- hot/cold
- wet/dry.

Load connecting to device may include but is not limited to the following equipment:

- slings
- rope
- shackles
- eye bolts
- spreader beams and equalising gear
- clamps

- pulley systems
- chain blocks and pull lifts
- winches
- jacks
- skids, skates and sliding shoes
- rollers
- cradle timbers
- chocks and wedges
- packers
- fish-plates and bolts
- feeler gauges
- rigging screws
- turfers
- turn buckles.

Communication signals to co-ordinate load movement may include but are not limited to:

- stop
- raise
- lower
- slew - left and right
- luff - boom up and down
- extend boom
- retract boom.

Signals for load moving are given using any of the following methods:

- verbally
- with hand signals to Australian Standards
- with whistles/hooters to Australian Standards
- with two-way radios/telephones
- with light signals to Australian Standards.

Equipment range is dogging and rigging work associated with:

- movement of plant and equipment
- steel erection
- particular hoists
- placement of pre-cast concrete
- safety nets and static lines
- mast climbers
- perimeter safety screens and shutters
- cantilevered crane loading platforms.

and excludes work including:

- use of load equalising gear
- rigging of cranes, conveyors, dredges and excavators
- tilt-slabs
- all hoists with jibs and self climbing hoists
- demolition
- dual lifts
- rigging of gin poles and shear legs
- flying foxes and cableways
- guyed derricks and structures
- suspended scaffolds and fabricated hung scaffolds.

Recorded information may include:

- tubulars and equipment
- faults and defects
- downhole tools and pipe measurements
- quantities of lubricants used.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Current State/Territory OHS legislation, standards and codes of practice.
- The hierarchy of hazard control measures with elimination, substitution, isolation and engineering control measures being selected before safe work practices and personal protective equipment.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Rigging procedures.
- Safe operational practices.
- Conversion between metric and imperial.
- Range of numerical calculations and measurements.
- Interpretation of graphical representation, e.g. maps, diagrams.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Report regularly to and work as directed by the driller/derrickman timely and efficiently.
- Apply whippings to end of fibre cordage.
- Tie reef knot, clove hitch and rolling hitch in fibre cordage.
- Apply back splice, short splice and eye splice in fibre cordage.
- Inspect and identify, report and repair faults in hooks, shackles and slings prior to use.
- Select correct equipment for pick-up and lay down of tubulars and nubbins.

Resource implications

Work environment plays a key role in a training environment.

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON01A	Assist with the health and safety of the working environment
DRTOGON02A	Assist with the control of emergencies and critical situations
DRTOGON03A	Assist in maintaining rig safety and emergency procedures
DRTOGON04A	Assist in establishing and maintaining effective working relationships
DRTOGON05A	Carry out equipment and basic rig maintenance
DRTOGON06A	Carry out rig lease operations

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

Key competencies	Level
Collecting, analysing and organising information	1
Communicating ideas and information	1
Planning and organising activities	1
Working with others in teams	1
Using mathematical ideas and techniques	1
Solving problems	1
Using technology	1

DRTOGON08A Contribute to the health and safety of the working environment

This unit covers the contribution to the health and safety of the working environment by an onshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Conform to legislative and general health and safety requirements	1.1 Working practices are safe and conform to current legislative and operational requirements. 1.2 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements. 1.3 Safety equipment is used as required by legislative and operational requirements. 1.4 Agreed procedures regarding personal health and safety and the health and safety of others are adhered to. 1.5 Agreed procedures are followed in the event of fire, accident and other emergency. 1.6 Organisational requirements regarding conduct in the workplace are adhered to.
2. Monitor and maintain pollution control measures	2.1 Controlled discharges from the area within the functional responsibility are within prescribed limits. 2.2 Storage requirements for incompatible substances are understood and fulfilled. 2.3 Incidents/accidents are reported in accordance with site/company procedures. 2.4 Unplanned discharges are identified and reported according to operational requirements. 2.5 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements. 2.6 Agreed procedures as required by legislative requirements and working practices are adhered to. 2.7 Materials for disposal are accurately identified, appropriately packaged and labelled and transferred to the responsible person for disposal.

ELEMENT	PERFORMANCE CRITERIA
3. Monitor and maintain the health and safety of the individual, other workers and visitors	<p>3.1 Area within functional responsibility is maintained clean and free of hazards.</p> <p>3.2 Required safety equipment and machine guards are safely and securely in position and used.</p> <p>3.3 Unsafe equipment and dangerous occurrences are identified and reported according to operational requirements.</p> <p>3.4 Relevant personal protective equipment is selected and used in accordance with current legislative and operational requirements.</p> <p>3.5 Materials are handled safely in accordance with legislative and operational requirements.</p> <p>3.6 Tools and equipment are handled, operated and stored safely and securely.</p> <p>3.7 Health and Safety is monitored and non-conformances identified, rectified and reported.</p>

Range of Variables

This unit covers the role of an onshore floorman in contributing to the health and safety of the working environment.

Briefings/handover details may include:

- participate in pre-tour safety meetings
- toolbox safety meetings
- reference to relative operational Job Safety Analysis (JSA).

Statutory adherence may include:

- OHS
- duty of Care
- environment
- Australian Standards.

Communications may include:

- two-way radio
- oral instruction
- hand signals.

Written tasks may include:

- note taking for:
 - pre-tour safety meetings
 - weekly safety meetings
 - stop for safety meetings.

Reading tasks may include:

- Job Safety Analysis (JSA)
- safety/first aid manuals
- chemical labels.

Weather conditions may include:

- day/night
- dry/wet
- hot/cold
- storms/lightning (dust storms/wind).

Safety equipment includes:

- fire protection
- first aid
- survival.

Discharges may include:

- liquids
- gases
- solids.

Materials may include, but are not limited to:

- flammable
- toxic
- corrosive
- explosive
- radioactive.

Personal protective equipment may include, but are not limited to:

- eye protection
- hearing protection
- gloves
- footwear
- hard hats
- respirators.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Understand and comply with safety policies and procedures.
- Comply with requirements of using personal protective equipment.
- Report all occurrences and hazards.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Evacuation and fire procedures.
- Workplace safety policy.
- Workplace reporting procedures.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Use and care of personal protective equipment.
- Apply safe lifting and handling techniques.
- Implement workplace reporting procedures.
- Source safety information.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON09A	Contribute to the control of emergencies and critical situations
DRTOGON10A	Establish and maintain effective working relationships
DRTOGON11A	Prepare and operate drilling fluid systems
DRTOGON12A	Perform rig floor operations

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGON09A Contribute to the control of emergencies and critical situations

This unit covers the contribution to control of emergencies and critical situations by an onshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Contribute to the control of critical situations	<p>1.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>1.2 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>1.3 Relevant alarms are activated in accordance with operational requirements.</p> <p>1.4 Duties of floorman and drill floor crew in quickly and competently closing the well are identified, interpreted and applied.</p> <p>1.5 Well kick signs are identified, interpreted and applied.</p> <p>1.6 Full opening safety valve, BOP and flow control head are located.</p> <p>1.7 Assistance is given in first aid and medivac procedures as detailed in company policy and procedure manual.</p> <p>1.8 Actions to control and alleviate the situation are taken in accordance with operational and legislative requirements.</p> <p>1.9 The situation is monitored and relevant actions taken to minimise risks to personnel, environment, process, plant and equipment.</p> <p>1.10 Reporting requirements in the event of a critical situation are maintained in accordance with safety management systems.</p>
2. Respond to emergencies in other areas	<p>2.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>2.2 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>2.3 Relevant alarms are activated in accordance with operational requirements.</p> <p>2.4 Information in relation to the emergency is clear, accurate and in a suitable format for the needs of relevant personnel.</p>

ELEMENT	PERFORMANCE CRITERIA
Respond to emergencies in other areas (cont'd)	<p>2.5 Agreed emergency procedures are adhered to in accordance with operational requirements.</p> <p>2.6 Immediate action taken to make the situation safe minimises risks to personnel, environment, process, plant and equipment.</p>
3. Comply with rig safety procedures	<p>3.1 Personal protective equipment, appropriate to task, is obtained and worn.</p> <p>3.2 Signals and safe working procedures for operation of man riding and air hoists are read, interpreted and applied.</p> <p>3.3 Lift authorisation is obtained.</p> <p>3.4 Riding harness and hoist is inspected.</p> <p>3.5 Signalman's duties are read, interpreted and applied.</p> <p>3.6 Lock-out and tagging procedures as detailed in company policy and procedural documents are read, interpreted and applied.</p> <p>3.7 Permit to Work system as detailed in company policy and procedural documents is read, interpreted and applied.</p> <p>3.8 Pit drills and safety meetings are attended and participated in.</p>
4. Participate in fire drills	<p>4.1 Fire alarm signals are recognised and complied with.</p> <p>4.2 Portable extinguishing equipment, fire hose, nozzles and breathing apparatus are operated in accordance with manufacturers and/or company procedures.</p> <p>4.3 Fire team responsibilities are identified and complied with.</p> <p>4.4 Assigned fire stations are known.</p>
5. Demonstrate safe working procedures	<p>5.1 Manual slips are set and pulled correctly.</p> <p>5.2 Make-up and break-out manual tongs are operated correctly.</p> <p>5.3 Drill floor drilling tools and equipment are moved in accordance with company and statutory safe operating procedures.</p>
6. Assist in manual handling risk assessment	<p>6.1 National Standards and Code of Practice for Manual Handling are read, interpreted and applied.</p> <p>6.2 Correct manual handling techniques are applied when lifting pushing, pulling, carrying or restraining animate or inanimate objects.</p>

Range of Variables

This unit covers the role of an onshore floorman in contributing to the control of emergencies and critical situations.

Briefings/handover details may include:

- participate in pre-tour safety meetings
- review hazard control procedures
- follow safe operating procedures
- assist as required and trained.

Statutory adherence may include:

- OHS
- duty of care
- environment
- Australian Standards
- well control.

Personal protective equipment may include but is not limited to:

- safety helmet
- safety footwear
- safety glasses
- gloves
- riding belt
- safety belt
- life vest
- safety goggles
- H₂S equipment.

Communications may include:

- two-way radio
- oral instructions
- hand signals.

Weather conditions may include:

- day/night
- dry/wet
- hot/cold
- storms/lightning (dust storms/wind).

Alarms may include, but are not limited to:

- audible
- warning gestures
- oral warnings
- fixed system specific to installation.

Critical situation may include, but are not limited to:

- operational difficulties
- extreme weather
- equipment failure
- leaks
- fires
- kicks.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Information formats may include, but are not limited to:

- oral
- telephone

- public address system
- radio
- hand signals.

Reporting requirements may include, but are not limited to:

- oral
- written.

Safety management systems may include, but are not limited to:

- organisational
- installation.

Relevant actions taken to control and alleviate critical situations may include, but are not limited to:

- make safe
- isolate
- shutdown
- evacuate work area
- report
- record
- contain
- rectify.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Follow safe work practice and procedures.
- Function effectively in a team environment.
- Understand emergency response plan.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Emergency procedures.
- Fire and gas control system.
- Permit to work system.
- Well kicks.
- Operation of full-opening safety valve, and inside bop.
- Manual duties of each rig crew member during a well kick drill.
- Emergency shutdown control system.
- Effects of loss of any utility and its reinstatement.
- Functioning of process control, including instrumentation.
- Equipment layout and its connection with other systems.
- Lockout/tag out operations.
- Rig audit.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Implement personal protection requirements appropriate to the environment.
- Recognise effects of changes of ambient conditions on operations.
- Locate sources of information and interpret drawings and manuals.
- Operate equipment.
- Set and pull manual slips.
- Operate manual make-up tongs.
- Operate manual break-out tongs.
- Move drills, tools and equipment around drill floor.
- Wear correct protective clothing for the execution of duties and tasks.
- Assist in the risk assessment of a manual handling task.
- Demonstrate correct manual handling technique.
- Act as chairman of safety meeting.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON08A	Contribute to the health and safety of the working environment
DRTOGON10A	Establish and maintain effective working relationships
DRTOGON11A	Prepare and operate drilling fluid systems
DRTOGON12A	Perform rig floor operations

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGON10A Establish and maintain effective working relationships

This unit covers the establishment and maintenance of effective relationships by an onshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Establish and maintain effective working relationships with colleagues	<p>1.1 Colleagues are treated in a manner which promotes and maintains goodwill.</p> <p>1.2 Reasonable requests from colleagues are met promptly and willingly.</p> <p>1.3 Essential information relating to daily work schedules is provided clearly, accurately and promptly.</p> <p>1.4 Where colleagues appear to be in work related difficulties, appropriate support is offered or sought.</p> <p>1.5 Where a breakdown in working relationships cannot be resolved, prompt reporting action is taken with an appropriate authority.</p>
2. Establish and maintain relationships with visitors to the working environment	<p>2.1 Visitors are greeted in a manner which provides goodwill in accordance with operational requirements.</p> <p>2.2 Visitors are provided with sufficient information to meet their identified need.</p> <p>2.3 Information requested is provided clearly in a manner which facilitates understanding.</p> <p>2.4 Where information requests are outside of the functional responsibility, these are passed on to an appropriate person promptly.</p> <p>2.5 Visitors are not endangered in any way by acts or omissions of the individual.</p>
3. Establish and maintain effective communications with colleagues	<p>3.1 Given communications are clear, concise and accurate and are delivered in a style appropriate to the workplace.</p> <p>3.2 Communications received are acted on promptly in accordance with operational requirements.</p> <p>3.3 Difficulties in interpreting communications are identified and prompt clarification sought.</p> <p>3.4 Language and terminology are appropriate to the workplace and the situation.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Carry out work handovers	<p>4.1 Relevant information is recorded accurately and legibly in accordance with operational requirements.</p> <p>4.2 Current operational status relayed to and received from relevant personnel is accurate and complete.</p> <p>4.3 Operating instructions are relayed accurately and completely to relevant personnel.</p> <p>4.4 Work area is left clean and hazard free in accordance with operational requirements.</p>

Range of Variables

This unit covers the role of an onshore floorman in establishing and maintaining effective working relationships.

Briefings/handover details may include:

- pre-tour safety meeting
- communication with co-workers
- workplace inspection
- teamwork
- review Job Safety Analysis (JSA).

Statutory adherence may include:

- Occupational Health and Safety Acts and Regulations
- duty of care
- codes of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- hand signals.

Weather conditions may include:

- day/night
- dry/wet
- hot/cold
- storms/lightning (dust storms/wind).

Visitors include:

- approved and authorised visitors
- third parties.

Colleagues include:

- co-workers
- supervisors
- managers
- other company employees
- third parties.

Information may include:

- oral
- written
- visual
- safety
- operational
- statutory.

Situations may include, but are not limited to:

- informal meeting
- form meeting
- normal work situation
- team briefings
- contingency situation.

Work handovers may include, but are not limited to:

- to next shift
- to next job
- to next person
- from previous shift
- from previous job
- from previous person.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Work in a team environment.
- Follow direction from supervisor.
- Comply with occupational health and safety standards.
- Communicate effectively according to site requirements.
- Meet job responsibilities.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Company and statutory guidelines, procedures and practices.
- Workplace reporting procedures.

- Permit to work system.
- Emergency procedures.
- Workplace practices relating to visitors.

Skills

The ability to:

- Obtain and implement operational policies, procedures, instructions, codes of practice, standards and schedules.
- Pass on information accurately and completely and clarify information received.
- Control/minimise risks of work area hazards.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON08A	Contribute to the health and safety of the working environment
DRTOGON09A	Contribute to the control of emergencies and critical situations
DRTOGON11A	Prepare and operate drilling fluid systems
DRTOGON12A	Perform rig floor operations

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGON11A Prepare and operate drilling fluid systems

This unit covers the operation of drilling fluid systems as carried out by an onshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Personal protection equipment is obtained. 1.2 Geographic layout of the active, reserve and slug pits is assessed. 1.3 Operation of mud mixers, dump valves and equalising valves is assessed. 1.4 Mud pump and discharge system is identified and located.
2. Establish operational requirements	2.1 Operational instructions are obtained and the work to be carried out is organised accordingly. 2.2 Difficulties in carrying out the instructions are clarified with the relevant personnel. 2.3 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements. 2.4 Availability of necessary third party utilities is confirmed in accordance with operational requirements. 2.5 Availability of required quantities and type of consumables are confirmed against operational requirements. 2.6 Errors, omissions and shortages are identified and appropriate remedial action taken with functional responsibility.
3. Select and test equipment	3.1 Working practices are safe and conform to current legislative and operational requirements. 3.2 Equipment identified and selected is appropriate for the work to be performed and confirms to operational requirements. 3.3 Equipment is confirmed functional and fit for the purpose and the environment in which it will be used. 3.4 Defects in the equipment are identified and appropriate remedial action taken within functional responsibility.

ELEMENT	PERFORMANCE CRITERIA
4. Prepare drilling fluids	<p>4.1 Working practices are safe and confirm to current legislative and operational requirements.</p> <p>4.2 Availability of sufficient quantities and types of fluids is confirmed against operational requirements.</p> <p>4.3 Tanks and mixing equipment are confirmed clean and free from contamination in accordance with instructions.</p> <p>4.4 Fluids are mixed and treated in accordance with the specification.</p> <p>4.5 Samples are obtained, correctly labelled and stored according to operational requirements.</p> <p>4.6 Defects in the equipment are identified and appropriate remedial action taken within functional responsibility.</p>
5. Pump drilling fluids	<p>5.1 Working practices are safe and confirm to current legislative and operational requirements.</p> <p>5.2 Recording and monitoring devices are confirmed as preset to required parameters.</p> <p>5.3 Equipment is operated in accordance with operational requirements.</p> <p>5.4 Faults and defects are accurately identified and appropriate remedial action taken within functional responsibility.</p> <p>5.5 Pipe in the derrick is operated manually and under supervision.</p> <p>5.6 Crown block is greased and hanging sheaves identified.</p> <p>5.7 Data is accurately recorded at appropriate times and frequencies in accordance with operational requirements.</p>
6. Operate hopper system	<p>6.1 Operation of the hopper system is recognised.</p> <p>6.2 Shale shakers, desilter, desander, degasser, mud cleaner and centrifuge are operated and maintained in accordance with company and manufacture's requirements.</p> <p>6.3 Mud properties are measured and logged correctly.</p> <p>6.4 Changes in returns of drilling fluid and pit volumes are recognised, recorded and reported.</p>

Range of Variables

This unit covers the role of an onshore floorman in operating drilling fluid systems.

Briefings/handover details may include:

- pre-tour meeting
- safety meeting
- use of hazardous chemicals.

Statutory adherence may include:

- protective clothing
- safe use of hazardous chemicals.

Communications may include:

- two-way radio.

Recorded information may include:

- drilling fluids
- faults/defects
- pit volumes
- pipe tallys
- mud properties.

Numerical tasks may include:

- mixing quantities, e.g. mud
- measurement of mud properties, e.g. viscosity, density
- flow rate
- pressure.

Weather conditions may include:

- wind
- rain
- snow
- dust.

Equipment may include, but is not limited to:

- pumps
- lines
- hoppers
- manifolds.

Fluid systems include:

- mixing
- transfer
- bulk
- circulating.

Fluid mix specification includes:

- volume
- density
- viscosity
- mud properties.

Parameters include:

- flow rate
- pressure
- density.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record
- adjust
- repair
- isolate.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment

- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies
- dealing with contamination.

Preparation may include:

- geographic layout of the active, reserve and slug pits
- operation of mud mixers, dump valves and equalising valves
- mud pump and discharge system
- mud materials safety data sheets
- layout of shaker pits, degasser pit, settling pit and sand trap.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- OHS obligations.
- Operating principles of the system, equipment and their relationship to other plant.
- Selection and testing of equipment.
- Drilling fluid preparation.
- Pumping of drilling fluids.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Chemical handling procedures.
- Operating principles of the systems, equipment and their relationship to other plant.
- Fluid types and composition.
- Rig safety and emergency procedures.
- Safe operating procedures when operating equipment.
- Layout of mud circulating, mixing and suction systems.
- Geography of active, reserve and slug pits.
- Layout of shaker, degasser and settling pits, and sand traps.
- MSDS (Materials Safety Data Sheet).
- Rig maintenance.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Maintain and operate mud mixers, dump valves and equalising valves in the mud pits system.
- Safely add mud materials to the mud systems under the mud engineer's instructions.
- Operate and maintain all the mud treatment units.
- Accurately take mud properties readings and legibly record them.
- Interpret and act on additional flow in the mud returns or an increase in mud pit volume.
- Operate pipe in derrick as directed either manually or using hydraulic racking system where fitted.
- Assess need and action greasing of crown block and hanging sheaves.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

- DRTOGON08A Contribute to the health and safety of the working environment
- DRTOGON09A Contribute to the control of emergencies and critical situations
- DRTOGON10A Establish and maintain effective working relationships
- DRTOGON12A Perform rig floor operations

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGON12A Perform rig floor operations

This unit covers the performance of rig floor operations as carried out by an onshore floorman.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment	<p>1.1 Operational instructions are obtained and the work to be carried out is organised accordingly.</p> <p>1.2 Difficulties in carrying out the instructions are clarified with the relevant personnel.</p> <p>1.3 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements.</p> <p>1.4 Availability of necessary third party utilities is confirmed in accordance with operational requirements.</p> <p>1.5 Availability of required quantities and type of consumables are confirmed against operational requirements.</p> <p>1.6 Errors, omissions and shortages are identified and appropriate remedial action taken with functional responsibility.</p>
2. Select handling equipment	<p>2.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>2.2 Equipment identified and selected is appropriate for the work to be performed and conforms to operational requirements.</p> <p>2.3 Equipment is confirmed functional and fit for the purpose and the environment in which it will be used.</p> <p>2.4 Faults in the equipment are identified and appropriate remedial action taken within functional responsibility.</p>
3. Handle tubulars and equipment	<p>3.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>3.2 Tubulars and equipment are positioned according to operational requirements.</p> <p>3.3 Connections are safely made and broken in accordance with operational requirements.</p>

ELEMENT	PERFORMANCE CRITERIA
Handle tubulars and equipment (cont'd)	<p>3.4 Faults and defects are accurately identified and appropriate remedial action taken within functional responsibility.</p> <p>3.5 Equipment is handled using safe lifting and handling techniques.</p> <p>3.6 Data is accurately recorded at appropriate times and frequencies in accordance with operational requirements.</p>
4. Prepare and run drill string	<p>4.1 All down hole tools and pipe are measured and recorded to assist Driller.</p> <p>4.2 Pipe and tools are conveyed to drill floor with protectors fitted and in accordance with company safety operating procedures.</p> <p>4.3 Tongs and slip dies are checked for cleanliness and sharpness and long lines are secured.</p> <p>4.4 Thread cleaning, inspection and lubrication are safely conducted.</p> <p>4.5 Drill string is made up and run applying correct use of chain tongs, safety clamps, rig tongs, slips and elevators.</p>
5. Prepare, run and cement casing	<p>5.1 Casing is prepared, run and cemented in accordance with rig operating procedures.</p> <p>5.2 Assistance is provided in nipping up BOP's, choke and kill lines and diverter in accordance with rig operating procedures.</p> <p>5.3 Pipe handling equipment is prepared and operated as necessary for running casing, tripping, making connections, well testing and logging.</p>
6. Examine and service drill floor equipment	<p>6.1 Lubrication schedules are read, interpreted and applied.</p> <p>6.2 Lubrication is carried out in accordance with company and manufacturers requirements.</p> <p>6.3 Correct types and quantities of lubricants for applications are identified and used.</p> <p>6.4 Draw works, rotary table, swivel, all valves, including standpipe and choke and kill valves, wirelines and hoists are checked and faults identified, reported and rectified as appropriate.</p>

ELEMENT	PERFORMANCE CRITERIA
7. Maintain a high standard of rig husbandry	7.3 Drill floor and equipment is maintained to company standard.
	7.4 Tools and portable equipment are cleaned, well maintained and correctly stowed.
	7.5 Flammable substances are sealed and stowed according to manufacturers and statutory requirements.
	7.6 Covers and gratings are in place, except when in use.
	7.7 Tongs, slips and dies are maintained in a clean and sharp condition.
	7.8 Non-skid surfaces are maintained in a clean and free from oil and grease condition.

Range of Variables

This unit covers the role of an onshore floorman in performing rig floor operations.

Briefings/handover details may include:

- pre-tour safety meetings
- work inspection
- task specific Job Safety Analysis (JSA)
- permit to work prepared if necessary.

Statutory adherence may include:

- OHS, Acts and regulations
- duty of care
- Petroleum Act
- Australian Standards
- codes of practice.

Communications may include:

- two-way radio
- intercom
- hand signals
- oral instruction.

Weather conditions may include:

- day/night
- dry/wet
- hot/cold
- storms/lightning (dust storms/wind).

Equipment may include, but is not limited to:

- elevators
- tongs
- slips
- bushings
- job specific tools
- winches
- down hole
- handling
- consumables
- catheads
- pipe racking.

Tubulars include:

- drill pipe
- drill collars
- casing - 20", 13^{3/8}", 9^{3/8}", 7" and 5^{1/2}"
- tubing.

Utilities may include, but are not limited to:

- air
- fuel
- power
- craneage
- lighting.

Difficulties may include, but are not limited to:

- unclear instructions
- imprecise details
- lack of information.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record
- rectify
- replace
- repair
- adjust.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Follow safe work practices.
- Use and maintenance of pipe handling equipment.
- Teamwork operations.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rig safety and emergency procedures.
- Company and statutory safety guidelines, procedures and practices.
- Equipment safe operating procedures.
- Equipment condition and reporting mechanisms.
- Function of the triangular mark stamped just above the casing.
- What steps are taken if the well kicks whilst running casing.
- Lubrication techniques.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Prepare and run the temporary guide base:
 - correctly babbitt the wireline sockets
 - install the correct shear pins in the wireline sockets and their anchor pins correctly
 - paint and mark the guidelines, the temporary guide base running tool assembly and the temporary guide base guide cone correctly
 - check the temporary guide base running string to ensure that the guide base does not rotate
 - install and run the drill pipe guide frame above the temporary guide base on the running string.

- Prepare and run drill string:
 - measure and record pipe, sub and tools correctly
 - check the rig tongs and slips
 - check and use a safety clamp
 - service after use hole openers and large size non-sealed bearing bits.
- Assist as directed in preparing, running and cementing of casing:
 - check the slips, 350 ton elevator slips, elevator and tongs, including power tongs
 - assemble the casing centralisers correctly
 - make up the casing hanger and float or baffle collar correctly
 - make up the cement head sub
 - fill the casing safely and with the required frequency
 - thoroughly clean one mud pit and pre-mix any required mud materials
 - carry out the duties required in the cement room whilst mixing i.e. manipulate the cement bulk pod, assist with any required additives, weigh the cement slurry
 - drop the trip dart or, if used, insert the second cement plug
 - switch from cementing unit displacement, i.e. which valves to manipulate when ordered.
- Prepare and operate pipe handling equipment:
 - check and overhaul the rig tongs and slips
 - check the catheads and chains and operated pipe spinner correctly
 - assist in making a conventional drilling connection using correct procedures
 - know the additional safety regulations in force whilst flow testing a well
 - assist in rigging up the electro-logging sheave cable, and know the patterns and positions of its hanging points
 - know the safe practices to be observed when well loggers are handling explosives or radioactive materials.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC)

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

Competence must be assessed and achieved for each unit.

- DRTOGON08A Contribute to the health and safety of the working environment
- DRTOGON09A Contribute to the control of emergencies and critical situations
- DRTOGON10A Establish and maintain effective working relationships
- DRTOGON11A Prepare and operate drilling fluid systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	2
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	2

DRTOGON13A Apply Occupational Health and Safety in the workplace

This unit covers the application of Occupational Health and Safety in the workplace as carried out by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Demonstrate safe working procedures	1.1 Personal protective equipment, appropriate to task, is obtained and worn. 1.2 Manual slips are set and pulled correctly. 1.3 Make-up and break-out manual tongs are operated correctly. 1.4 Drill floor drilling tools and equipment are moved in accordance with company and statutory safe operating procedures.
2. Assist in manual handling risk assessment	2.1 National Standards and Code of Practice for Manual Handling are read, interpreted and applied. 2.2 Correct manual handling techniques are applied when lifting pushing, pulling, carrying or restraining animate or inanimate objects.
3. Participate in fire drills	3.1 Fire alarm signals are recognised and complied with. 3.2 Portable extinguishing equipment is operated in accordance with manufacturers and/or company procedures. 3.3 Fire hose and nozzles are operated in accordance with manufacturers and/or company procedures. 3.4 Fire team responsibilities are identified and complied with.
4. Participate in H₂S drills	4.1 H ₂ S alert alarms are recognised. 4.2 H ₂ S hazards are understood. 4.3 Procedure for testing BA equipment is understood. 4.4 Search and rescue procedure is learnt and complied with.
5. Participate in BOP drills	5.1 Alarm signal is recognised. 5.2 Crew positioning is administered. 5.3 Choke controls are operated. 5.4 Mixing of heavy weighted chemicals is co-ordinated. 5.5 Kill sheet is liaised on with Driller.

ELEMENT	PERFORMANCE CRITERIA
6. Carry out emergency drilling situation	6.1 Standby in pump room.
	6.2 Mud circulating system is aligned in accordance with operating procedures.
	6.3 Drilling fluids are mixed to specification.
	6.4 Equipment is activated, as directed.

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in applying OHS in the workplace.

Briefings/handover details may include:

- work inspection
- location of potential hazards
- pre-tour safety meeting
- task specific - Job Safety Analysis (JSA).

Statutory adherence may include:

- OHS
- duty of care
- environmental
- codes of practice
- Australian Standards
- hazardous chemicals.

Personal protective equipment may include:

- safety helmet
- safety footwear
- safety glasses
- gloves
- riding belt
- safety belt

- life vest
- safety goggles
- H₂S equipment.

Communications may include:

- two-way radio
- intercom
- telephone
- hand signals.

Data to be reviewed for specific information may include:

- National Standards and codes of practice for Manual Handling
- manufacturers'/company procedures
- Job Safety Analysis (JSA)
- safety/first aid manuals.

Written tasks may include:

- note taking for:
 - pre-tour safety meetings
 - weekly safety meetings
 - stop for safety meetings.

Weather conditions may include:

- day/night
- storms and lightning
- hot/cold
- wet/dry (dusty).

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Demonstrate safe working procedures.
- Wear correct personal protective equipment.
- Participate in emergency drills.
- Assist in manual handling risk assessment.
- Maintain fluid systems to operational requirements.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Company and statutory safety standard and procedures, including duty of care.
- Safety meeting conduct.
- Fire alarm signals.
- Bop alarm signals.
- Gas alarm signals.
- Fire extinguishing equipment.
- Fire team procedures.
- Breathing apparatus operation.
- Accumulator control.
- Kill sheet calculation.
- Work permits system.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Apply rig safety and emergency procedures.
- Work within company and statutory safety guidelines, procedures and practices.
- Use safe operating procedures when operating equipment.
- Apply emergency ventilation shutdown.
- Co-ordinate mixing of chemicals.
- Instruct floor crew.
- Operate choke control.
- Operate for emergency drilling situation.
- Use lock out and tag out system.
- Demonstrate correct manual handling technique.
- Assist in the risk assessment of a manual handling task.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance on a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON14A Control emergencies and critical situations

This unit covers the control of emergencies and critical situations by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Control critical situations	<p>1.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>1.2 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>1.3 Relevant alarms are activated in accordance with operational requirements.</p> <p>1.4 Actions to control and alleviate the situation are taken in accordance with operational and legislative requirements.</p> <p>1.5 Symptoms/effects of contaminants, toxic materials and heat stress are recognised and appropriate action taken.</p> <p>1.6 The situation is monitored and relevant actions taken to minimise risks to personnel, environment, process, plant and equipment.</p> <p>1.7 Reporting requirements in the event of a critical situation are maintained in accordance with safety management systems.</p>
2. Co-ordinate the response to emergencies	<p>2.1 Developing, emerging and existing critical situations are identified and actions taken are appropriate to the situation.</p> <p>2.2 Relevant alarms are activated in accordance with operational requirements.</p> <p>2.3 Information and instructions given are clear, accurate and in a suitable format for the needs of relevant personnel.</p> <p>2.4 Advice received is clarified and acted upon as appropriate to the situation.</p> <p>2.5 Agreed emergency procedures are adhered to in accordance with operational requirements.</p> <p>2.6 Information recorded on to relevant documentation is accurate, complete and legible.</p> <p>2.7 Immediate action taken to make the situation safe minimises risks to personnel, environment, process, plant and equipment.</p>

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in controlling emergencies and critical situations.

Briefings/handover details may include:

- location of potential hazards
- pre-tour safety meeting
- written instruction
- permit to work requirements
- reference to relative Job Safety Analysis (JSA)
- assist with supervision of floor crew.

Statutory adherence may include:

- OHS
- duty of care
- code of practice
- environment
- mud systems
- well control procedures.

Communications may include:

- two-way radio
- intercom
- telephone
- hand signals
- verbal
- written.

Written reports may include:

- hazard observation reports
- rig safety audits.

Weather conditions may include:

- day/night
- storms and lightning
- hot/cold (environment)
- wet/dry (environment)
- wind/dust.

Alarms may include, but are not limited to:

- audible
- warning gestures
- oral warnings
- fixed system specific to installation.

Critical situation may include, but are not limited to:

- operational difficulties
- extreme weather
- equipment failure
- leaks
- fires
- kicks.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Safety management systems may include, but are not limited to:

- organisational
- installation.

Reporting requirements may include, but are not limited to:

- oral
- written.

Relevant actions taken to control and alleviate critical situations may include, but are not limited to:

- make safe
- isolate
- shutdown
- evacuate work area
- report
- record
- contain
- rectify.

Immediate actions may include, but are not limited to:

- inform external services
- do nothing
- activate internal emergency response teams
- inform duty personnel
- inform adjacent facilities
- activate ESD
- account for people
- evacuate
- assist in rescue of personnel.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Compliance with safety standards.
- Clear communication and recognition of hazards.
- Response to alarms.
- Standard calculation rules for working loads.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Emergency procedures.
- Evacuation procedures and personnel responsibilities.
- Fire and gas control system.
- Alarm system.
- Emergency shutdown control system.
- Effects of loss of any system upon the operation.
- Functioning of process control, including instrumentation.
- Equipment layout and its connection with other systems.
- Consequences of emissions to the environment.
- Operating parameters and tolerances.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Implement personal protection requirements appropriate to the environment.
- Recognise effects of changes of ambient conditions on operations.
- Locate sources of information and interpret drawings and manuals.
- Operate equipment.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON15A Manage subordinates and equipment

This unit covers the management of subordinates and equipment as carried out by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Manage subordinates effectively	1.1 Pre-job meeting is conducted. 1.2 All members of the team are made aware of their roles and responsibilities. 1.3 Floorhands are supervised, as directed by the Driller/Assistant Driller. 1.4 Drilling crewmembers are assisted with training. 1.5 Proper safety procedures and policies are followed and practised. 1.6 Work to be performed upon approval of supervisor is planned. 1.7 Drilling responsibilities are carried out, as required.
2. Train subordinates	2.1 Company policy, procedure and practices are implemented. 2.2 New hands are inducted in accordance with company and statutory requirements. 2.3 Subordinates are assisted in upgrading their positions. 2.4 Subordinates are assisted in meeting their OJT programme requirements. 2.5 Crew is instructed in the care and handling of derricks.
3. Maintain logs and records	3.1 Range of logs, records and required frequency is determined. 3.2 Daily log of drilling fluid properties is maintained. 3.3 Daily log of drilling chemicals and mud material usage is maintained. 3.4 Preventative maintenance records are maintained. 3.5 Log and records of equipment and parts usage are maintained. 3.6 Log records and shift reports are completed accurately and legibly.

ELEMENT	PERFORMANCE CRITERIA
4. Maintain all equipment in circulation system	<p>4.1 Daily maintenance checks are performed and recorded.</p> <p>4.2 Manufacturer's recommendations in care of equipment are followed.</p> <p>4.3 Sensor systems are checked to ensure they are full of fluid and pumped up.</p> <p>4.4 Detection system, sensing heads and level indicators are checked.</p> <p>4.5 Cooling system, pony rod wipers, rod packing, etc, are checked.</p> <p>4.6 Shale shaker and screens are checked.</p> <p>4.7 Each mud tank is isolated before dumping to avoid mud loss or lost circulation.</p> <p>4.8 Derrick grits and safety pins are checked.</p> <p>4.9 Tongline and drilling line are checked.</p> <p>4.10 Crown sheaves are examined for wear or damage.</p>
5. Maintain proper communication	<p>5.1 Supervisor is advised of all current conditions and any changes.</p> <p>5.2 Proper hand signals are used in derrick operations.</p> <p>5.3 Correct handover procedures are used with relief.</p> <p>5.4 Orders for stock or equipment maintenance are placed in advance of need, to ensure continuous availability.</p>

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in managing subordinates and equipment.

Briefings/handover details may include:

- work inspection
- location of potential hazards
- pre-tour safety meetings
- task specific - Job Safety Analysis
- register of equipment maintenance
- assist with supervision of crews.

Statutory adherence may include:

- OHS
- duty of care
- environment
- codes of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- telephone
- written instruction
- oral instruction
- hand signals.

Communication skills may include:

- giving instructions
- providing constructive feedbacks
- conducting a meeting.

Written tasks may include:

- mud additive stock control
- daily logs
- maintenance checks
- equipment and spare parts usage.

Reading tasks may include:

- job instructions
- technical information
- training materials.

Weather conditions may include:

- day/night
- storms and lightning
- hot/cold
- wet/dry (dusty).

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Maintain equipment.
- Manage subordinates.
- Obtain OHS standards and safe work practices.
- Train subordinates.
- Maintain proper communication.
- Ability to complete required documentation legibly and accurately within the specified timeframe.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Drilling operation (holding valid well control certificate).
- Hand signals between crane operator and derrickman/derrickhand.

- Shift handover procedure.
- Log maintenance.
- Tests and calculations.
- Work performance supervision and assessment.
- Training.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Set a good example to other members of the crew.
- Anticipate and troubleshoot problems.
- Use slack time to keep equipment clean and in good repair.
- Be a self-starter and work independently.
- Supervise floorhands and assist subordinates in OJT programme.
- Train drill crew.
- Follow and practise correct safety procedures and policies.
- Effectively plan work.
- Prepare complete and readable reports and maintain logs and records.
- Complete calculations and tests.
- Communicate properly.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON16A Create, maintain and enhance productive working relationships

This unit covers the creation, maintenance and enhancement of productive working relationships by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Create and enhance productive working relationships with colleagues	1.1 Efforts are made to establish and maintain productive working relationships. 1.2 Opportunities to discuss work-related matters are readily provided. 1.3 Advice is offered in a helpful manner and, where necessary, individuals are referred to specialists. 1.4 Differences are dealt with in ways that maintain productive working relationships. 1.5 Undertakings to others are met. 1.6 People are sufficiently informed about changes in policy and working practices which may affect them. 1.7 Where there is concern over the quality of work, the matter is directly raised and discussed with the people concerned. 1.8 Individuals are encouraged to offer ideas and view and due recognition of these is given. 1.9 Where ideas are not taken up, the reasons are clearly given. 1.10 Opportunities for individuals to discuss personal problems are readily available.
2. Carry out work handovers	2.1 Relevant information is recorded accurately and legibly in accordance with operational requirements. 2.2 Current operational status relayed to and received from relevant personnel is accurate and complete. 2.3 Operating instructions are relayed accurately and completely to relevant personnel. 2.4 Work area is left clean and hazard free in accordance with operational requirements.

ELEMENT	PERFORMANCE CRITERIA
3. Enhance productive working relationships with one's immediate manager	<p>3.1 Immediate manager is kept informed in an appropriate level of detail about activities, progress, results and achievements.</p> <p>3.2 Information about problems and opportunities is clear, accurate and provided with an appropriate degree of urgency.</p> <p>3.3 Information and advice on matters within the given area of responsibility are sought from immediate manager as necessary.</p> <p>3.4 Clear proposals for action are presented at an appropriate time and with the right level of detail.</p> <p>3.5 Where proposals are not accepted, the reasons are considered and, where appropriate, alternative proposals are put forward.</p> <p>3.6 Where there are disagreements, efforts are made to avoid damaging the relationship with the immediate manager.</p> <p>3.7 Ways of improving the relationship with the immediate manager are actively sought.</p> <p>3.8 Requirements of job role are satisfied.</p> <p>3.9 Activities are performed in a helpful and willing manner.</p>

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in creating, maintaining and enhancing productive working relationships.

Briefings/handover details may include:

- work inspection
- location of potential hazards
- task specific - Job Safety Analysis
- pre-tour safety meetings
- delegate and supervision of crews
- encourage teamwork and clear communication.

Statutory adherence may include:

- OHS
- duty of care
- environment
- code of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- oral instruction
- written instruction.

Weather conditions may include:

- day/night
- storm/lightning
- hot/cold
- wet/dry.

Information may include, but is not limited to:

- formal
- informal
- oral
- written.

People includes, but is not limited to:

- staff representatives
- colleagues
- line managers
- co-workers
- supervisors
- customers
- suppliers.

Information and advice on operational requirements:

- organisational policies, plans and procedures
- legislation
- quality assurance standards
- approved codes of practice
- personal and interpersonal issues
- proposals concerning new courses of action
- working arrangements of those for whom one has responsibility
- safety, operational.

Communications may include, but are not limited to:

- written
- oral
- practical demonstration
- visual/pictorial.

Handovers may include, but are not limited to and from:

- next shift
- next job
- next person
- previous shift
- previous job
- previous person.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Application of good safety practices.
- Communication and teamwork approach.
- Knowledge to fulfil operational requirements of job description.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Workplace reporting procedures.
- Barriers to communications.
- Emergency procedures.
- Permit to work system.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Pass on information accurately and completely.
- Control/minimise work area hazards.
- Locate and implement organisational policies, procedures, instructions.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON17A Prepare and operate drilling fluid systems

This unit covers the operation of drilling fluid systems as carried out by an onshore derrickman.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Geographic layout of the active, reserve and slug pits is assessed. 1.2 Operation of mud mixers, dump valves and equalising valves is assessed. 1.3 Mud pump and discharge system is identified and located.
2. Establish operational requirements	2.1 Operational instructions are obtained and the work to be carried out is organised accordingly. 2.2 Difficulties in carrying out the instructions are clarified with the relevant personnel. 2.3 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements. 2.4 Availability of necessary third party utilities is confirmed in accordance with operational requirements. 2.5 Availability of required quantities and type of consumables are confirmed against operational requirements. 2.6 Errors, omissions and shortages are identified and appropriate remedial action taken with functional responsibility.
3. Select and test equipment	3.1 Working practices are safe and conform to current legislative and operational requirements. 3.2 Equipment identified and selected is appropriate for the work to be performed and conforms to operational requirements. 3.3 Equipment is confirmed functional and fit for the purpose and the environment in which it will be used. 3.4 Defects in the equipment are identified and appropriate remedial action taken within functional responsibility.

ELEMENT	PERFORMANCE CRITERIA
4. Prepare drilling fluids	<p>4.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>4.2 Availability of sufficient quantities and types of fluids is confirmed against operational requirements.</p> <p>4.3 Tanks and mixing equipment are confirmed clean and free from contamination in accordance with instructions.</p> <p>4.4 Fluids are mixed and treated in accordance with the specification.</p> <p>4.5 Samples are obtained, correctly labelled and stored according to operational requirements.</p> <p>4.6 Defects in the equipment are identified and appropriate remedial action taken within functional responsibility.</p>
5. Pump drilling fluids	<p>5.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>5.2 Recording and monitoring devices are confirmed as preset to required parameters.</p> <p>5.3 Equipment is operated in accordance with operational requirements.</p> <p>5.4 Faults and defects are accurately identified and appropriate remedial action taken within functional responsibility.</p> <p>5.5 Pipe in the derrick is operated manually and under supervision.</p> <p>5.6 Crown block is greased and hanging sheaves identified.</p> <p>5.7 Data is accurately recorded at appropriate times and frequencies in accordance with operational requirements.</p>
6. Operate hopper system	<p>6.1 Operation of the hopper system is recognised.</p> <p>6.2 Shale shakers, desilter, desander, degasser, mud cleaner and centrifuge are operated and maintained in accordance with company and manufacture's requirements.</p> <p>6.3 Mud properties are measured and logged correctly.</p> <p>6.4 Changes in returns of drilling fluid and pit volumes are recognised, recorded and reported.</p>

Range of Variables

This unit covers the role of an onshore floorman in operating drilling fluid systems.

Briefings/handover details may include:

- pre-tour safety meeting
- work inspection
- Job Safety Analysis (JSA)
- tour reports updated
- permit prepared where applicable
- safety equipment inspected and used as appropriate.

Statutory adherence may include:

- OHS
- duty of care
- environment
- code of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- oral instruction
- written instruction.

Weather conditions may include:

- day/night
- storm/lightning
- hot/cold
- wet/dry.

Equipment may include, but is not limited to:

- pumps
- lines
- hoppers
- manifolds
- solids control equipment
- gas control equipment.

Fluid systems include:

- mixing
- transfer
- bulk
- circulating.

Fluid mix specification includes:

- volume
- density
- viscosity
- mud properties.

Parameters include:

- flow rate
- pressure
- density.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record
- adjust
- repair
- isolate.

Working practices may include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies
- dealing with contamination.

Preparation may include:

- geographic layout of the active, reserve and slug pits
- operation of mud mixers, dump valves and equalising valves
- mud pump and discharge system
- mud materials safety data sheets
- layout of shaker pits, degasser pit, settling pit and sand trap.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Planning and preparation.
- Preparation and operation of drilling fluid system.
- Comply with safe operating procedures.
- Hazard identification and use of PTW system/lookout – tagout.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Chemical handling procedures.
- Operating principles of the systems equipment and their relationship to other plant.
- Fluid types and composition.
- Rig safety and emergency procedures.
- Safe operating procedures when operating equipment.
- Layout of mud circulating, mixing and suction systems.
- Geography of active, reserve and slug pits.
- Layout of shaker, degasser and settling pits, and sand traps.
- MSDS (Materials Safety Data Sheet).
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Maintain and operate mud mixers, dump valves and equalising valves in the mud pits system.
- Safely add mud materials to the mud systems under the mud engineer's instructions.
- Operate and maintain all the mud treatment units.
- Accurately take mud properties readings and legibly record them.
- Interpret and act on additional flow in the mud returns or an increase in mud pit volume.
- Operate pipe in derrick as directed either manually or using hydraulic racking system where fitted.
- Assess need and action greasing of crown block and hanging sheaves.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON18A Maintain services and operations to meet quality standards

This unit covers the maintenance of services and operations to meet quality standards by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Maintain services and operations	<p>1.1 Operations and services satisfy delivery, quantity and cost requirements.</p> <p>1.2 Work activities consistently meet quality, safety and delivery specifications.</p> <p>1.3 Information and advice given is accurate and in line with policy.</p> <p>1.4 Requirements relating to work activities contain all relevant information.</p> <p>1.5 Requirements relating to work activities are correctly disseminated to all relevant people.</p> <p>1.6 All communications are carried out in a manner, and at a level and pace likely to promote understanding and effective working relationships.</p> <p>1.7 Information which affects customers and the efficiency of operations and services is passed on to the appropriate people.</p> <p>1.8 Factors which may cause operations to be disrupted are noted and appropriate measures taken to minimise their effects.</p> <p>1.9 Records related to operations and services are complete, accurate and comply with requirements.</p> <p>1.10 Systems to monitor quantity, quality, cost and time specifications for service/product delivery are correctly implemented and maintained.</p> <p>1.11 Proposals for improvements in operations and services, when made, are passed to the appropriate people.</p>
2. Maintain the necessary conditions for an effective and safe work environment	<p>2.1 Work conditions and the use of resources satisfy current legislation, approved codes of practice, and organisational requirements.</p> <p>2.2 Maintenance procedures are kept in accordance with requirements.</p> <p>2.3 Accidents and incidents are dealt with effectively and according to legal and organisational requirements and approved codes of practice.</p>

ELEMENT	PERFORMANCE CRITERIA
Maintain the necessary conditions for an effective and safe work environment (cont'd)	2.4 Potential or actual breaches of requirements are identified and the appropriate action is taken.
	2.5 Recommendations for improving conditions are passed on to the appropriate people with minimum delay.
	2.6 All necessary records are complete, accurate, legible, and available to authorised people with minimum delay.
	2.7 Health and safety systems and procedures are maintained according to requirements and people are instructed accordingly.
	2.8 Security systems and procedures are maintained according to requirements.
	2.9 Relevant people are informed of changes in procedures and requirements.
	2.10 Action to improve efficiency is taken.
	2.11 The work environment is conducive to work activity.

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in maintaining services and operations to meet quality standards.

Briefings/handover details may include:

- work inspection
- location of potential hazards
- task specific - Job Safety Analysis (JSA)
- pre-tour safety meetings
- delegate and supervision of crews
- encouraging teamwork and clear communication.

Statutory adherence may include:

- OHS
- duty of care
- environment
- code of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- oral instruction
- written instruction.

Weather conditions may include:

- day/night
- storm/lightning
- hot/cold
- wet/dry.

Conditions may include, but are not limited to:

- work environment
- equipment
- materials
- procedures
- special needs.

Organisational and legal requirements may include, but are not limited to:

- health, hygiene and safety legislation
- employment and other legal legislation
- industry-specific legislation
- approved codes of practice
- organisational policies, practices and procedures
- environmental legislation
- customer requirements.

People to be kept informed may include, but are not limited to:

- those for whom one has responsibility
- line managers.

- staff representatives
- colleagues
- customers
- suppliers.

Records may include, but are not limited to:

- written
- computer-based.

Reporting requirements may include, but are not limited to:

- oral
- written.

Information may include, but is not limited to:

- customer requirements
- performance of services, operations and products in relation to requirements.

Systems to monitor quantity, quality, cost and resource requirements may include, but is not limited to:

- quality assurance
- administrative
- process.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Organisational and legal requirements.
- Communications.
- Reporting requirements.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Emergency procedures.
- Environmental policy.
- Understand reporting procedures.
- Emergency response procedures.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Locate and implement company policies, procedures and instruction.
- Pass on information accurately and completely.
- Complete reports and lodge on time.
- Respond to commands or directions.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON19A Operate and maintain ancillary equipment

This unit covers the operation of ancillary equipment as carried out by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Working practices are safe and conform to current legislative and operational requirements. 1.2 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.4 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements. 1.5 Availability of necessary third party utilities is confirmed in accordance with operational requirements.
2. Maintain pumps	2.1 Lubrication, brake cooling and oil flushing pumps are inspected for leaks or abnormal operation. 2.2 Pumps are lubricated. 2.3 Packing in centrifugal pumps is replaced.
3. Operate, maintain and repair gate valves associated with the mud system	3.1 Valves are aligned, opened and closed in accordance with operating procedures. 3.2 Valve stems are lubricated as required. 3.3 Defective parts in valves are identified and replaced.
4. Operate and maintain chemical mixing pumps and equipment	4.1 Faults or potential faults are identified and reported immediately. 4.2 Requirement for repair or maintenance is identified, recorded and/or reported. 4.3 Equipment checks are performed regularly and efficiently as prescribed in the operators manual. 4.4 Valves are properly lined up. 4.5 Mixing and transfer pumps are engaged. 4.6 Valves, mixing pumps and transfer pumps are lubricated. 4.7 Defective or malfunctioning parts and valves on pumps are replaced. 4.8 Mixing hopper and mixing area are cleaned and inspected. 4.9 Equipment is isolated as required.

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in operating and maintaining ancillary equipment.

Briefings/handover details may include:

- task specific information
- pre-tour safety meeting
- location of potential hazards
- task specific - Job Safety Analysis (JSA)
- supervision of floor crew (assist with)
- pump equipment maintenance.

Statutory adherence may include:

- OHS
- duty of care
- environment
- code of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- telephone
- oral instruction
- written instruction.

Recording requirements can include:

- service and maintenance
- replacement parts.

Weather conditions may include:

- day/night
- storm/lightning
- hot/cold
- wet/dry.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Planning and preparation.
- Maintaining mud pumps.
- Maintaining mud system.
- Communication and record keeping.
- Occupational health and safety procedures.
- Abilities to adapt to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Mud system ancillary equipment.
- Company and statutory safety guidelines, procedures and practices.
- Safe operating procedures when operating equipment.
- Rig maintenance.

- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Align, open and close valves as appropriate.
- Lubricate valve stems.
- Replace defective parts in valves.
- Operate and maintain chemical mixing pumps and equipment.
- Clean and inspect mixing hopper and mixing area.
- Isolate and lock out equipment as required.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON20A Conduct and maintain derrick operations

This unit covers the maintenance of the derrick as carried out by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment	<p>1.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>1.2 Operational instructions are obtained and the work to be carried out is organised accordingly.</p> <p>1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel.</p> <p>1.4 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements.</p> <p>1.5 Availability of necessary third party utilities is confirmed in accordance with operational requirements.</p> <p>1.6 Availability of required quantities and type of consumables are confirmed against operational requirements.</p> <p>1.7 Errors, omissions and shortages are identified and appropriate remedial action taken with functional responsibility.</p> <p>1.8 Driller is informed of current operating conditions.</p>
2. Handle tubulars and equipment	<p>2.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>2.2 Tubulars and equipment are positioned according to operational requirements.</p> <p>2.3 Assistance is given to make and break connections where appropriate.</p> <p>2.4 Faults and defects are accurately identified and appropriate remedial action taken within functional responsibility.</p> <p>2.5 Equipment is handled using safe lifting and handling techniques.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Inspect and perform routine maintenance of derrick and connected equipment	<p>3.1 Safety lines, ropes, air hoists, monkey board, sheaves, crown block, derrick bolts, pins and welds, and all other lines and equipment in or attached to the derrick are inspected.</p> <p>3.2 Air hoists, sheaves, crown block fast line guide are lubricated.</p> <p>3.3 Defective parts are replaced and minor repairs effected.</p> <p>3.4 Jobs or tasks such as hanging back of travelling block, replacement of sheaves, are performed as required.</p> <p>3.5 Pre-raise and pre-circulation checks are completed in accordance with statutory and company procedures.</p>
4. Prepare for and drill surface hole	<p>4.1 Circulation is established.</p> <p>4.2 Prespud safety checks are performed.</p> <p>4.3 All connections and valves to floor are in proper position.</p> <p>4.4 Maintain drilling fluid volume and properties.</p> <p>4.5 Driller is informed of current operating conditions.</p> <p>4.6 Inventory of circulation system/parts is maintained.</p> <p>4.7 Mud additives are checked and recorded.</p> <p>4.8 Availability of derrick casing equipment is checked.</p> <p>4.9 Follow all operator's instructions.</p>
5. Participate in head-up and pressure test	<p>5.1 Preparations are made for necessary equipment changes.</p> <p>5.2 Drilling fluid is prepared.</p> <p>5.3 Assistance is given in nipping-up.</p> <p>5.4 Assistance is given to driller in BOP testing.</p>
6. Drill main hole	<p>6.1 Consult Driller and Mud Engineer's program, if available, and follow instructions.</p> <p>6.2 Housekeeping and safe practices are maintained during drilling.</p> <p>6.3 Assist in completion or abandonment of well as required.</p> <p>6.4 Ability to convert between metric and imperial is demonstrated.</p> <p>6.5 Reading of depth, direction, azimuth is recorded accurately and legibly.</p>

ELEMENT	PERFORMANCE CRITERIA
7. Prepare to commence drilling operations	7.1 Equipment on active systems for drilling is aligned. 7.2 All appropriate machinery is turned on and checks undertaken. 7.3 If riser installed, returns are watched for. 7.4 Pit levels measured and logged regularly.
8. Assist in running and cementing of casing	8.1 Instructions are followed when running casing. 8.2 Valves and fluid system for casing fill-up line are aligned. 8.3 Casing stabbing board is rigged up, function tested, lubricated and operated. 8.4 Safety lines are attached and secured to all circulating lines. 8.5 Fluid is circulated in accordance with instructions. 8.6 Chemicals for cementers are mixed and pumps aligned to cementing unit. 8.7 Cement is weighed as it is being mixed. 8.8 Fluid system is aligned for displacement of cement. 8.9 Returns and pits are monitored to assess circulation and returns.
9. Assist driller on drill floor	9.1 Assistance is given in handling and nipping up of BOP stack. 9.2 Role of Assistant to Driller is carried out when on drill floor in accordance with site instructions.
10. Shut down rig and rig out	10.1 Circulation system is washed and drained. 10.2 Equipment is repaired in accordance with company and manufacturer's instructions. 10.3 Equipment is stored in accordance with company procedures.

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in conducting and maintaining the derrick.

Briefings/handover details may include:

- pre-tour safety meetings
- work inspection
- task specific - Job Safety Analysis (JSA)
- tour reports updated
- permit prepared where applicable
- safety equipment (e.g. harness, lanyards) inspected and used as appropriate.

Statutory adherence may include:

- OHS
- duty of care
- code of practice
- environment.

Communications may include:

- two-way radio
- intercom
- telephone
- written instruction
- oral instruction.

Reading materials may include:

- job instructions
- technical information
- mud engineer's program
- manufacture's instructions.

Range of numerical calculations may include:

- fractions, decimals, percentages
- using appropriate instruments to measure:
 - volume
 - quantities
 - weight
 - length
 - density/specific gravity
 - temperature
 - Ph
- basic geometry, e.g. interpreting depth, direction and azimuth and dip of hole.

Weather conditions may include:

- day/night
- storms and lightning
- hot/cold
- wet/dry.

Equipment may include, but is not limited to:

- winches
- ropes
- racking board
- safety belt
- consumables
- derrick climber/fall arrester, geronimo line and rider.

Tubulars include:

- drill pipe
- drill collars
- casing
- tubing.

Utilities may include, but are not limited to:

- air
- fuel
- power
- crantage
- lighting.

Difficulties in carrying out instructions may include, but are not limited to:

- unclear instructions
- imprecise details
- lack of information.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- report
- record
- replace
- repair
- adjust.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Demonstrate ability to communicate clearly and follow procedures.
- Maintain derrick, trip pipe and secure as required.
- Comply with OHS requirements.
- Application of calculations and measurements, e.g. volume, similarity to ratio to estimate depth, width, basic geometry.
- Ability to adapt to new situations using appropriate strategies, e.g. innovation, persistence, resourcefulness.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- OHS obligations.
- Company and statutory guidelines, procedures and practices.
- Safe operating procedures when operating equipment.
- Drilling operation.
- Conversion between metric and imperial.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Listen and have an open mind.
- Accept constructive criticism.
- Understand written and verbal instructions.
- Develop written and verbal communications skills.
- Prepare and complete understandable reports.
- Communicate tactfully with mud engineer and operator's representative and inform driller of problems if they arise.
- Brief relief derrickman/derrickhand on problems encountered on tour. Relief not to be done at monkey board.

- Make all reports clearly and concisely to the driller.
- Recognise and report equipment malfunction or failure.
- Supervise and train subordinates to provided standards.
- Work as directed by driller timely and efficiently.
- Conduct routine maintenance of derrick.
- Prepare for drilling operations.
- Prepare for the tripping of tubulars.
- Assist in running and cementing of casing.
- Assist driller in handling and nipple up of bop stack.
- Act as assistant to driller on drill floor.
- Have good attitude towards all drilling operations.
- Keep circulation system clean and operating well.
- Look after equipment and dispose of waste properly.
- Follow instructions conscientiously.
- Be aware of position of crew members on floor during handling of drillstem.

Resource implications

Work environment plays a key role in training environment and supplemented with ‘Rotary Drilling Course’ (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards

DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON21A Trip casing

This unit covers the preparation and operation of the trip casing as carried out by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Working practices are safe and conform to current legislative and operational requirements. 1.2 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.4 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements. 1.5 Availability of necessary third party utilities is confirmed in accordance with operational requirements.
2. Prepare to trip casing	2.1 Crew is supervised in correctly positioning casing on racks. 2.2 Crew is supervised to remove thread protectors, rabbit casing, clean and lubricate threads in accordance with good oilfield practice. 2.3 Operating conditions of casing running equipment, including slips, tongs, elevators, rubber clamp, protectors and tailing ropes are assembled and checked. 2.4 Pumps are lined up to fill casing during running operation.
3. Operate derrick during tripping of casing	3.1 Casing is steadied during stabbing. 3.2 Pick-up elevators are released. 3.3 Casing for make-up is correctly aligned. 3.4 Side door is latched or type elevators are slipped.

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in operating the trip casing.

Briefings/handover details may include:

- pipe and/or casing tally
- preparation of casing running equipment (tongs/stabbing board)
- location of potential hazards
- review of Job Safety Analysis (JSA)
- pre-tour safety meeting
- inspection and use of safety harness and lanyard and other safety equipment
- inspection and use of hydraulic power tongs, slips, elevators.

Statutory adherence may include:

- OHS
- duty of care
- environment
- codes of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- telephone
- written instruction
- oral instruction
- hand signals.

Weather conditions may include:

- day/night
- storms (high winds) and lightning
- hot/cold
- wet/dry (dusty).

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Demonstrate ability to communicate clearly and follow procedures.
- Demonstrate ability to operate equipment in derrick and stab casing safely.
- Comply with correct manual handling techniques.
- Use appropriate safety equipment.
- Rig up/rig down stabbing board.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Drilling operation.
- Company and statutory safety guidelines, procedures and practices.
- Safe operating procedures when operating equipment.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Recognise and report equipment malfunction or failure.
- Supervise and train subordinates to provided standards.
- Work as directed by driller timely and efficiently.
- Supervise deck crew in correctly positioning casing in pipe bays.
- Remove thread protectors, rabbit casing, clean and lubricate threads.
- Check casing shoe and hanger joints for damage to threads, sealing surfaces and flapper valves where fitted.
- Assemble and check operating condition of casing running equipment, including slips, tongs, elevators, rubber clamp, protectors and tailing rope.
- Line up pumps to fill casing during running operations.
- Work derrick correctly during tripping of casing.
- Steady casing during stabbing.
- Release pick-up elevators when directed.
- Correctly align casing for make-up.
- Correctly latch side door or slip type elevators.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards

DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON22A Trip pipe

This unit covers the preparation and operation of the trip pipe as carried out by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1 Working practices are safe and conform to current legislative and operational requirements. 1.2 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.4 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements. 1.5 Availability of necessary third party utilities is confirmed in accordance with operational requirements.
2. Prepare to trip pipe	2.1 Pill is prepared in accordance with company operating procedures. 2.2 Trip tank is brought on line. 2.3 Safety lines, ropes and air hoists are checked. 2.4 Pipe racking system is prepared to stand back, run in, lay down or pick-up pipe, where applicable. 2.5 Crown and derrick are visually checked.
3. Operate derrick during tripping of casing	3.1 Pipe is run into hole in accordance with company operating procedures. 3.2 Elevators are latched onto drill string and stabilised while stand stabbed by roughnecks when running in the hole. 3.3 Air hoists which manoeuvre drillstring in the derrick are operated. 3.4 Pipe from elevators and rack is released in proper position when pulling out of the hole.

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in operating the trip pipe.

Briefings/handover details may include:

- maintain and check pipe tally
- preparation of derrick/floor equipment
- line up trip tank/preparation of mud system
- review of PTW requirements
- pre-tour safety meeting
- review of Job Safety Analysis (JSA).

Statutory adherence may include:

- OHS
- duty of care
- environment
- codes of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- telephone
- written instruction
- oral instruction
- hand signals.

Recording tasks may include:

- pipe tally sheets.

Weather conditions may include:

- day/night
- storms and/or windy conditions/dusty conditions and lightning
- hot/cold
- wet/dry (dusty).

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Preparation and maintenance of derrick and associated equipment.
- Ability to safely stab and rack pipe/lay down pipe.
- Follow required manual handling procedures.
- Prepare mud systems/equipment for tripping pipe/case.
- Follow safe operating procedures.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Drilling operation.
- Company and statutory safety guidelines, procedures and practices.
- Safe operating procedures when operating equipment.
- Hand signals.
- Working knots.
- Rig maintenance.

- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Prepare pill.
- Put trip tank on line and fill it.
- Check safety lines, ropes and air hoists.
- Stand back, run in, lay down and pick up pipecracker.
- Release pipe from elevators.
- Latch elevators on drill string and stabilise.
- Operate air hoists.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON23A	Operate mud pumps
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON23A Operate mud pumps

This unit covers the operation of mud pumps as carried out by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	<ul style="list-style-type: none"> 1.1 Working practices are safe and conform to current legislative and operational requirements. 1.2 Operational instructions are obtained and the work to be carried out is organised accordingly. 1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel. 1.4 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements. 1.5 Availability of necessary third party utilities is confirmed in accordance with operational requirements.
2. Monitor mud pumps	<ul style="list-style-type: none"> 2.1 Mud pumps are visually inspected and listened to for abnormal sounds or noise. 2.2 Piston lubricating system is checked. 2.3 Pop-off valve setting is checked. 2.4 Pressure of suction and discharge dampeners are checked. 2.5 Discharge dampener is charged with nitrogen, as required.
3. Maintain and repair mud pumps	<ul style="list-style-type: none"> 3.1 Pony rod clamp is checked when pump is turned off. 3.2 Gear end of pump is lubricated and oil levels in gear end of pump are checked. 3.3 Faults or potential faults are identified and reported immediately. 3.4 Requirement for repair or maintenance of mud pumps are identified, recorded and/or reported. 3.5 Defective swabs, liner, valves, seats and wear plates of the fluid end of pump are replaced. 3.6 Replacement parts for fluid end of pump are readied. 3.7 Liners and swabs are checked for correctness.

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in operating the mud pumps.

Briefings/handover details may include:

- review of operational requirements
- maintenance and inspection of pumping equipment
- maintain fluid system to pumps
- review PTW requirements
- pre-tour safety meeting
- review of relative Job Safety Analysis (JSA).

Statutory adherence may include:

- OHS
- duty of care
- environment
- codes of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- telephone
- written instruction
- oral instruction
- hand signals.

Reading materials may include:

- job instructions
- manufacture's instructions.

Recording requirements can include:

- service and maintenance
- replacement and parts
- pump operating logs.

Weather conditions may include:

- day/night
- storms and lightning
- hot/cold
- wet/dry (dusty).

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Preparation and maintenance of all pumping equipment.
- Maintenance of fluid system to supply pumps.
- Establish clear communication with driller and ability to follow instructions.
- Comply with safe operating procedures.
- Hazard identification and use of PTW system/lockout-tagout.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Mud pumps.
- Company and statutory safety guidelines, procedures and practices.
- Emergency signals and procedures.
- Safe operating procedures when operating equipment.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Recognise and report equipment malfunction or failure.
- Supervise and train subordinates to provided standards.
- Work as directed by driller timely and efficiently.
- Check pumps visually and aurally.
- Check piston lubrication system.
- Set pop-off valve.
- Check pressure of suction and discharge dampeners.
- Charge discharge damper with nitrogen.
- Check pony rod clamp.
- Lubricate and check oil levels in gear end of pump.
- Replace swabs, liners, valves, seats and wear plates of fluid end of pump.
- Prepare replacement parts for fluid end.
- Ensure correct liners and swabs are in use.
- Align correctly mud pump discharge valves.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON19A	Operate and maintain ancillary equipment
DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON24A	Operate mud systems

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOGON24A Operate mud systems

This unit covers the operation of mud pits as carried out by an onshore derrickman/derrickhand.

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	<p>1.1 Working practices are safe and conform to current legislative and operational requirements.</p> <p>1.2 Operational instructions are obtained and the work to be carried out is organised accordingly.</p> <p>1.3 Difficulties in carrying out the instructions are clarified with the relevant personnel.</p> <p>1.4 Availability and status of necessary permits to work are confirmed in accordance with operational and legislative requirements.</p> <p>1.5 Availability of necessary third party utilities is confirmed in accordance with operational requirements.</p>
2. Operate mud system	<p>2.1 Compliance with good oilfield practice and company policy when operating equipment is ensured.</p> <p>2.2 Valves in pits are aligned to ensure correct pit usage as directed.</p>
3. Operate, maintain and repair mud conditioning equipment	<p>3.1 Appropriate equipment to be engaged and/or adjusted as directed by supervisors or mud engineer (e.g. shaker, degasser, desilter, desander, mud cleaner, agitators).</p> <p>3.2 All equipment is cleaned and visually inspected for leaks, proper operation, etc, in accordance with company and/or manufacturers specifications.</p> <p>3.3 Faults or potential faults are identified and reported immediately.</p> <p>3.4 Requirement for repair or maintenance of mud conditioning equipment is identified, recorded and reported.</p> <p>3.5 Screens or cones are replaced, as necessary, on shakers, desilters, desanders in accordance with company and/or manufacturers specifications.</p> <p>3.6 Periodic or scheduled preventative maintenance is performed on all mud treatment units in accordance with company and/or manufacturers specifications.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Operate and service transfer (butterfly) valves in mud pits	4.1 Valves are aligned, as appropriate.
	4.2 Valve stems of butterfly valves are lubricated, as appropriate.
	4.3 Transfer valves are cleaned and inspected when pits are empty.
	4.4 Defective parts are replaced or repaired, as necessary.
5. Recognise warning signs of kicks	5.1 Pit level is monitored, adjusted and reported.
	5.2 Mud properties are monitored and reported.
	5.3 Size of cuttings are monitored and reported.
	5.4 Volume of mud returns is monitored and reported.

Range of Variables

This unit covers the role of an onshore derrickman/derrickhand in operating the mud system.

Briefings/handover details may include:

- review of operational requirements
- maintenance and inspection of pumping equipment
- maintenance fluid system to pumps
- review PTW requirements
- pre-tour safety meeting
- review of relative Job Safety Analysis (JSA)
- maintenance and operation of solids control equipment.

Statutory adherence may include:

- OHS
- duty of care
- environment
- codes of practice
- Australian Standards.

Communications may include:

- two-way radio
- intercom
- telephone
- written instruction
- oral instruction
- hand signals.

Reading materials may include:

- job instructions
- manufacturers' instructions.

Numerical calculations may include:

- viscosity
- mud weight
- volume
- up hole velocity
- quantities
- pressure.

Recording requirements may include:

- mud test recording
- pit level
- service and maintenance
- replacement parts.

Weather conditions may include:

- day/night
- storms and lightning
- hot/cold
- wet/dry (dusty).

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

It is expected that employees will be required to undertake supervised training onsite prior to being assessed for competency.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Recognising warning signs of ricks.
- Align mud system for required operations.
- Prepare, measure and monitor mud properties.
- Report and record on mud chemical usage.
- Comply with safety procedures and use of personal protective equipment.
- Application of calculations such as flow rats, control of pressurised formations.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Drilling operation.
- Functions of the mud pits.
- Warning signs of kicks.
- Company and statutory safety guidelines, procedures and practices.
- Safe operating procedures when operating equipment.
- AOA policy procedure and practices.
- Rig maintenance.
- Normal drilling operations.
- Non-routine drilling operations.
- Man management/rig management.

Skills

The ability to:

- Recognise and report equipment malfunction or failure.
- Supervise and train subordinates to provided standards.
- Work as directed by driller timely and efficiently.
- Operate equipment in accordance with good oilfield practice and company policy.
- Align valves in pits to ensure correct pit usage.
- Operate mud condition equipment, including shakers, degasser, desilter, desander, mud cleaner and agitators.
- Perform periodic or scheduled preventative maintenance on mud condition equipment.
- Replace screens and cones on shakers and desilters/desanders.
- Operate and service transfer valve.
- Weight mud for viscosity check.
- Maintain volumes and types of drilling fluids as required.
- Use correct mixing procedures to ensure required properties in drilling fluid.
- Use correct safety procedures and equipment for mixing and handling chemicals in accordance with manufacturer's data sheet.
- Regularly monitor pit levels, mud properties and cuttings size.

Resource implications

Work environment plays a key role in training environment and supplemented with 'Rotary Drilling Course' (IADC).

The resources available will be specific to the individual employer and the particular worksite.

Interdependence of units

DRTOGON13A	Apply Occupational Health and Safety in the workplace
DRTOGON14A	Control emergencies and critical situations
DRTOGON15A	Manage subordinates and equipment
DRTOGON16A	Create, maintain and enhance productive working relationships
DRTOGON17A	Prepare and operate drilling fluid systems
DRTOGON18A	Maintain services and operations to meet quality standards
DRTOGON19A	Operate and maintain ancillary equipment

DRTOGON20A	Conduct and maintain derrick operations
DRTOGON21A	Trip casing
DRTOGON22A	Trip pipe
DRTOGON23A	Operate mud pumps

Consistency of performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTNH15A **Manage non routine, complex technical situations**

This unit covers the skills, knowledge and experience required to handle complex onshore/offshore drilling operations.

ELEMENT	PERFORMANCE CRITERIA
1. Collect and analyse information	<ul style="list-style-type: none"> 1.1 Operational problems are promptly identified and considered from an operational and client perspective. 1.2 Information is assessed for relevance and applicability. 1.3 Other sources of information to assist in problem solving are accessed, if available and if required.
2. Diagnose and solve complex problems	<ul style="list-style-type: none"> 2.1 Actual problems are diagnosed using all available information. 2.2 A range of possible solutions is determined from extensive knowledge and experience. 2.3 Problems are analysed for any long-term impact and potential solutions are assessed. 2.4 Most appropriate action is decided upon. 2.5 Calculations, necessary to implement action, are carried out as appropriate. 2.6 Action is implemented to resolve the immediate problem, where appropriate. 2.7 Effectiveness of action is monitored. 2.8 Results of action taken are fed through to supervisors and management.
3. Manage non-routine/complex drilling operations	<ul style="list-style-type: none"> 3.1 A depth and breadth of knowledge and experience is applied to all operations. 3.2 Ability to work independently of management is demonstrated. 3.3 Responsibility is taken for decision-making processes on the job.
4. Use technology effectively	<ul style="list-style-type: none"> 4.5 Well-developed physical and sensory skills are used to operate equipment to fullest capacity. 4.6 Scientific and technological principles are applied to evaluate and reshape operational procedures.

Range of Variables

Downhole problems include:

- formation problems
- loss of sample
- lost circulation
- pressure formations
- differential pressure sticking
- hole deviation
- loss of sample integrity
- encountering unexpected contaminants, or contaminants in higher than expected concentrations
- old mine workings
- fishing
- loss of penetration
- sudden loss of pump pressure.

Information sources include:

- technical manuals
- team members
- previous experience
- drilling logs
- mine site plans
- geological data.

Non-routine and complex drilling operations include:

- deep holes
- formation kicks
- bore hole stability
- directional control.

The range of experience include different:

- equipment
- ground conditions
- rigs
- drilling methods and techniques.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competency is fully observed in the critical aspects of:

- Problem solving and decision making techniques.
- Ability to prepare reports on complex data within specified time frames.
- Ability to respond effectively to challenging situations as they arise.
- High level mathematical skills.
- Environmental awareness.
- Geological formations.
- Ability to transfer the competency to changing circumstances.

Underpinning knowledge and skills

Knowledge:

A knowledge of:

- Communications systems, processes and procedures.
- High level mathematical skills.
- Problem solving techniques and decision-making.

- Extensive operational knowledge in the following areas:
 - geology and hydrogeology and downhole testing
 - procedures relevant to the sector
 - deep hole drilling
 - downhole and formation pressures
 - hole stability, including properties of mud systems
 - rig capacity
 - fishing
 - a range of drilling equipment and methods available and their applications
 - cementing and grouting.

Skills

Extensive experience over a period of time under a range of conditions is required and includes different:

- Equipment.
- Ground conditions.
- Rigs.
- Drilling methods and techniques.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG25A **Maintain standard procedures and safe working practices**

This unit covers the application of safe work practices and procedures in onshore/offshore drill rig installations. In many instances team responsibilities will be involved.

ELEMENT	PERFORMANCE CRITERIA
1. Conduct daily rig maintenance and safety inspection	1.1 Rig safety checks are undertaken before tour and equipment problems discussed with previous tour driller.
	1.2 Maintenance procedures are spot checked against plans, anomalies identified and rectified, and records maintained.
	1.3 Pre-tour Occupational Health and Safety meetings are conducted with team members.
2. Comply with government regulations and company policies	2.1 Regulations and procedures for controlling work and hazards both on the rig floor and in camp accommodation areas, are communicated to team members.
	2.2 Employees are allocated job responsibilities in accordance with regulations/company policies and within the bounds of their competence.
	2.3 Teamwork rules are understood, applied and modelled by all crewmembers.
	2.4 Regulations are obeyed by crew in line with statutory compliance.
	2.5 Rig operators are constantly assessed against regulations and policies.

Range of Variables

Briefings/handover details include:

- safety briefings/induction
- pre-tour meetings
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- Petroleum Acts relating to submerged lands
- AETC (PSLA) (offshore)
- duty of care (Occupational Health and Safety Act)
- ASO (Australian Standard)
- environmental.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- intranet or internet based.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Operational instructions include, but are not limited to:

- regulations
- company
- operating company.

Working practices include:

- onshore drilling installation
- offshore drilling installation.

Communication occurs between:

- crew
- operations representative
- rig manager/superintendent
- previous tour driller.

Records to be maintained include:

- reports to rig manager
- short notes
- maintenance sheets
- safety checks
- inventories
- spare parts order lists
- employee evaluation forms.

Documents to be read and interpreted include:

- regulations and procedures
- operational standards
- OHS legislation
- drilling plan.

Other skills required include:

- negotiation skills
- conflict resolution
- problem solving skills.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Compliance to Government regulations and company policies.
- OHS compliance.
- Rig inspection and reporting.
- Ability to complete required documentation legibly, accurately and within the specified time frame.
- Effective communication skills in spoken and/or written form with a range of personnel are demonstrated.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Government regulations.
- Company policies and procedures.
- Client policies and procedures.
- Ohs compliance.
- Rig safety procedures and reporting.
- Conflict resolution.
- Negotiation skills.
- Problem solving techniques.

Skills

The ability to:

- Conduct rig inspections in accordance with statutory/company regulations.
- Allocate job responsibilities.
- Manage teams.
- Negotiate and resolve conflict.
- Apply policies and procedures.
- Communicate effectively to crews/teams.
- Maintain compliance.
- Maintain operating records.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG26A Rig up

This unit covers rig-up operations in onshore/offshore drill rig installations. Liaison between the rig manager and the team is an important feature of this Competency.

ELEMENT	PERFORMANCE CRITERIA
1. Conduct pre rig-up operations	<p>1.1 Crewing schedules are developed and jobs allocated to crew with drilling plan and prognosis being discussed with crews.</p> <p>1.2 Pre rig-up procedure inspections are carried out by Rig Manager, operator and crew in accordance with standards for individual rigs.</p> <p>1.3 Equipment is checked for damage and/or loss by moving contractor.</p> <p>1.4 Damage claims are reported and documented in accordance with company procedures and confirmed with transport company.</p> <p>1.5 Equipment, including electrical and safety requirements, are located in correct position for rig-up.</p>
2. Rig up to spud	<p>2.1 Rig Manager authorisation to commence rig-up to spud operations is received and actioned.</p> <p>2.2 Detailed instructions on use and type of mud are received from the operator.</p> <p>2.3 Mud is mixed to specifications with mud lines being connected and spud equipment being prepared.</p> <p>2.4 Potential rig-up problems are identified and corrective action taken.</p> <p>2.5 Rig Manager is kept informed of operations in accordance with legislative and company requirements.</p>
3. Prepare for drilling of surface hole/subsea hole	<p>3.1 Equipment checks are made for nipping-up or crosschecked with subsea Engineer.</p> <p>3.2 Casing tools are checked for correct sizing and availability.</p> <p>3.3 BOP stack is checked against specifications and any irregularity reported and rectified.</p> <p>3.4 Special tool requirements are identified, notified and endorsed by relevant company personnel.</p>

Range of Variables

Specific jobs include but are not limited to:

- unloading of trucks
- unsecuring of loads
- assembling of rig
- connecting power
- trench digging
- installing waste pits
- stowing equipment in correct stowages.

Spud equipment includes:

- drill strings
- handling gear including tools.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet or intranet communications.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Remedial action includes:

- informing Rig Manager
- informing company representative
- allocating maintenance tasks to appropriate person.

Operational instructions include:

- Job Safety Analysis (JSA)
- hazard sheets
- lease layout
- rig layout
- company policies and procedures.

Records to be maintained include:

- crewing schedules
- damage claims.

Documents to be read and interpreted include:

- rig standards/specifications
- instructions, e.g. use and type of mud
- drilling plan
- chemical labels
- Job Safety Analysis (JSA).

Calculations to be carried out include:

- quantities
- up-hole velocity
- specific gravity
- volume
- hydrostatic pressures.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Crewing schedules.
- Pre-rig procedures/rig specifications.
- Rig up.
- Equipment.
- Inspections.
- Company/statutory ohs policies/procedures.
- Accurate application of all calculations and measurements.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rigging and slinging.
- Forklift operations.
- Local authorities.
- Rig specifications and measurements.
- Metric-imperial conversion.
- Marine operations.

Skills

The ability to:

- Oversee rigging.
- Participate in inspections.
- Develop crew schedules and allocate jobs.
- Oversee mud-mixing operations.
- Check equipment/tools and record, report and rectify faults.
- Delegate.
- Problem solve.
- Plan for all circumstances.
- Operate forklift in line with licensing requirements.
- Read, interpret and apply regulations/company procedures.
- Convert from metric to imperial measurement.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG27A **Conduct pre-spud operations**

This unit covers the responsibility in allocating crew duties on an offshore drill rig installation.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for pre-spud operations	<p>1.1 Crewing schedules are developed and jobs allocated to crews in line with operational requirements.</p> <p>1.2 Drilling and hoisting equipment is checked with damage being reported to the Rig Manager and recorded in accordance with company policies and procedures.</p> <p>1.3 Tubular availability is confirmed with tubulars inspected, cleaned and calibrated.</p> <p>1.4 Pipe racks are locked with drill pipe and drill collars positioned for immediate use.</p> <p>1.5 Casing running tools are inspected and prepared for operation.</p> <p>1.6 Casing tallies are recorded and reported to appropriate company officer.</p>
2. Conduct operations as per drilling program.	<p>2.1 Optimum circulating and penetration rates and deviations are determined in accordance with Operators Drilling Program.</p> <p>2.2 Mud cleaning equipment and screens are continually checked for integrity and correct operation.</p> <p>2.3 Drilling fluid quantities are checked against program requirements with sufficient being in reserve to kill well and keep hole on full trip.</p> <p>2.4 Correct mud properties are recorded on tour report.</p> <p>2.5 All equipment is operated in accordance with manufacturer, regulations and company procedures.</p> <p>2.6 All tasks are carried out in accordance with company Job Safety Analysis (JSAs).</p> <p>2.7 A sound working relationship is maintained with third party contractors.</p>

Range of Variables

Briefings/handover details include:

- safety briefing/induction
- pre-tour safety meeting
- tour change over discussions
- operator's representative memorandums
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence includes:

- Petroleum Submerged Lands Act (PSLA)
- confined space
- OHS
- duty of care
- ASO (Australian Standards)
- company policies and procedures.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- intranet or internet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- drilling rig and components
- instrumentation
- tubulars
- mud system and auxiliary equipment.

Operational instructions include, but are not limited to:

- drilling parameters to be maintained
- mud density
- casing depths.

Working practices include, but are not limited to:

- pre safety check
- pre spud check
- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies
- emergency disconnect sequence.

Remedial action taken to deal with errors, omissions and shortages include, but are not limited to:

- corrective action request against procedures
- alter JSA (Job Safety Analysis) to include improved procedures.

Communication skills include:

- meeting skills
- negotiation skills.

Records to be maintained include:

- damage reports
- casing tallies
- pre-spud operational reports.

Documents to be read and interpreted include:

- load schedules
- operating procedures
- forms
- Government specifications.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Safety and Job Safety Analysis (JSA)
- Application of operators drilling program
- Shared crew responsibility
- Rig operation
- Communication – oral and written.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Drilling program to pre-spud operations.
- Drilling equipment.
- Rig up procedures.
- Casing.
- Mud systems.
- Routine drilling operations.
- Job safety analysis (JSA).
- Marine operations.

Skills

The ability to:

- Operate machinery in a safe manner.
- Communicate effectively with management, crew and contractors.
- Troubleshoot during drilling program.
- Manage and maintain pre-spud operations.
- Comply with government and regulations, and company policies/procedures.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG28A Conduct drilling operations

This unit covers the conduct of drilling operations in onshore/offshore drill rig installations. Responsibilities include team communication and monitoring operation and team performance.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for operations	<p>1.1 Drill program requirements are discussed and confirmed with crew members.</p> <p>1.2 Emergency response and Occupational Health and Safety requirements, including the possibility of wellbore influx and well control, are communicated to crew members.</p> <p>1.3 Equipment, including mud riser/conductor/connections are checked, cleaned, lubricated and faults rectified and reported.</p> <p>1.4 Tool requirements are checked and assembled in wellhead area.</p>
2. Commence drilling operations	<p>2.1 Drilling program requirements are double-checked to ensure safe operations.</p> <p>2.2 Surface hole drilling is undertaken in accordance with Job Safety Analysis and drilling program, and confirmed with operator's representative.</p> <p>2.3 Intermediate and main hole drilling operations are commenced in accordance with Job Safety Analysis and drilling program.</p> <p>2.4 Drilling parameters are monitored, maintained and recorded in line with drilling program.</p> <p>2.5 Kill sheet requirements are calculated and maintained with integrity tests being carried out and recorded in line with drilling program.</p> <p>2.6 Accurate tubular tallies are maintained.</p> <p>2.7 Casing running tools and casing are inspected and prepared for operation.</p>
3. Maintain drilling operations	<p>3.1 Cementing preparations are undertaken in accordance with operator's instructions and company procedures.</p> <p>3.2 Casing is run and prepared for cementing in accordance with Job Safety Analysis, and cemented in accordance with well engineering prognosis.</p> <p>3.3 Preparations are undertaken, and assistance given in drilling stem tests and logging and coring operations.</p>

ELEMENT	PERFORMANCE CRITERIA
Maintain drilling operations (cont'd)	3.4 Crew are instructed on safe core recovery procedures.
	3.5 Arrangements are put in place for nipping-up and drilling out.
4. Drill intermediate and/or main holes	4.1 Drilling program/timing schedule is confirmed and procedures complied with.
	4.2 Equipment and tools are checked for sizing and integrity with faults being rectified/reported.
	4.3 Hole is maintained within deviation limits.
	4.4 Sound drilling and safety practices are adhered to during nipping-up and pressure testing operations.
5. Prepare for hole abandonment	5.1 Program for completion or abandonment is confirmed with operator representative.
	5.2 Tools/equipment are checked for integrity and faults recorded and reported.
	5.3 Appropriate communication and recording requirements are completed to regulations and company policies/procedures.

Range of Variables

Briefings/handover details include:

- pre job requirements
- pre tour safety meeting
- safety meeting/briefing
- handover with oncoming driller.

Operator equipment includes:

- wellhead equipment
- casing centraliser and nails
- thread lubricant
- cement plugs
- cement mix chemicals.

Communication channels include:

- two-way radio
- hand signals

- telephone
- public address system
- written work instructions
- intranet and internet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Remedial action includes:

- alteration to drilling program as approved by operator's representative via operator Company Head Office.

Operational instruction include:

- Job Safety Analysis (JSA's)
- manufacturer's guidelines
- company policies and procedures
- environmental guidelines.

Records include:

- tour sheet
- API Metric Tour report
- killsheet
- incident report form
- drilling line record sheet
- shut-in procedures
- weekly safety meeting report
- pre-tour safety meeting report
- warning/counselling record
- equipment damage report.

Documents to be read and interpreted include:

- specifications
- operator's instructions
- drilling program
- technical information
- Petroleum Act
- industry regulations
- Government requirements
- daily pre-tour checklist
- daily pre-drilling checklist
- Job Safety Analysis (JSA)
- API RP 53
- API RP 59 (*if Applicable*)
- site specific manual.

Calculations to be carried out include:

- quantities
- up-hole velocity
- specific gravity
- volumes and capacities
- pressure calculations.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Safe drilling operations.
- Accuracy in adhering to the operator's wishes as outlined in the drilling program.
- Forward planning.
- Logistical preparation.
- Hazard identification.
- Communications.
- Metric/imperial measurement conversion.
- Accurate application of all calculations and measurements.
- Rig shut down/emergency procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rig components.
- Rig specifications.
- Downhole knowledge.
- Types of mud available.
- Rigging and slinging.
- Rig maintenance procedures.
- Evacuation procedures.

Skills

The ability to:

- Operate rig in a safe and productive manner.
- Delegate work to individuals according to established levels of skill.
- Administer effective communication skills – oral and written.
- Troubleshoot and problem solve.
- Forward planning in preparation of changing circumstances/contingencies.
- Use a calculator and convert from metric to imperial measurements.
- Shut down the rig in an emergency and co-ordinate an orderly evacuation if necessary.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG29A Perform drilling calculations and reporting

This unit covers carrying out drilling calculations and reporting on onshore/offshore drill rig installations. This unit can be co-assessed with other units.

ELEMENT	PERFORMANCE CRITERIA
1. Comply with drilling reporting requirements	1.1 Correct methods for completing the Daily Drilling Report Forms are applied. 1.2 Incident investigations/evaluations are undertaken in accordance with regulations and company policies/procedures and correctly reported. 1.3 Drilling Line Wear (ton-miles) program is investigated reported and recorded in accordance with regulations and company policies/procedures. 1.4 A 24 hour drilling recorder chart is read and interpreted to determine and pre-empt problems before they occur. 1.5 Affirmative accident prevention strategies are translated following observed hazard identification.
2. Document safety meeting outcomes	2.1 Pre-tour safety meeting is conducted using 5-minute safety topics as a guide and proceedings recorded in accordance with company / regulatory requirements. 2.2 Unsafe practices/work areas are identified, recorded and accident prevention measures discussed, adopted and recorded. 2.3 Weekly safety meeting reports are completed and submitted to appropriate officers. 2.4 Counselling sessions are undertaken with employees and documented in accordance with regulations and company policies/procedures.
3. Complete safety reporting procedures	3.1 Safety Inspection Report on equipment/procedures is completed in accordance with regulations and company policies/procedures. 3.2 Equipment shortcomings are minuted, equipment damage reports accurately completed and submitted to appropriate company officers for actioning. 3.3 Casing/tubing tally sheets are completed accurately and submitted to appropriate company officers.

Range of Variables

Briefings/handover details include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards).

Communication channels include:

- drilling reports (IADC – API Daily Drilling Reporting Requirements)
- two-way radio
- hand signals
- telephone
- double address system
- written work instructions
- intranet and internet.

Work conditions include:

- night time operations
- day time operations
- hot climates

- cold climates
- wet weather conditions
- high wind.

Working practices include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Compliance to drilling program and reporting requirements (IADC-API).
- Application of all calculations and measurements required.
- Ability to convert from metric to imperial and vice versa.
- Knowledge and application of all required formulae.
- Ability to complete required documentation accurately and legibly.
- Effective communication in spoken/written form, e.g. Reporting.
- Industry qualifications (i.e. IWCF, IAWC, IADC Well Cap., Well Control).

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Industry standard qualifications.
- Knowledge of rig equipment.
- IADC Rotary Drilling Modules.
- A range of complex numerical calculations and measurements.
- The range of documentation and their use.
- Safety policy statement.
- Counselling techniques.
- Conflict resolution skills.
- Statutory requirements, e.g. PSLA, duty of care, Australian standards.

Skills

The ability to:

- Maintain neat legible and accurate documents.
- Use a calculator.
- Conduct a meeting.
- Report orally and in writing in a clear, concise manner.
- Good man management skills.
- Negotiate effectively in a range of situations.
- Carry out an investigation and complete reporting requirements.
- Complete a range of reports/forms.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG30A Carry out well control and blowout prevention

This unit covers well control and prevention related to onshore/offshore drill rig operations. This competency is carried out in a team environment.

ELEMENT	PERFORMANCE CRITERIA
1. Manage well control strategies	1.1 Correct calculations are undertaken to determine mud weight, pressure losses, drill stem and annular volumes, MAASP and initial and final circulating pressures. 1.2 Causes of kicks are identified, defined and interpreted. 1.3 Kick detection methods are understood, identified and applied during well control operations.
2. Assess well control equipment and report and record faults	2.1 Purpose, use and relationship between equipment, indicators, counters and detection systems is described and applied. 2.2 Flow paths for normal drilling operations and well control are identified from appropriate sources. 2.3 Pressure testing techniques are identified, confirmed and applied. 2.4 Well shut-in procedures are demonstrated. 2.5 Functions of the key componentry operational during a shut-in procedure are described prior to operations. 2.6 Well-control testing procedures and principles are identified, explained and applied, in accordance with company/regulatory requirements. 2.7 Correct installation, maintenance, wear and replacement of equipment is described and demonstrated. 2.8 Function and pressure testing procedures are carried out in accordance with company/regulatory requirements. 2.9 Primary equipment failure well shut-in procedures are performed in accordance with company/regulatory requirements. 2.10 Components of the Industry Regulation and Government requirements related to well control and prevention are understood and applied during operations.

ELEMENT	PERFORMANCE CRITERIA
3. Apply well control procedures	<p>3.1 Appropriate pre-recorded information is identified and applied.</p> <p>3.2 Pressures and gauges are checked, read, interpreted and recorded and corrective action undertaken.</p> <p>3.3 Correct application of trip kill sheet data and well-closure procedure is demonstrated when dealing with influx and shutting in a well while tripping/drilling.</p> <p>3.4 Correct procedure is applied when observing loss of circulation.</p> <p>3.5 Correct tripping methods and tests are performed in accordance with company/regulatory requirements.</p> <p>3.6 Stripping methods are applied in accordance with operating requirements.</p> <p>3.7 Recording and reporting procedures are applied in accordance with regulations and company policies/procedures.</p>

Range of Variables

Briefings/handover details include:

- time of well shut-in
- initial shut-in pressures
- kill sheets
- stage of kill
- type of kill procedure employed
- status of well control equipment
- flow path for well control method
- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards)
- API RP 53
- API RP 59 (*if applicable*)
- Petroleum Act.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- mud system
- blow out preventer
- manifolds and chokes
- accumulator
- degassers
- monitors.

Operational instructions include, but are not limited to:

- type of kill procedure to use
- type of shut-in procedure to use
- action to be taken in the event of approaching MAASP
- monitoring pit levels.

Working practices include, but are not limited to:

- confirmation of shut-in
- monitoring of shut-in pressures
- monitoring of accumulator pressures
- correct SPM to be maintained during kill
- monitoring pump efficiency
- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Range of numerical calculations/measurements include:

- carrying out addition, subtraction, multiplication, division
- relate normal pressure to temperature
- using calculator if required
- using estimating skills, e.g. mental arithmetic, visualisation of size and quantity
- basic geometry, e.g. interpreting depth, direction

- use of metric and imperials and conversion between the two
- interpreting of gauges, graphs, etc.
- calculations
- pressure:
 - hydrostatic
 - surface
 - downhole
 - circulating
- density
- volume:
 - fluid
 - air
 - gas
 - height
 - velocity
 - length
 - weight
- measurements:
 - penetration rate
 - rotary torque
 - RPM
 - pump pressure.

Remedial action taken to deal with errors, omissions and shortages include, but are not limited to:

- change over of pumps in the event of primary failure
- use of secondary choke in the event of primary failure
- use of alternate preventer in the event of primary failure
- accumulator emergency backup in case of primary failure.

Documentation to be read and interpreted include:

- specifications
- operator's instructions
- drilling program
- technical information
- Petroleum Act
- industry regulations
- Government requirements
- daily pre-tour checklist
- daily pre-drilling checklist
- RP53.

Records to be maintained include:

- tour sheet
- API Metric Tour Report
- killsheet
- incident report form
- drilling line record sheet
- shut-in procedures
- weekly safety meeting report
- warning/counselling record
- equipment damage report.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Ability to recognise kick warning signs and indicators.
- Ability to shut in a kicking well.
- Ability to carry out well control procedures.
- Ability to complete required documentation legibly, accurately and within the specified timeframe.
- Accurate application of required calculations and measurements.
- Ability to convert metric to imperial and vice versa.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- hydrostatic pressure.
- Kick detection.
- Pressure concepts.
- Formation integrity.
- Influx parameters.
- Well shut-in.
- Tripping.
- Constant bottom hole pressure method.
- Bop closing unit.

Skills

The ability to:

- Detect kick warning signs and indicators.
- Complete a trip sheet.
- Complete a kill sheet.
- Control pump pressures.
- Recognise equipment failures.
- Complete well control and blowout prevention reporting requirements.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG31A Shut down rig

This unit covers shutting down the rig on an onshore drill rig installation within a team context.

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to shut down rig	1.1 Rig Manager's shutdown instructions are received, interpreted and applied including preparations for return of rental equipment.
	1.2 Equipment maintenance/servicing requirements are received and followed.
2. Rig-out to stack	2.1 Preparations are made to move and/or stack rig in accordance with procedures for each rig.
	2.2 Rig-out to stack is undertaken in accordance with regulations and company policies/procedures.
	2.3 All Occupational Health and Safety and security strategies are applied and complied with during rig-out operations.
	2.4 All reports and records are completed and submitted to appropriate personnel.

Range of Variables

Briefings/handover details include:

- handover with oncoming driller
- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- local authorities
- permits.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Rental equipment includes but is not limited to:

- non magnetic drill collars
- string stabilisers
- stabiliser inserts
- drill bits
- accommodation and/or office facilities
- personnel entertainment equipment.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Operational instructions include, but are not limited to:

- shut down list
- company policies and procedures
- environmental guidelines
- load list
- vehicle escort guidelines
- permit guidelines.

Documents to be read and interpreted include:

- shut down lists
- maintenance lists
- manufacturer's specifications
- site requirements
- company policy
- safety procedures shut
- Job Safety Analysis (JSA)
- relevant safety alerts.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Rig shutdown procedures.
- Service/repair scheduling and procedures.
- Permit requirements.
- Rig specifications.
- Ability to complete required documentation legibly, accurately and within the specified time frame.
- Application of required calculations.
- Effective communication in spoken and/or written form with crew, rig manager, operator and other personnel as required.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Truck weight restrictions.
- Rig specifications.
- Forklift operations and limitations when supervising operations.
- Permit requirements.

Skills

The ability to:

- Delegate.
- Administer good communication skills.
- Problem solve.
- Plan for all circumstances.
- Oversee rigging operations.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

Level

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG32A Participate in nipping-up and pressure test

This unit covers nipping up and pressure testing when rigging up on an onshore/offshore drill rig installation and is carried out in a team context.

ELEMENT	PERFORMANCE CRITERIA
1. Commence nipping-up operations	1.1 Casing bowl and position level is checked and adjusted, as required. 1.2 BOP test is performed as per operator's written instructions. 1.3 Rig-up to drill-out operations are carried out in accordance with parameters and specifications. 1.4 Correct methods and safety cautions are applied when drilling out. 1.5 Pressure tests are carried out prior to drilling out and recorded in tour book.
2. Pressure testing during intermediate and/or main holes	2.1 Pressure test program/timing is confirmed and procedures complied with. 2.2 Cup testers and plugs are checked for sizing and integrity. 2.3 Stack is monitored and maintained within deviation limit. 2.4 Safety practices are adhered to during pressure test operations.

Range of Variables

Briefings/handover details include:

- pre job
- pre tour
- safety meeting
- handover with oncoming driller.

Statutory adherence includes:

- Petroleum Submerged Lands Act (PLSA)
- duty of care
- ASO (Australian Standards).

Communication channels may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Equipment includes but is not limited to:

- gaskets
- hand tools
- wrenches
- cleaning materials.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Operational instructions include, but are not limited to:

- manufacturer's guidelines
- company policies and procedures
- environmental guidelines
- statutory compliance/regulations.

Records to be maintained include:

- results of pressure testing
- other test results as required
- hazard observation reports.

Documents to be read and interpreted include:

- operator's instructions
- Government regulations
- specifications
- drilling program
- OHS documents
- material safety data sheets
- Job Safety Analysis (JSA)
- relevant safety alerts.

Range of numerical calculations may include:

- volume
- quantities
- mass
- weight
- length
- pressure
- using calculator if required
- using estimating skills, e.g. mental arithmetic, visualisation of size and quantity
- basic geometry, e.g. interpreting depth, direction, angles
- use of metric and imperial and conversion between the two.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence:

It is essential that competence is fully observed in the critical aspects of:

- Ability to carry out, rippling up and pressure testing in accordance with operator's written instructions.
- Ability to apply OHS regulations to rippling up and pressure testing.
- Ability to manage team operations.
- Ability to complete required documentation legibly, accurately and within the specified time frame.
- Accurate application of required calculations and measurements.
- Ability to convert from metric to imperial and vice versa.
- Effective communication in spoken and/or written form with crew, rig manager, operator and other personnel as required.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- High pressure lines requiring pressure testing.
- Understanding of test equipment.
- Testing procedures.
- Operations of a hydraulic torque wrench.
- Rig maintenance procedures.

Skills

The ability to:

- Manage and monitor rippling up and pressure testing within a team environment.
- Delegate.
- Administer good communication skills.
- Problem solve.
- Plan for all circumstances.
- Use hand tools correctly.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG33A **Maintain drilling rig communications systems**

This unit covers the maintenance of the rig communications system to ensure safe operating conditions for all personnel in onshore/offshore drill rig installations.

ELEMENT	PERFORMANCE CRITERIA
1. Conduct crew meetings	<p>1.1 Information on special procedures and hazardous operations are received and interpreted.</p> <p>1.2 Crew are informed of precautions and hazards and instructed on safety techniques and applications.</p> <p>1.3 Emergency procedures are reinforced with crew members being assigned specific responsibilities.</p> <p>1.4 BOP drills are conducted with new and existing crew members, in accordance with regulations and company policies/procedures.</p>
2. Apply correct communication strategies	<p>2.1 Operator procedures are obtained, interpreted and applied and further instructions received in writing and checked before implementation.</p> <p>2.2 Drilling program procedures and operating conditions are checked and changes reported to the Rig Manager and operator's representative.</p> <p>2.3 Correct handover/tourbook procedures are applied before, during and following shift.</p> <p>2.4 All documentation/reports including tour book and daily procedures are completed accurately and in line with Government regulations and company policies/procedures and submitted to appropriate personnel.</p>

Range of Variables

Briefings/handover details include:

- safety briefing/induction
- pre-tour safety meeting
- operator requirements
- emergency procedures.

- muster points
- importance of magna
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- Petroleum Submerged Lands Act (PSLA)
- JSA
- company policies
- OHS
- drilling program
- duty of care
- ASO (Australian Standards).

Communication channels include:

- previous shift reporting
- written and/or verbal instructions and operating procedures
- equipment/machine tagging procedure
- two-way radio and radio network
- hand signals
- satellite phones
- public address system
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates

- wet weather conditions
- high wind.

Equipment includes:

- personal protective equipment (PPE)
- portable fire equipment
- rig tool
- safety equipment
- associated BOP equipment.

Operational instructions include, but are not limited to:

- company policies and procedures
- Job Safety Analysis (JSA's)
- hazard sheet
- Material Safety Data Sheet (MSDS)
- OHS policies
- operator policies and procedures.

Working practices include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies
- safe working practices.

Communication occurs between:

- crew
- management
- clients
- immediate supervisor
- service and supply companies.

Records to be maintained include:

- tour sheets
- pre-tour safety meeting reports
- weekly safety meeting reports
- rig safety audits
- operation sheets
- requisition forms
- accident/incident reports
- Government reports
- employee evaluation forms.

Documents to be read and interpreted include:

- work schedule
- manuals
- company policy and procedure documents
- legislation
- operator's representative instructions
- contracts
- drilling program
- completed tour sheets
- Government forms.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical Aspects of Evidence

It is essential that competence is fully observed in the critical aspects of:

- Co-ordinate dull rig communication systems.
- Ability to complete required documentation legibly, accurately and within the specified time frame.
- Effective communication skills in spoken and/or written form with a range of personnel.
- Conduct meetings and apply operating procedures within a team context.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- JSA's.
- MSDS.
- Operating procedures.
- Emergency procedures.
- Rig layout and components.
- Man management.
- Non-routine drilling operation.
- Normal drilling operation.

Skills

The ability to:

- Communicate concisely both written and verbally, using appropriate computer technology.
- Deal with cultural diversity.
- Manage people and conduct training sessions both individually and groups.
- Write neat and legibly.
- Interpret and apply instructions and procedures.
- Problem solve and research issues.
- Resolve conflict and negotiate agreed team outcome.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies**Level**

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG34A **Manage equipment maintenance**

This unit covers all components of planning, costing and organising maintenance and details the responsibilities for equipment maintenance in onshore/offshore drill rig installations.

ELEMENT	PERFORMANCE CRITERIA
1. Check new and used equipment	<p>1.1 Materials and equipment are regularly tested.</p> <p>1.2 Availability of new and used equipment is monitored.</p> <p>1.3 Costs/benefits of replacing equipment is evaluated, and the purchase/lease of replacement equipment is recommended/implemented.</p> <p>1.4 Stock levels are checked and spare parts/consumables are ordered in accordance with company procedure.</p> <p>1.5 Communication is maintained between operators, company and suppliers.</p> <p>1.6 Manufacturers manuals/company procedures are checked for currency and relevancy.</p>
2. Plan and organise maintenance and overhauls	<p>2.1 Type and frequency of maintenance tasks are determined.</p> <p>2.2 Equipment maintenance and service is organised to ensure availability is maintained and downtime minimised.</p> <p>2.3 Performance of maintenance schedules are monitored and corrective action taken, if necessary.</p> <p>2.4 Sources for obtaining back up or replacement equipment are arranged.</p> <p>2.5 Personnel are allocated to carry out maintenance tasks.</p>

Range of Variables

Briefings/handover details include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client

Statutory adherence include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards).

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Working practices include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances

- continuous communication maintained
- reacting to on-site emergencies
- BSZ401A to BSZ403A Plant equipment and hire
- fuel, materials, drilling stores and bits
- maintenance and drill string replacement.

Methods for planning and scheduling tasks include the development of:

- flow charts
- time lines/diagrams
- planned maintenance manuals.

Methods of identifying spare parts and consumables include:

- diagrams in makers' handbooks and other documents
- lists in makers' handbooks and other documents
- labels, bar codes, etc. on items.

Methods of maintaining appropriate stock levels include:

- two bin system
- re-order level system
- re-order cycle system
- any of the above operating with computer assistance
- replenishment system.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice

Critical aspects of evidence to be considered

It is essential that competence is fully observed in the critical aspects of:

- Operational safety in compliance with appropriate legislation.
- Designing and maintaining:
 - checklists of materials/spares
 - schedules/timelines for equipment maintenance
 - an effective stock control system.
- Application of estimations and calculations of time/costs of repairing, replacing, servicing.
- The ability to transfer the competency to changing circumstances.

Underpinning knowledge and skills

Knowledge

- Equipment and ancillary attachment characteristics, technical capabilities and limitation.
- Wear parts and relative frequency of replacement.
- Purpose of stock control.
- Financial transactions, e.g. Cash flow, cost benefit analysis.

Skills

The ability to:

- Check and maintain stocks.
- Conduct a cost benefit analysis.
- Order equipment/consumables.
- Complete reports.

Resource implications

The resources available will be specific to the individual employer and the particular work site.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG35A **Maintain man management systems**

This unit covers the responsibilities in analysing the structure of man management and rig management practices in onshore/offshore drill rig installations.

ELEMENT	PERFORMANCE CRITERIA
1. Demonstrate sound leadership practices	<p>1.1 Company/site human resources strategies are applied to crew members.</p> <p>1.2 Recognition of workplace accomplishments is undertaken in accordance with company policies/procedures.</p> <p>1.3 Operational protocols are developed and conveyed/understood by all crew members.</p> <p>1.4 Crew members are counselled relating to their operating status and family issues, as required.</p>
2. Conduct onsite training	<p>2.1 Crew are inducted into job requirements.</p> <p>2.2 Competency requirements of crews is identified, understood and documented.</p> <p>2.3 Knowledge/skills gaps are identified and company strategies applied to rectify performance issues.</p> <p>2.4 Job Safety Analysis (JSA's) are undertaken and reviewed, rectified and appropriate training undertaken.</p> <p>2.5 Crew members are schooled in relation to communication techniques between the team, management and the client.</p>
3. Employ effective work organisation and planning	<p>3.1 Sound planning practices are applied to operations, in accordance with government regulations and company policies/procedures.</p> <p>3.2 Work schedules are developed and communicated to crew.</p> <p>3.3 Crew efficiencies are measured, recognised and/or strategies employed to rectify performance issues.</p> <p>3.4 Appropriate personnel records are kept and maintained.</p>

Range of Variables

Briefings/handover details include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client
- training sessions.

Statutory adherence include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards)
- company policies and procedures

Communications channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Working practices include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Written records to be completed include:

- worksheets
- forms for orientation of new employees
- employee evaluation forms
- employee progress charts.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Effective spoken and/or written communication skills are demonstrated with a range of personnel and in a range of situations.
- Leadership skills.
- Problem solving.
- Conflict resolution.
- Negotiation skills.
- Training and assessing skills.
- Record keeping.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Different management techniques.
- Cultural diversity.
- Leadership styles.
- Job Safety Analysis (JSA's).
- Rig layout.
- Company management structure and organisation charts.
- Teaching/learning and assessment techniques.

Skills

The ability to:

- Communicate at all levels.
- Lead team.
- Problem solve.
- Interpret instructions.
- Co-ordinate personnel.
- Conduct meetings.

- Perform time management.
- Plan in accordance with company requirements.
- Conduct training and assessment.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG36A Co-ordinate air drilling operations

This unit covers co-ordinating air drilling operations on an onshore drill rig installation.

ELEMENT	PERFORMANCE CRITERIA
1. Determine correct drilling operations	<p>1.1 Air drilling concepts and methods, advantages and disadvantages are identified, understood explained and applied in accordance with company/regulatory requirements.</p> <p>1.2 Conventional mud drilling concepts and methods, advantages and disadvantages are identified, understood explained and applied in accordance with company/regulatory requirements.</p> <p>1.3 Air drilling and conventional mud drilling techniques are applied.</p> <p>1.4 Occupational Health and Safety and emergency procedures are applied to air and conventional mud drilling.</p>
2. Examine correct air drilling procedures	<p>2.1 Job Safety Analysis (JSAs) are described and demonstrated for air drilling application.</p> <p>2.2 Emergency response plan is identified, explained and implemented for air drilling operations.</p> <p>2.3 Pre-tour and pre-drilling checklists are obtained, interpreted and applied.</p> <p>2.4 Components that make up an air drilling package are identified and their use explained to crew members.</p> <p>2.5 Parameters to watch whilst air drilling are identified and applied during operations.</p> <p>2.6 Crew numbers and expertise are identified and secured for air drilling operations.</p> <p>2.7 Conditions required to initialise the drilling of new holes are identified and confirmed in accordance with company procedures.</p> <p>2.8 Test procedures are identified explained to crew and carried out in accordance with company requirements.</p> <p>2.9 Tripping procedures are identified explained to crew and applied in accordance with company requirements.</p> <p>2.10 Correct communications and record keeping procedures are determined and implemented for air drilling operations.</p>

Range of Variables

Briefings/handover details include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards)

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- potential for bushfires if flaring gas
- hot climates
- cold climates
- wet weather conditions
- high wind.

Working practices include but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Documents to be read include:

- daily pre-tour checklists
- pre-drilling checklists.

Records to be maintained include:

- daily tour sheets.

Calculations to be carried out include:

- annular velocity
- sinking/slipping velocity
- pressure
- flow test procedure
- volume
- conversion between metric and imperial
- use of a calculator.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Accurate application of required calculations and measurements.
- Ability to convert metric to imperial and vice versa.
- Air drilling concepts and methods.
- Mud drilling concepts and methods.
- Emergency response and Job Safety Analysis (JSA).

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Pressure volume requirements.
- Air requirements.
- Dust drilling.
- Mist drilling.
- Stiff foam drilling.
- Aerated mud.
- Air drilling procedures.
- Emergency response.
- Job Safety Analysis.

Skills

The ability to:

- Discuss and apply drilling concepts and methods.
- Apply air drilling procedures.
- Explain and describe the uses of air drilling package components.
- Apply emergency response procedures.
- Apply Job Safety Analysis.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG37A Participate in, lead and facilitate work teams

This unit covers the responsibilities in onshore/offshore drill rig installations in leading, participating in, facilitating and empowering work teams/groups within the context of the organisation. This competency supports those who have a prominent part in motivating, mentoring, coaching and developing team members and in achieving team cohesion. This unit is based on (BSXFM1404A) modified to suit industry needs.

ELEMENT	PERFORMANCE CRITERIA
1. Participate in team planning	<p>1.1 The team establishes clearly defined purpose, roles, responsibilities and accountabilities within the organisation's goals and objectives.</p> <p>1.2 The team performance plan contributes to the organisation's business plan, policies and practices.</p> <p>1.3 The team agrees to processes to monitor and adjust its performance within the organisation's continuous improvement policies.</p> <p>1.4 The team includes in its plans ways in which it can benefit from the diversity of its membership.</p>
2. Develop team commitment and co-operation	<p>2.1 The team uses open communication processes to obtain and share information.</p> <p>2.2 The team encourages and exploits innovation and initiative.</p> <p>2.3 Support is provided to the team to develop mutual concern and camaraderie.</p>
3. Manage and develop team performance	<p>3.1 The team is supported in making decisions within its agreed roles and responsibilities.</p> <p>3.2 The results achieved by the team contribute positively to the organisation's business plans.</p> <p>3.3 Team and individual competencies are monitored regularly to confirm that the team is able to achieve its goals.</p> <p>3.4 Mentoring and coaching supports team members to enhance their knowledge and skills.</p> <p>3.5 Delegates' performance is monitored to confirm that they have completed their delegation/assignment.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Participate in and facilitate the work team	<p>4.1 Team effectiveness is encouraged and enhanced through active participation in team activities and communication processes.</p> <p>4.2 Individuals and teams are actively encouraged to take individual and joint responsibility for their actions.</p> <p>4.3 The diversity of individual's knowledge and skills is used to enhance team performance.</p> <p>4.4 The team receives support to identify and resolve problems which impede its performance.</p>
5. Record and report results	<p>5.1 Preliminary reports for management briefings are prepared.</p> <p>5.2 The contribution of individuals and teams in achieving the planned results is recognised.</p> <p>5.3 Recommendations for improving the management of future processes/projects are made to individuals and teams.</p>

Range of Variables

The team could be:

- on-going
- project-based.

The team operates within:

- small, medium and large contexts
- access and equity principles and practices
- appropriate goals, objectives and strategies
- best practice principles and practices
- agreed responsibility and accountability requirements
- complex internal and external environment
- resource parameters.

The team develops processes to gain feedback from:

- team members
- clients
- others within the organisation.

A variety of learning strategies including:

- informal and formal opportunities
- formal training programs
- work-based approaches.

Workplace conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind
- isolated sites.

Records to be maintained include:

- daily tour reports
- requisition forms
- weekly reports of site activities
- OHS requirements.

Evidence Guide for Assessment**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Team-based work organisation principles and practices.
- Human resource management.
- Site resource capabilities.
- Organisational policies and procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rig operations, plant and equipment.
- Team management/quality concepts.
- Statutory/legal control compliance including ohs/environment.
- Organisational objectives, policies/procedures.
- Industrial awards/enterprise agreements.
- Customer/client relations.
- Organisational change and development.
- Computer applications.
- Negotiation techniques.
- Coaching techniques.

Skills

The ability to:

- Establish among team members a strong commitment to goals, strategies, outcomes and priorities.
- Monitor and introduce processes to improve team plans and results.
- Provide leadership to the team in varying contexts and situations.
- Work effectively with team members who have diverse work styles, aspirations, cultures and perspective.
- Communicate clearly and concisely with individuals and teams.
- Encourage others in the team to openly propose, discuss and resolve issues.
- Analyse problems and barriers to team participation, and develop appropriate strategies for team development.

- Support team members to develop skills through teamwork.
- Recognise, reward, and support achievements.
- Deal with conflict before it adversely affects team performance.
- Participate in internal and external environments to successfully influence decisions affecting the team.
- Provide clear direction regarding the devolution of responsibility and accountability.
- Provide constructive feedback to delegates to improve their performance.
- Promote networking between teams for mutual benefit.
- Use continuous improvement processes to enhance the quality of team performance.
- Strive to achieve consensus in team decisions.
- Recognise and minimise the language, literacy and numeracy barriers to team participation.

Resource implications

The resources available will be specific to this competency. The individual employer and the particular worksite as required to comply to the other elements of this unit.

Consistency of Performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of environments, using a range of assessment instruments.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

BSZ401A Plan assessment

This unit covers the requirements for planning an assessment in a specific context. The unit details the requirements for determining evidence, selecting appropriate assessment methods and developing an assessment tool in a specific context.

ELEMENT	PERFORMANCE CRITERIA
1. Establish evidence required for a specific context	<p>1.1 The evidence required to infer competency from the industry/enterprise competency standards or other standards of performance is established for a specified context.</p> <p>1.2 Relevant units of competency are read and interpreted accurately to identify the evidence required.</p> <p>1.3 Specified evidence requirements – assure valid and reliable inferences of competency, authenticate the performance of the person being assessed and confirm that competency is current.</p> <p>1.4 Sufficient evidence is specified to show consistent achievement of the specified standards.</p> <p>1.5 The cost of gathering the required evidence is established.</p>
2. Establish suitable assessment methods	<p>2.1 Assessment methods are selected which are appropriate for gathering the type and amount of evidence required.</p> <p>2.2 Opportunities to consolidate evidence-gathering activities are identified.</p> <p>2.3 Allowable adjustments in the assessment method are proposed to cater for the characteristics of the persons being assessed.</p>
3. Develop assessment tools appropriate to a specific assessment context	<p>3.1 An assessment tool is developed to gather valid, reliable and sufficient evidence for a specific assessment context.</p> <p>3.2 The assessment tools is designed to mirror the language used to demonstrate the competency in a specific context.</p> <p>3.3 Clear instructions (spoken or written) are prepared including any adjustments, which may be made to address the characteristics of the persons being assessed.</p> <p>3.4 The assessment tool is checked to ensure flexible, fair, safe and cost-effective assessment to occur.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Trial assessment procedure	<p>4.1 Assessment methods and tools are trialed with and appropriate sample of people to be assessed.</p> <p>4.2 Evaluation of the methods and tools used in the trial provide evidence of clarity, reliability, validity, fairness, cost effectiveness and ease of administration.</p> <p>4.3 Appropriate adjustments are made to improve the assessment method and tools in light of the trial.</p> <p>4.4 Assessment procedures, including evidence requirements, assessment methods and tools, are ratified with appropriate personnel in the industry/enterprise and/or training organisation where applicable.</p>

Range of Variables

Assessment system may be developed by:

- the industry through the endorsed component of Training Package Assessment Guidelines
- the enterprise
- a Registered Training Organisation
- a combination of the above.

The assessment system should specify the following:

- the purpose of assessment
- competencies required of assessors
- record keeping procedures and policies
- any allowable adjustments to the assessment method which may be made
- the appeal/review mechanisms and procedures
- the review and evaluation of the assessment process
- the linkages between assessment and training qualifications/awards
- employee classification
- remuneration
- progression
- relevant policies

- quality assurance mechanisms
- apportionment of costs/fees (if applicable)
- marketing/promotion of assessment
- verification arrangements
- auspicings arrangements (if applicable)
- partnership arrangements (if applicable).

Specific assessment content may be determined by:

- purpose of the assessment such as:
 - to gain a particular qualification or licence
 - to determine employee classification
 - to recognise prior learning/current competencies
 - to identify training needs or progress
- location of the assessment such as:
 - on the job or off the job
 - combination of both
- assessment guidelines of training package or other assessment requirements.

Characteristics of persons being assessed may include:

- language, literacy and numeracy skills
- cultural, language and educational background
- gender
- physical ability
- level of confidence, nervousness or anxiety
- age
- experience in training and assessment
- previous experience with the topic.

Appropriate personnel may include:

- assessors
- persons being assessed
- employee/union representatives
- consultative committees
- users of assessment information such as training providers, employers, human resource departments.
- State/Territory Training/Recognition Authorities
- training and assessment co-ordinators
- relevant managers/supervisors team leaders
- technical specialists.

Appropriate procedure:

- the assessment procedure is developed (and endorsed) by persons responsible for the implementation of the assessment process in:
 - the industry
 - the enterprise
 - the training organisation
 - a combination of the above
- the assessment procedure should specify the following:
 - recording procedure
 - appeal/review mechanism
 - assessment methods to be used
 - instructions/materials to be provided to the persons being assessed
 - criteria for making decisions of competent, or not yet competent
 - number of assessors
 - assessment tools
 - evidence required
 - location of assessment
 - timing of assessment
 - assessment group size
 - allowable adjustments to the assessment procedure depending on the characteristics of the person being assessed.

Assessment methods may include:

- direct observation of performance, products, practical tasks, projects and simulations exercises
- review of log books and/or portfolios of evidence
- consideration of third party reports and authenticated prior achievements
- written, oral or computer managed questioning
- these methods may be used in combination in order to provide sufficient evidence to make a judgement.

Assessment tools may include:

- specific instructions to be given relating to the performance of practical tasks, processes or simulation exercises
- specific instructions to be given in relation to the production of projects and exercises
- sets of verbal/written/computer based questions to be asked
- performance checklists
- log books
- descriptions of competent performance
- a number of these tools may be used in combination in order to provide enough evidence to make judgements.

Assessment environment and resources to be considered include:

- time
- location
- personnel
- finances/costs
- equipment
- materials
- OHS requirements
- enterprise/industry standard operating procedures.

Allowable adjustments may include:

- provision of personal support services (e.g. Auslan interpreter, reader, interpreter, attendant carer, scribe)
- use of adaptive technology or special equipment (e.g. word processor or lifting gear)
- design of shorter assessment
- sessions to allow for fatigue or medication
- use of large print version of any papers.

Evidence Guide**Critical aspects of evidence to be considered**

Assessment requires evidence of the following products to be collected:

- Documentation in relation to:
 - special assessment context, including the purpose of assessment
 - features of the assessment system
 - characteristics of the person being assessed
 - evidence of competency required
 - plan of opportunities for gathering the evidence required
 - assessment methods selected including any allowable adjustments to meet characteristics of persons being assessed.
- Assessment tools for the specific assessment context which ensures valid, reliable, flexible and fair assessment including any allowable adjustments.
- An assessment procedure for the specific context.
- Assessment requires evidence of the following processes to be provided:
 - how the context of assessment was specified
 - how the characteristics of the persons being assessed were identified
 - why a particular assessment method was selected
 - how the assessment was planned to ensure that language, literacy and numeracy issues were taken into consideration
 - how evidence was evaluated in terms of validity, authenticity, sufficiency, currency and consistent achievement of the specified standard
 - how the assessment tool was developed for the specified context
 - how the assessment tool was validated and ratified by appropriate personnel.

Interdependent assessment of units

This unit of competency may be assessed in conjunction with other units that form part of a job role.

Required knowledge and skills

- Knowledge of standards of performance including industry or enterprise competency standards and assessment guidelines.
- Knowledge of legal and ethical responsibilities including OHS regulations and procedures, equal employment and anti-discrimination requirements relevant to the specified context.
- Understanding of the assessment principles of reliability, validity, fairness, flexibility, authenticity, sufficiency and consistency.
- Knowledge of the assessment guidelines of the training package for assessment and workplace training.
- Skills in the application of various assessment methods, relevant to workplace context.
- Planning of own work including predicting consequences and identifying improvements.
- Language, literacy and numeracy skills required to:
 - read and interpret information to plan assessment
 - give clear and precise information/instructions in spoken or written form
 - adjust spoken and written language to suit target audience
 - write assessment tools using language which mirrors that used to demonstrate the competency in the specific context
 - prepare required documentation using clear and comprehensible language and layout calculate and estimate costs.
- Communication skills appropriate to the culture of the workplace and the individuals.

Resource implications

Access to relevant competencies, sources of information on assessment methods, assessment tools and assessment procedures.

Access to persons wishing to be assessed, any relevant workplace equipment, information and appropriate personnel.

Consistency in performance

Competency in this unit needs to be assessed over a period of time, in a range of contexts and on multiple occasions, involving a combination of direct, indirect and supplementary forms of evidence.

Context of assessment

Assessment should occur on the job or in a simulated workplace. The candidate assessor should use competencies relevant to their areas of technical expertise.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

BSZ402A**Conduct assessment**

This unit covers the requirements for conducting an assessment in accordance with an assessment procedure in a specific context.

ELEMENT	PERFORMANCE CRITERIA
1. Identify and explain the context of assessment	1.1 The context and purpose of assessment are discussed and confirmed with the persons being assessed.
	1.2 The relevant performance standards to be used in the assessment (e.g. current endorsed competency standards for the specific industry) are clearly explained to the person being assessed.
	1.3 The assessment procedure is clarified and expectations of assessor and candidate are agreed.
	1.4 Any legal and ethical responsibilities associate with the assessment are explained to the persons being assessed.
	1.5 The needs of the person being assessed are determined to establish any allowable adjustments to the assessment procedure.
	1.6 Information is conveyed using language and interactive strategies and techniques to communicate effectively with the persons being assessed.
2. Plan evidence gathering opportunities	2.1 Opportunities to gather evidence of competency, which occur as part of workplace or training activities, are identified covering the dimensions of competency.
	2.2 The need to gather additional evidence which may not occur as part of the workplace or training activities is identified.
	2.3 Evidence gathering activities are planned to provide sufficient, reliable, valid and fair evidence of competency in accordance with the assessment procedure.
3. Organise assessment	3.1 The resources in the assessment procedure are obtained and arranged within a safe and accessible assessment environment.
	3.2 Appropriate personnel are informed of the assessment.
	3.3 Spoken interactions and any written documents employ language and strategies and techniques to ensure the assessment arrangements are understood by all persons being assessed and other appropriate personnel.

ELEMENT	PERFORMANCE CRITERIA
4. Gather evidence	<p>4.1 Verbal and non-verbal language is adjusted and strategies are employed to promote a supportive assessment environment to gather evidence.</p> <p>4.2 The evidence specified in the assessment procedure is gathered, using the assessment methods and tools.</p> <p>4.3 Evidence is gathered in accordance with specified allowable adjustments where applicable.</p> <p>4.4 The evidence gathered is documented in accordance with the assessment procedure.</p>
5. Make the assessment decision	<p>5.1 The evidence is evaluated in terms of</p> <ul style="list-style-type: none">• validity• authenticity• sufficiency• currency• consistent achievement of the specified standard. <p>5.2 The evidence is evaluated according to the dimensions of competency:</p> <ul style="list-style-type: none">• task skills• task management skills• contingency management skills• job/role environment skills• transfer and application of knowledge and skills to new contexts. <p>5.3 When in doubt, guidance is sought from more experienced assessors.</p> <p>5.4 The assessment decision is made in accordance with the criteria specified in the assessment procedure.</p>
6. Record assessment results	<p>6.1 Assessment results are recorded accurately in accordance with the specified record keeping requirements.</p> <p>6.2 Confidentiality of assessment outcomes is maintained and access to the assessment records is provided only to authorised personnel.</p>

ELEMENT	PERFORMANCE CRITERIA
7. Provide feedback to persons being assessed	<p>7.1 Clear and constructive feedback in relation to performance is given to the persons being assessed using appropriate language and strategies and may include guidance on further goals/training opportunities.</p> <p>7.2 Opportunities for overcoming any gaps in competency, as revealed by the assessment, are explored with the persons being assessed.</p> <p>7.3 The person being assessed is advised of available reassessment opportunities and/or review appeal mechanisms where the assessment decision is challenged.</p>
8. Report on the conduct of the assessment	<p>8.1 Positive and negative features experienced in conducting the assessment are reported to those responsible for the assessment procedure.</p> <p>8.2 Any assessment decision disputed by the persons being assessed is recorded and reported promptly to those responsible for the assessment procedure.</p> <p>8.3 Suggestions for improving any aspect of the assessment process are made to appropriate personnel.</p>

Range of Variables

Assessment system may be developed by:

- the industry
- the enterprise
- a Registered Training Organisation
- a combination of the above.

The assessment system should specify the following:

- the purpose of assessment
- competencies required of assessors
- record keeping procedures and policies
- any allowable adjustments to the assessment method which may be made
- the appeal/review mechanisms and procedures
- the review and evaluation of the assessment process
- the linkages between assessment and training qualifications/awards, employee classification
- remuneration, progression
- relevant policies

- quality assurance mechanisms
- apportionment of costs/fees (if applicable)
- marketing/promotion of assessment
- verification arrangements
- auspicings arrangements (if applicable)
- partnership arrangements (if applicable).

Specific assessment content may be determined by:

- purpose of the assessment such as:
 - to gain a particular qualification or licence
 - to determine employee classification
 - to recognise prior learning/current competencies
 - to identify training needs or progress
- location of the assessment such as:
 - on the job or off the job
 - combination of both
- assessment guidelines of Training Package or other assessment requirements
- features of assessment system.

Characteristics of persons being assessed may include:

- language, literacy and numeracy skills
- cultural, language and educational background
- gender
- physical ability
- level of confidence, nervousness or anxiety
- age
- experience in training and assessment
- previous experience with the topic.

Appropriate personnel may include:

- assessors
- persons being assessed
- employee/union representatives
- consultative committees
- users of assessment information such as training providers, employers, human resource departments
- State/Territory Training/Recognition Authorities
- training and assessment co-ordinators
- relevant managers/supervisors team leaders
- technical specialists.

Appropriate procedure may include:

- the assessment procedure is developed (and endorsed) by persons responsible for the implementation of the assessment process in:
 - the industry
 - the enterprise
 - the training organisation
 - a combination of the above
- the assessment procedure should specify the following:
 - recording procedure
 - appeal/review mechanism
 - assessment methods to be used
 - instructions/materials to be provided to the persons being assessed
 - criteria for making decisions of competent, or not yet competent
 - number of assessors
 - assessment tools
 - evidence required
 - location of assessment
 - timing of assessment

- assessment group size
- allowable adjustments to the assessment procedure depending on the characteristics of the person being assessed

Assessment methods may include:

- work samples and/or simulations
- direct observation of performance, products, practical tasks, projects and simulations exercises
- review of log books and portfolios
- questioning
- consideration of third party reports and authenticated prior achievements
- written, oral or computer managed questioning
- these methods may be used in combination in order to provide sufficient evidence to make a judgement.

Assessment tools may include:

- specific instructions to be given relating to the performance of practical tasks, processes or simulation exercises
- specific instructions to be given in relation to the production of projects and exercises
- sets of verbal/written/computer based questions to be asked
- performance checklists
- log books
- marketing guides
- descriptions of competent performance
- a number of these tools may be used in combination in order to provide enough evidence to make judgements.

Assessment environment and resources to be considered include:

- time
- location
- personnel
- finances/costs
- equipment
- materials

- OHS requirements
- enterprise/industry standard operating procedures.

Allowable adjustments may include:

- provision of personal support services (e.g. Auslan interpreter, reader, interpreter, attendant carer, scribe)
- use of adaptive technology or special equipment (e.g. word processor or lifting gear)
- design of shorter assessment
- sessions to allow for fatigue or medication
- use of large print version of any papers.

Recording procedures may include:

- forms designed for the specific assessment result (paper or electronic)
- checklists for recording observations/process used (paper or electronic)
- combination of the above.

Assessment reporting:

- final assessments will record the units of competency in terms of code, title and endorsement date
- summative assessment reports, where issued, will indicate units of competency where additional learning is required.

NB: Statutory and legislative requirements for maintaining records may vary in States/Territories.

Evidence Guide

Critical aspects of evidence to be considered

Assessment requires evidence of the following products to be collected:

- Description of the assessment context, including the purpose of assessment.
- The relevant competency or other performance standard and assessment procedure used.
- Description of how evidence gathered is valid, authentic, sufficient, fair and reliable to ensure competency.
- Conduct of assessment in accordance with competency requirements.
- Recording of the assessment results in accordance with the specified assessment procedure and record keeping requirements.
- Report on the conduct of the assessment, including positive and negative features and suggestions for improving any aspect of the assessment process.

Assessment requires evidence of the following processes to be provided:

- How agreement was sought with the persons being assessed on the conduct of the assessment.
- How opportunities to gather evidence were identified as part of workplace or training activities.
- How evidence was gathered in accordance with the assessment procedure.
- How evidence gathering activity covered the dimensions of competency.
- How resources were arranged according to the assessment procedure.
- How appropriate personnel were consulted.
- How evidence was gathered in accordance with allowable adjustments to the assessment method where applicable.
- How evidence was evaluated in terms of validity, authenticity, sufficiency, currency and consistent achievement of the specified standard.
- How the assessment was conducted to ensure that:
 - all arrangements and activities were understood by all parties
 - the person was put at ease and a supportive assessment environment was created
 - language, literacy and numeracy issues were taken into consideration.
- How constructive feedback was provided to the persons being assessed including instances of not yet competent.
- How guidance was provided to person being assessed on how to overcome gaps in competency.

Interdependent assessment of units

This unit of competency may be assessed in conjunction with other units that form part of a job role.

Required knowledge and skills

- Knowledge of workplace application of relevant standards of performance including industry or enterprise competency standards and assessment guidelines.
- Knowledge of legal and ethical responsibilities including OHS regulations and procedures, equal employment and anti-discrimination requirements relevant to the specified context.
- Understanding of policies and procedures of the workplace and/or job role together with any related legislation or regulatory requirements.
- Understanding of the assessment principles of reliability, validity, fairness, flexibility, authenticity, sufficiency and consistency.
- Understanding of the assessment guidelines of the training package for assessment and workplace training.
- Skills in the application of various assessment methods, relevant to workplace context.

- Planning of own work including predicting consequences and identifying improvements.
- Language, literacy and numeracy skills required to:
 - read and interpret information to plan assessment
 - seek confirmation of understanding and information in spoken or written form
 - give clear and precise information/instructions in spoken or written form
 - adjust spoken and written language to suit target audience
 - write assessment tools using language which mirrors that used to demonstrate the competency in the specific context
 - prepare required documentation using clear and comprehensible language and layout calculate and estimate costs
 - ask probing questions and listen strategically to understand responses of the person being assessed
 - seek additional information for clarification purposes
 - use verbal and non-verbal language to promote a supportive assessment environment
 - use language of negotiation and conflict resolution to minimise conflict.
- Communication skills appropriate to the culture of the workplace and the individuals.

Resource implications

Access to relevant competencies, sources of information on assessment methods, assessment tools and assessment procedures.

Access to persons wishing to be assessed, any relevant workplace equipment, information and appropriate personnel.

Consistency in performance

Competency in this unit needs to be assessed over a period of time, in a range of contexts and on multiple occasions, involving a combination of direct, indirect and supplementary forms of evidence.

Context of assessment

Assessment should occur on the job or in a simulated workplace. The candidate assessor should use competencies relevant to their areas of technical expertise.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	2
Planning and organising activities	2
Working with others in teams	2
Using mathematical ideas and techniques	2
Solving problems	2
Using technology	3

BSZ403A Review assessment

This unit covers the requirements to review assessment procedures in a specific context.

ELEMENT	PERFORMANCE CRITERIA
1. Review the assessment procedures	<p>1.1 Appropriate personnel are given the opportunity to review the assessment outcomes and procedure using agreed evaluation criteria.</p> <p>1.2 The review process established by the enterprise, industry or registered training organisation is followed.</p> <p>1.3 The assessment procedures are reviewed at a specified site in co-operation with persons being assessed and any appropriate personnel in the industry/enterprise/training establishment and /or any agency identified under legislation.</p> <p>1.4 Review activities are documented, findings are substantiated and the review approach evaluated.</p>
2. Check consistency of assessment decision	<p>2.1 Evidence from a range of assessments is checked for consistency across the dimensions of competency.</p> <p>2.2 Evidence is checked against the key competencies.</p> <p>2.3 Consistencies of assessment decisions with defined performance standards are reviewed and discrepancies and inconsistencies are noted and acted upon.</p>
3. Report review findings	<p>3.1 Recommendations are made to appropriate personnel for modifications to the assessment procedure(s) in light of the review outcomes.</p> <p>3.2 Records are evaluated to determine whether the needs of appropriate personnel have been met.</p> <p>3.3 Effective contributions are made to system-wide reviews of the assessment process and feedback procedures.</p>

Range of Variables

Assessment system may be developed by:

- the industry
- the enterprise
- a Registered Training Organisation
- a combination of the above.

The assessment system should specify the following:

- the purpose of assessment
- competencies required of assessors
- record keeping procedures and policies
- any allowable adjustments to the assessment method which may be made for the person being assessed who has special needs
- the appeal/review mechanisms and procedures
- the review and evaluation of the assessment process
- the linkages between assessment and training qualifications/awards, employee classification
- remuneration, progression
- relevant policies
- quality assurance mechanisms
- apportionment of costs/fees (if applicable)
- marketing/promotion of assessment
- verification arrangements
- auspicing arrangements (if applicable)
- partnership arrangements (if applicable).

Specific assessment content may be determined by:

- purpose of the assessment such as:
 - to gain a particular qualification or licence
 - to determine employee classification
 - to recognise prior learning/current competencies
 - to identify training needs or progress
- location of the assessment such as:
 - on the job or off the job
 - combination of both
- assessment guidelines of Training Package or other assessment requirements
- features of assessment system.

Evaluation criteria in review process should include:

- number of persons being assessed
- duration of the assessment procedure
- organisational constraints within which assessors must operate
- OHS factors
- relationship of the assessor to other appropriate personnel in the assessment process
- frequency of assessment procedure
- budgetary restraints
- information needs of government and other regulatory bodies
- support needs and professional development needs of assessors
- characteristics of persons being assessed
- human resource management implications
- consistency of assessment decisions
- levels of flexibility in the assessment procedure
- fairness of the assessment procure
- efficiency and effectiveness of the assessment procedure
- competencies achieved by the persons being assessed
- motivation of the persons being assessed
- location and resource suitability
- reliability, validity, fairness and flexibility of the assessment tools
- relevance of assessment to specified context
- grievances/challenges to the assessment decision by the persons being assessed or their supervisor/manager/employer
- ease of administration
- access and equity considerations
- practicability.

Characteristics of persons being assessed may include:

- language, literacy and numeracy skills
- cultural, language and educational background
- gender
- physical ability
- level of confidence, nervousness or anxiety

- age
- experience in training and assessment
- previous experience with the topic
- experience in training and assessment
- work organisation or roster.

Appropriate personnel may include:

- assessors
- persons being assessed
- employee/union representatives
- consultative committees
- users of assessment information such as training providers, employers, human resource departments.
- State/Territory Training/Recognition Authorities
- training and assessment coordinators
- relevant managers/supervisors team leaders
- technical specialists.

Appropriate procedure may include:

- the assessment procedure is developed (and endorsed) by persons responsible for the implementation of the assessment process in:
 - the industry
 - the enterprise
 - the training organisation
 - a combination of the above
- the assessment procedure should specify the following:
 - recording procedure
 - appeal/review mechanism
 - assessment methods to be used
 - instructions/materials to be provided to the persons being assessed
 - criteria for making decisions of competent, or not yet competent
 - number of assessors
 - assessment tools
 - evidence required

- location of assessment
- timing of assessment
- assessment group size
- allowable adjustments to the assessment procedure depending on the characteristics of the person being assessed.

Assessment methods may include:

- work samples and/or simulations
- direct observation of performance, products, practical tasks, projects and simulations exercises
- review of log books and portfolios
- questioning
- consideration of third party reports and authenticated prior achievements
- written, oral or computer managed questioning.

These methods may be used in combination in order to provide sufficient evidence to make a judgement.

Assessment tools may include:

- specific instructions to be given relating to the performance of practical tasks, processes or simulation exercises
- specific instructions to be given in relation to the production of projects and exercises
- sets of verbal/written/computer based questions to be asked
- performance checklists
- log books
- marketing guides
- descriptions of competent performance.

A number of these tools may be used in combination in order to provide enough evidence to make judgements.

Assessment environment and resources to be considered include:

- time
- location
- personnel
- finances/costs

- equipment
- materials
- OHS requirements
- enterprise/industry standard operating procedures.

Allowable adjustments may include:

- provision of personal support services (e.g. Auslan interpreter, reader, interpreter, attendant carer, scribe)
- use of adaptive technology or special equipment (e.g. word processor or lifting gear)
- design of shorter assessment
- sessions to allow for fatigue or medication
- use of large print version of any papers.

Evidence Guide

Critical aspects of evidence to be considered

Assessment requires evidence of the following products to be collected:

- Documented process for review of the assessment procedures.
- A report on the review of the operations and outcomes of the assessment procedures including substantiation of findings and any recommendations for modifications.

Assessment requires evidence of the following processes to be provided:

- How the review process for evaluating the assessments in the enterprise, industry or organisation was implemented.
- Why particular review/evaluation methodologies were chosen.
- How co-operation and input from the persons assessed and appropriate personnel were sought as part of the review.

Interdependent assessment of units

This unit of competency may be assessed in conjunction with other units that form part of a job role.

Required knowledge and skills

- Knowledge of the review process established by industry, enterprise or training organisation.
- Knowledge of evaluation methodologies relevant to the assessment context.
- Relevant standards or performance including industry or enterprise competency standards and assessment guidelines.
- Knowledge of legal and ethical responsibilities including OHS regulations and procedures, equal employment and anti-discrimination requirements.
- Knowledge of relevant organisational policies and procedures of the workplace and/or job role.
- Understanding of the assessment principles of reliability, validity, fairness, flexibility, authenticity, sufficiency and consistency.
- Skills in the application of various assessment methods/tools in a relevant workplace context.
- Planning own work including predicting consequences and identifying improvements.
- Language, literacy and numeracy skills required to:
 - read and interpret review procedures
 - participate in discussions and listen strategically to evaluate information critically
 - gather, select and organise findings from a number of sources
 - document findings in summary form, graphics or tables
 - present findings in a short report to relevant personnel
 - make recommendations based on findings
 - determine cost effectiveness.
- Communication skills appropriate to the culture of the workplace and the individuals.

Resource implications

Access to relevant competencies, sources of information on assessment methods, assessment tools and assessment procedures.

Access to persons wishing to be assessed, any relevant workplace equipment, information and appropriate personnel.

Consistency in performance

Competency in this unit needs to be assessed over a period of time, in a range of contexts and on multiple occasions, involving a combination of direct, indirect and supplementary forms of evidence.

Context of assessment

Assessment should occur on the job or in a simulated workplace. The candidate assessor should use competencies relevant to their areas of technical expertise.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	2
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG38A Manage rig operations

This unit covers the responsibilities in preparing rig operations on an onshore drill rig installation.

ELEMENT	PERFORMANCE CRITERIA
1. Carry out rig preparation	<p>1.1 Copy of well program for next well is obtained from company representative or office prior to moving on to lease.</p> <p>1.2 Well Program is read and interpreted and all necessary contractor-supplied equipment availability is checked and anomalies rectified.</p> <p>1.3 A check is made for casing discrepancies or obvious mistakes and corrective action taken.</p> <p>1.4 Liaison occurs with company representative if changes are required to Program.</p> <p>1.5 Office is informed of all required or possible changes to Program.</p>
2. Establish lease	<p>2.1 Lease details are obtained and lease located and inspected.</p> <p>2.2 Construction company is informed of lease details including all infrastructure arrangements.</p> <p>2.3 Contact is made with Owners and Statutory Bodies to ensure compliance with regulations.</p> <p>2.4 Directions to lease are established, checked and communicated.</p> <p>2.5 Right-of-way to lease is established with potential problems being identified, rectified and communicated to appropriate personnel, third parties and regulators.</p> <p>2.6 Camp location is established and infrastructure/safety arrangements checked and rectified, if required.</p> <p>2.7 Supply sources and expendables are checked and adjustments made, if required.</p> <p>2.8 Medical aid and medivac procedures are established and communicated to personnel and appropriate authorities.</p> <p>2.9 Camp supplies are organised prior to camp set-up and necessary arrangements made for transporting of requisites, if required.</p> <p>2.10 Rubbish/waste disposal arrangements are put in place.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Communicate and report outcomes	<p>3.1 Lease establishment information is confirmed with appropriate personnel, third parties and regulators and reports submitted.</p> <p>3.2 Contract information is reviewed, updated and implemented for pre-well preparation.</p> <p>3.3 New lease data is reported to appropriate officers using correct reporting strategies.</p> <p>3.4 Shut down procedures are reviewed, amended if required and communicated to relevant parties.</p>

Range of Variables

Briefings/handover details include:

- well program
- stacking procedure
- start-up procedure
- outstanding orders
- HSE plan
- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence includes:

- road permits
- environmental concerns
- heritage concerns
- operator environment plan

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards)
- company policies and procedures.

Communication channels include:

- hand signals
- telephone
- public address system
- computer
- fax
- face to face
- written documentation
- two way radio and radio network
- satellite phones
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- rig and camp
- trucks
- vehicles
- cranes/forklift/winch trucks
- backhoe/digger.

Operational instructions include, but are not limited to:

- start up procedures
- safety procedures
- medical contacts/emergency contacts
- medivac, etc.

Working practices include, but are not limited to:

- safe working practices
- rig up procedures
- working with trucks, cranes, winch trucks and forklift
- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Remedial action taken to deal with errors, omissions and shortages include, but are not limited to:

- consultation
- minder system
- warning letter
- termination.

Communication occurs between:

- crew
- management
- construction company
- operator's representative
- company representative
- suppliers
- ambulance service
- doctors/medicos.

Records to be maintained include:

- daily drilling report
- equipment damage/failure report
- material requisition form
- plant movement advice
- materials and services received (report)
- gas bottle returns
- third party hire and monthly stock lists
- change over notes
- employee time sheets
- meal and bed sheet
- fire extinguisher checklist
- monthly tubular summary.

Documents to be read and interpreted include:

- company policy and procedure documents
- legislation
- operator's representative instructions
- contracts
- drilling program
- shut down lists
- State and Territory Petroleum Acts
- Environmental Protection Act
- site specific manuals
- QA Manual
- transport manifest.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Rig moving.
- Rig up.
- Spudding .
- Ability to complete required documentation legibly, accurately and within the specified time frame.
- Effective spoken and/or written communication skills are demonstrated with a range of personnel and in a range of situations.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rig loading.
- Spotting loads.
- Rig up procedures.
- Safety procedures.
- Man management skills.
- Lease preparation.
- Logistics.

Skills

The ability to:

- Carry out and manage rig operations.
- Communicate in written and verbal forms at all operating levels.
- Plan and organise.
- Work with others.
- Solve logistic problems.
- Establish and report new lease arrangements.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG39A Plan and evaluate rig operations

This unit covers planning and evaluating onshore/offshore rig operations in line with occupational health and safety legislation and environmental regulations. This competency supports promoting and monitoring of workplace practices.

ELEMENT	PERFORMANCE CRITERIA
1. Comply with legislative/company requirements	<p>1.1 State/Territory/Federal Petroleum Acts are received, interpreted and appropriate policies/procedures implemented for rig operations.</p> <p>1.2 State/Territory/Federal Environmental Protection Acts are examined, interpreted and applied to rig operations.</p> <p>1.3 Financial/insurance implications of non-conformance are identified and notified to appropriate personnel/authorities.</p>
2. Establish risk management strategies	<p>2.1 Role and legal responsibilities of Rig Managers, Supervisors and personnel are identified and appropriate measures put in place to manage such responsibilities.</p> <p>2.2 Use of regulations, codes of practise and specific site manuals are examined and appropriate processes implemented.</p> <p>2.3 Arrangements are made to provide information in a language, style and format which is understood by all parties.</p> <p>2.4 Audit of potential workplace hazards is understood, findings evaluated and correct control measures implemented and communicate to personnel and appropriate authorities.</p> <p>2.5 Communication and onsite meeting processes for resolving safety issues are established and communicated to personnel and appropriate authorities.</p> <p>2.6 Rig performance is evaluated, discussed with client and operational requirements reviewed and changes implemented, if required.</p> <p>2.7 Coaching and mentoring arrangements are identified and implemented and appropriate training strategies designed to rectify performance issues.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Implement rig safety compliance system	<p>3.1 Communication requirements are identified, implemented and communicated to all parties.</p> <p>3.2 Radio communication strategies and reporting techniques are identified and demonstrated to all parties.</p> <p>3.3 Health, safety and environmental performance is monitored, adjusted and reported to appropriate personnel/authorities.</p> <p>3.4 Systems, records and reporting procedures are maintained in accordance with company and/or organisational/legislative requirements.</p> <p>3.5 Non-conformances are investigated and reported and dealt with according to company and/or legislative requirements.</p> <p>3.6 Workplace measures are implemented to ensure that non-conformance is not repeated.</p>

Range of Variables

Briefings/handover details include:

- outstanding environmental incident reports
- rig manager handover notes
- permit to work register
- safety review committee
- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence includes:

- OHS
- Environmental Protection Act
- Workcover
- Confined Space Entry Legislation
- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards)
- company policies and procedures.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- gas detection equipment
- radio
- satellite phone-up unit
- satellite earth station
- computer.

Operational instruction include, but are not limited to:

- adhering to environmental plan
- hazard identification.

Working practices include, but are not limited to:

- hazard control and reporting
- job task co-ordination
- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Remedial action taken to deal with errors, omissions and shortages include, but are not limited to:

- corrective action request against a procedure
- inclusion of errors, omissions and shortages in morning reports
- direct communications with supervisor.

Documents to be read and interpreted include:

- OHS legislation
- codes and standards
- company policies and procedures
- organisational requirements
- environmental management
- risk management techniques/strategies
- insurance policies
- quality assurance manual.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Assess and rectify rig performance.
- Knowledge of legislative framework and implementation strategies.
- Productivity.
- Effective spoken and/or written communication skills are demonstrated with a range of personnel and in a range of situations.
- Safety record.
- Implement, monitor, maintain and rectify non-conformance for ohs and environmental management.
- Risk management strategies.
- Workplace hazard audit/reporting procedures.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Petroleum Act.
- Environmental Protection Act.
- Occupational Health and Safety Act.
- Confined Space Entry.
- Investigation procedures.
- Evaluation techniques.
- Reporting techniques.
- Monitoring systems.

Skills

The ability to:

- Apply and monitor rig performance in line with regulatory requirements.
- Communicate verbal and written instructions/outcomes at all operating levels.
- Apply appropriate software applications.
- Identify, assess, control and report hazards/situations.
- Maintain monitoring systems.
- Counsel personnel.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

Level

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG40A **Oversee drilling operations**

This unit covers the responsibility of overseeing drilling operations in offshore drill rig installations.

ELEMENT	PERFORMANCE CRITERIA
1. Organise drilling of surface hole	1.1 Copies of Contract and Well Program are obtained, checked and implementation strategies designed and communicated to all parties. 1.2 Obtain and check correct equipment and tools are on hand for surface hole operations. 1.3 Check integrity of equipment and prepare/inspect casing and joints for damage. 1.4 Liaise with service companies to rectify faults. 1.5 Ensure that appropriate equipment and personnel are on hand for casing.
2. Supervise and participate in nipping up (N/U) and pressure testing	2.1 Equipment and nipping up requirements are organised for drilling out. 2.2 Ensure pressure testing of all BOP equipment is carried out. 2.3 Ensure rig up to drill out is carried out in accordance with procedure. 2.4 Drill out safety processes are monitored and leak off test gauged as required.
3. Organise rig up and rig up to spud	3.1 Crews are assigned to specific jobs and performance measures implemented to monitor operations. 3.2 Appropriate monitoring strategies and checks are put in place to ensure integrity of operations. 3.3 All specific instructions are checked with operator's representative for drilling hole. 3.4 Crew meetings are conducted on total rig safety requirements. 3.5 Damage is reported/rectified as required. 3.6 Ensure mud is mixed in accordance with procedures and properties defined in the drilling program. 3.7 Pre-spud safety inspections are carried out with circulation and spud-in established. 3.8 Surveys are undertaken and any deviations reported to operator's representative and recorded on appropriate documentation. 3.9 Running in and cementing of casing is supervised with operator's written instructions being followed.

ELEMENT	PERFORMANCE CRITERIA
4. Complete and abandon well	4.1 Completion and well abandonment is supervised with operator's representative.
	4.2 Preparations are made to release rig and shutdown preparation list arranged.
	4.3 Servicing, repair and/or return of equipment is arranged through appropriate channels.
	4.4 Well is abandoned in accordance with legislative, operator and company requirements.

Range of Variables

Briefings/handover details include:

- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards)
- company policies and procedures.

Communication channels may include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet/intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Working practices include, but are not limited to:

- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Communication occurs between:

- crew
- service companies
- operator's representative.

Records to be maintained include:

- daily drilling report
- equipment damage/failure report
- material requisition form
- plant movement advice
- materials and services received (report)
- gas bottle returns
- third party hire and monthly stock lists
- change over notes
- employee time sheets
- drilling rate sheet

- meal and bed sheet
- fire extinguisher checklist
- monthly tubular summary.

Range of numerical calculations/measurements include:

- carrying out addition, subtraction, multiplication, division
- relate normal pressure to temperature
- using calculator if required
- using estimated skills, e.g. mental arithmetic, visualisation of size and quantity
- basic geometry, e.g. interpreting depth, direction
- use of metric and imperials and conversion between the two
- interpreting of gauges, graphs, etc.
- calculations
- pressure:
 - hydrostatic
 - surface
 - downhole
 - circulating
- density
- volume:
 - fluid
 - air
 - gas
- height
- velocity
- length
- weight

- measurements:
 - penetration rate
 - rotary torque
 - RPM
 - pump pressure
- relate normal pressure to temperature.

Documents to be read and interpreted include:

- standards
- safety procedures
- drilling program
- operator's written instructions
- company policy and procedure documents
- legislation
- operator's representative instructions
- contracts
- shut down lists
- State and Territory Petroleum Acts
- Environmental Protection Act
- site specific manuals
- QA manual
- transport manifest.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Plan drilling operation.
- Manage drilling team.
- Co-ordinate drilling operation.
- Ability to complete required documentation legibly, accurately and within the specified time frame.
- Effective communication skills in spoken and/or written form with a range of personnel are demonstrated.
- Accurate application of all calculations and measurements.
- Comply with statutory requirements.
- Maintain records.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- BOP specifications.
- Casing tools and their applications.
- Inspection and reporting procedures and practices.
- Equipment types and uses.
- OHS environmental obligations.
- Nippling up and pressure testing techniques.
- Pressures.
- Drill out procedures.
- Testing.
- Rig up to spud procedure.
- Drilling programs.
- Run in and cementing procedures.
- Well abandonment and procedures.

Skills

The ability to:

- Apply BOP specifications.
- Select and utilise correct drilling equipment.
- Apply drilling specifications.
- Apply legislation and acts.
- Nipple up and pressure test within specifications.
- Rig up to spud.
- Co-ordinate drill team.
- Drill out of hole in accordance with procedures.
- Abandon well activity to procedures.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG41A Manage drilling operations

This unit covers the responsibility in managing drilling operations in an onshore drill rig installation.

ELEMENT	PERFORMANCE CRITERIA
1. Implement drill management strategies	<p>1.1 Copies of Contract and Well Program are obtained, checked and implementation strategies designed and communicated to all parties.</p> <p>1.2 Daily drilling reports and tour sheets are prepared and communicated to all parties.</p> <p>1.3 Inspections of operating site and camp are undertaken and recorded/reported.</p> <p>1.4 Communication strategies are established and confirmed with operator's representative.</p> <p>1.5 Legislative/company requirements are reviewed, confirmed and communicated to appropriate personnel.</p> <p>1.6 Appropriate reporting mechanisms are put in place.</p> <p>1.7 Rig maintenance arrangements are established and communicated to all parties.</p>
2. Manage OHS obligations	<p>2.1 Crew meeting arrangements are put in place, carried out and outcomes minuted and reported to appropriate officers.</p> <p>2.2 Safety inspection strategies are established, implemented, monitored and recorded/reported.</p> <p>2.3 New employees are inducted into site operations and appropriate monitoring strategies put in place.</p> <p>2.4 Permit-to-work systems are established, implemented, monitored and recorded/reported.</p> <p>2.5 Emergency response arrangements are identified, implemented and communicated to all parties.</p> <p>2.6 Environmental legislative/company requirements are identified, implemented, monitored and rectified/reported in accordance with known procedures.</p> <p>2.7 Non-conformances are identified, rectified and reported to appropriate authorities/officers.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Oversee drilling operations	<p>3.1 Drill program is obtained, checked and communicated to appropriate officers/personnel.</p> <p>3.2 Drilling tools and equipment are organised and appropriate checking processes put in place.</p> <p>3.3 Appropriate reporting mechanisms are put in and monitored.</p> <p>3.4 Safe work practices and adherence to drilling instructions are assessed and rectified, if required.</p> <p>3.5 Well control and blowout prevention strategies are implemented, maintained, monitored and reported in accordance with legislative/company requirements.</p> <p>3.6 Appropriate tests are carried out, monitored and reported.</p>

Range of Variables

Briefings/handover details include:

- rig manager change over notes
- safety briefing/induction
- morning reports
- pre-tour safety meeting
- pre-spud meetings
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence includes:

- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards)
- company policies and procedures
- Occupational Health and Safety Act

- Environmental Protection Act
- Workplace Relations Act
- compliance with terms and conditions of Union Awards.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- drilling rig inventory
- ancillary equipment, e.g. cranes, forklifts.

Operational instructions include, but are not limited to:

- issues highlighted in pre-spud safety inspector
- aspects of drilling program that detail contractor liability
- drilling parameters
- maintenance requirements.

Working practices include, but are not limited to:

- employee mentoring
- driller training
- ongoing supervisor for hazard identification
- close surveillance of new employees
- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Remedial action taken to deal with errors, omissions and shortages include, but are not limited to:

- corrective action request to head office
- warning and counselling sessions.

Communication occurs between:

- crew
- service companies
- operator's representative.

Records to be maintained include:

- daily drilling report
- equipment damage/failure report
- material requisition form
- plant movement advice
- materials and services received (report)
- gas bottle returns
- third party hire and monthly stock lists
- change over notes

- employee time sheets
- drilling rate sheet
- meal and bed sheet
- fire extinguisher checklist
- monthly tubular summary.

Range of numerical calculations/measurements include:

- carrying out addition, subtraction, multiplication, division
- relate normal pressure to temperature
- using calculator if required
- using estimated skills, e.g. mental arithmetic, visualisation of size and quantity
- basic geometry, e.g. interpreting depth, direction
- use of metric and imperials and conversion between the two
- interpreting of gauges, graphs, etc.
- calculations
- pressure:
 - hydrostatic
 - surface
 - downhole
 - circulating
- density
- volume:
 - fluid
 - air
 - gas
- height
- velocity
- length
- weight

- measurements:
 - penetration rate
 - rotary torque
 - RPM
 - pump pressure
- relate normal pressure to temperature.

Documents to be read and interpreted include:

- standards
- safety procedures
- drilling program
- operator's written instructions
- company policy and procedure documents
- legislation
- operator's representative instructions
- contracts
- shut down lists
- State and Territory Petroleum Acts
- Environmental Protection Act
- site specific manuals
- QA Manual
- transport manifest.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- General rig operation and performance.
- Safety records and OHS permit-to-work procedures including inspections.
- Running costs.
- Employee turn over.
- Ability to complete required documentation legibly, accurately and within the specified time frame.
- Effective communication skills in spoken and/or written form with a range of personnel are demonstrated.
- Accurate application of all calculations and measurements.
- Legislation/Company procedures.
- Well control.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Document control.
- Operational procedures.
- Legislative requirements.
- Maintenance.
- Safety.
- Well control.
- Downhole problems and solutions.

Skills

The ability to:

- Manage rig operation and performance.
- Communicate at all levels of operations.
- Identify, assess, control and report hazards/situations.

- Control downhole problems.
- Co-ordinate and delegate.
- Apply ohs and environmental regulations.
- Budget and monitor operating costs.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

Level

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG42A **Manage drilling induction and orientation**

This unit covers carrying out drilling induction and orientation on onshore and offshore drill rig installations.

ELEMENT	PERFORMANCE CRITERIA
1. Examine general safety practices	1.1 Policies/procedures in relation to alcohol, drugs and firearms/weapons are obtained, reviewed and communicated to all parties.
	1.2 Chain of command and communication strategies are developed and communicated to all parties.
	1.3 Hazard identification, reporting and recording mechanisms are put in place and requirements communicated to all parties.
	1.4 Personal protective equipment and procedures are assessed and procedures put in place to communicate and monitor adherence to legislative/company requirements.
	1.5 Hazardous materials handling and transport arrangements are identified and procedures established and communicated to manage and prevent uncontrolled/unauthorised release.
	1.6 Hazardous energy control and fire safety procedures are put in place and responsibilities communicated to all parties.
	1.7 Mechanical equipment and manual handling hazard control measures are identified and procedures established and communicated to avoid non-conformance.
	1.8 Rig working and living conditions are discussed including work rosters and camp rules.
2. Communicate first aid/emergency response arrangements	2.1 First aid requirements are identified and discussed with all parties.
	2.2 Dangers associated with the use of first aid applications are identified and highlighted.
	2.3 Blood borne pathogens and precautions to identify contamination are identified and conveyed to all parties.
	2.4 Different types of alarms, their uses and authorisations are identified and communicated to all parties.

Range of Variables

Briefings/handover details include:

- names of inductees
- level of induction, e.g. experienced or green hands
- presentation aids, for example:
 - signs
 - schematics
 - videos, etc.
- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- knowledge of employee responsibility levels
- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards)
- company policies and procedures.

Communication channels include:

- two-way radio
- hand signals
- telephone

- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- protective clothing
- hazardous material samples
- respiration equipment
- signs
- rig layout schematic.

Operational instructions include, but are not limited to:

- where to go in an emergency – muster points
- acceptable smoking area
- out of bounds areas, e.g. SCR Shack.

Working practices include, but are not limited to:

- safe practice
- 12 hour shifts
- 14 day/21 day roster
- individual operation
- team operation
- use of personal protective equipment

- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies.

Remedial action taken to deal with errors, omissions and shortages include, but are not limited to:

- consultation
- minder system
- warning letter
- termination.

Records to be maintained include:

- location arrival procedures
- work permits
- trip (vehicle) report.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Company/regulatory induction requirements.
- Effective spoken and/or written communication skills are demonstrated with a range of personnel and in a range of situations.
- Witnesses.
- Company policies/procedures.
- Clear reporting (verbal and written).

- OHS procedures and practices.
- Emergency response and alarm systems.
- Drill operator's assessment.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- All operational procedures (safe practice).
- Award entitlements, e.g. overtime.
- Safe working practice.
- Man-management skills.
- Company reporting procedures.
- General mechanical/electrical operating functions.
- Down-hole problems and solutions.
- Drills, e.g. fire, bop, gas detection.

Skills

The ability to:

- Verbal and written communication.
- Accurate reporting.
- Safely operate drilling rig, e.g. stand in for driller.
- Show leadership in critical situations.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG43A Organise rig move and camp move

This unit covers the responsibility in organising rig move and camp move of an onshore drill rig installation.

ELEMENT	PERFORMANCE CRITERIA
1. Establish rig removal arrangements	1.1 Drill rig movement and new location arrangements are checked and confirmed with company officers.
	1.2 Arrangements are made to gain statutory/local authority permission to move site.
	1.3 A checklist of removal arrangements is established and followed.
	1.4 Arrangements are made with transport company for rig removal.
	1.5 Right-of-way to new lease is checked and confirmed with appropriate parties.
	1.6 Pre-rig move safety meetings are conducted to ensure safe operation.
2. Load out and move	2.1 Transport arrangements and located/directions to new lease are confirmed.
	2.2 Correct rigging practices are applied for rig removal and loading.
	2.3 Crews are briefed and assigned to specific tasks and operations monitored.
	2.4 Rig/camp move is monitored and reports completed and forwarded to appropriate parties.

Range of Variables

Briefings/handover details include:

- rig and camp load lists
- order of rig move
- distance and road conditions
- issues of concern if powerline bridges
- weather conditions
- time frames

- securing of loads
- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence includes:

- OHS
- oversize permits
- State road rules and regulations
- weight loading
- environment
- Petroleum Submerged Lands Act (PSLA)
- duty of care
- ASO (Australian Standards).

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates

- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- mounted trailers
- cranes
- forklifts
- water/fuel trucks
- waste disposal trucks
- maps
- signage.

Operational instructions include, but are not limited to:

- company policies and procedures
- truck company procedures
- Job Safety Analysis (JSA)
- hazard sheets
- MSDS's.

Working practices include, but are not limited to:

- pre job safety meeting
- check of lifting equipment
- wearing of personal protective equipment
- sequence of loads
- team operations
- maintain communication
- statutory requirements
- road rules.

Communication occurs between:

- crew
- transport company
- relevant statutory or local authorities
- company personnel.

Evidence Guide**Context of assessment**

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical Aspects of Evidence:

- Effective spoken and/or written communication skills are demonstrated with a range of personnel and in a range of situations.
- Legislation/acts.
- Lease locations.
- Transport arrangements.

Underpinning knowledge and skills**Knowledge**

A knowledge of:

- Work safe practices.
- Rigging and slinging.
- Rig and camp layouts.
- Environmental concerns.

Skills

The ability to:

- Interact at all levels.
- Prioritise.
- Plan.
- Problem solve.
- Time management.
- Read a map.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG44A **Manage and monitor rig-up and rig-up to spud operations**

This unit covers the responsibility in organising a rig up and rig up to spud on an onshore drill rig installation.

ELEMENT	PERFORMANCE CRITERIA
1. Commence operations	<p>1.1 Rig up and rig up to spud program is assessed and details confirmed.</p> <p>1.2 Number and expertise of personnel requirements are identified and obtained.</p> <p>1.3 Crews are assigned tasks and performance is supervised.</p> <p>1.4 Safety requirements are assessed and communicated to all parties.</p> <p>1.5 Equipment checks are undertaken, and faults rectified/reported in accordance with legislative/company requirements.</p> <p>1.6 Rig/lease drainage and effluent disposal is established.</p> <p>1.7 Spotting and rig assembly are supervised and performance issues rectified.</p> <p>1.8 Engine power start-up is arranged and supervised.</p>
2. Prepare to spud	<p>2.1 Installation of rathole, mousehole and conductor pipe is supervised, if required.</p> <p>2.2 Mud preparation and environmental requirements are reinforced with crewmembers.</p> <p>2.3 Circulation and rig up are confirmed with crew.</p> <p>2.4 Pre-spud safety inspection is undertaken and confirmed with crew to ensure compliance with regulatory/company requirements.</p>
3. Conduct pipe installation/mix mud	<p>3.1 Tour sheet incorporating depth of auguring is completed and drilling/auguring processes monitored and problems identified/reported.</p> <p>3.2 Availability of correct casing and casing tools is assessed and rectified for anomalies.</p> <p>3.3 Flowline and conductor pipe requirements are established and put in place.</p> <p>3.4 Integrity of cement for application is checked and approved, to guard against washout.</p>

ELEMENT	PERFORMANCE CRITERIA
Conduct pipe installation/mix mud (cont'd)	3.5 N/U flowline and operations are supervised.
	3.6 Circulation and spud in is established and monitored.
	3.7 Mud mixing procedures and properties are checked against drilling program and confirmed with crew.
	3.8 Operating outcomes are recorded and reported to appropriate officers.

Range of Variables

Briefings/handover details include:

- pre-start safety meetings prior to commencement of each work day
- delegation of work responsibilities to various teams
- priority given to tasks if necessary
- emergency services contacted to inform of new location and approximate period of occupancy
- drilling program
- smoking restrictions
- safety briefing/induction
- pre-tour safety meeting
- weekly safety meetings
- Job Safety Analysis (JSA).

Agreed procedures may include but are not limited to:

- company
- facility
- client.

Statutory adherence include:

- OHS
- Environmental Protection
- permit to work
- Petroleum Submerged Lands Act (PSLA)

- duty of care
- ASO (Australian Standards)
- company policies and procedures.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- cranes
- front-end loaders using bucket or forks
- winch trucks
- prime movers with trailers and dog trailers
- carrier mounted rigs and service units.

Operational instructions include, but are not limited to:

- safety procedures
- environmental considerations
- completion sequence

- well head preparation
- preparation and inspection of loading slings and chains
- material availability if maintenance, servicing or repair is to occur.

Working practices include, but are not limited to:

- permit to work systems
- safety meetings and Job Safety Analysis (JSA)
- safety harnesses to be worn aloft during rig down
- no smoking
- correct dogging practices
- individual operation
- team operation
- use of personal protective equipment
- consideration of H₂S and other toxic substances
- continuous communication maintained
- reacting to on-site emergencies,

Remedial action:

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- review specific Job Safety Analysis (JSA)
- submit a Corrective Action Request (CAR) against a procedure (if applicable to TQMS)
- notify immediate supervisor for advice or authorisation if problem outside of jurisdiction
- adhere to company emergency response flowchart if dealing with safety or environmental issues.

Documents to be read include:

- operator's representative's instructions.

Safety checklist for start-up records to be completed include:

- tour book
- request of materials received
- transport manifests.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Accuracy in adhering to the operators wishes as outlines in the drilling program.
- Forward planning.
- Logistical preparation.
- Hazard identification.
- Communications.
- Rig-up schedule correlated company procedures and drilling program.
- Safety.
- Rig performance.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Rig up procedures.
- Rigging and dogging practices.
- Auxiliary equipment functions and service requirements.
- Specific auxiliary rig up sequence.
- Safety and environmental issues.
- Communication equipment.
- Emergency procedures.
- Preventative maintenance.
- Workplace relations and award conditions.

Skills

The ability to:

- Operate rig components.
- Oversee forklift operations.
- Use satellite or ground communication.
- Issue permits and work orders.
- Organise work teams into efficient working units.
- Dog a crane and secure rigging.
- Troubleshoot breakdowns.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies

Level

Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

DRTOG45A Manage well completion and abandonment

This unit covers responsibility for completing and abandoning wells on onshore drill rig installation.

ELEMENT	PERFORMANCE CRITERIA
1. Organise completion schedule	<p>1.1 Completion schedule is developed in line with drilling contract and well prognosis.</p> <p>1.2 Lease details are reviewed and confirmed, as necessary notifications are forwarded to statutory, company, owner and contractor representatives.</p> <p>1.3 Preparations are made for release of rig and tourbook records completely in accordance with statutory and company requirements.</p> <p>1.4 Prior to rig move, arrangements are in place for work orders and invoicing in line with contract requirements and servicing/maintenance repairs of equipment.</p>
2. Complete well abandonment	<p>2.1 Preparations are made to stack and move and communicated to all parties.</p> <p>2.2 Environmental plan is assessed, mud drilling fluids and waste storage/disposal requirements and correct records are completed and processed.</p> <p>2.3 Shutdown list is prepared in accordance with statutory/company requirements and distributed to crew for actioning.</p> <p>2.4 Rig down is undertaken in accordance with statutory/company requirements and distributed to crew for actioning.</p> <p>2.5 Rig down is undertaken in accordance with statutory/company requirements and ensuring that equipment, camp and rig are secured for removal.</p> <p>2.6 Contract requirements are reviewed and records are completed and forwarded to appropriate officers.</p>

Range of Variables

Briefings/handover details include:

- pre-start safety meetings prior to commencement of each work day
- delegation of work responsibilities to various teams re: load-out or rig-up
- set route for rig move
- emergency procedures to follow if lost or disabled

- road conditions
- new location whereabouts and access
- name of property owners (where applicable).

Statutory adherence include:

- licence check for all designated drivers
- load permits
- decontamination certificates if moving between quarantine areas.

Communication channels include:

- two-way radio
- hand signals
- telephone
- public address system
- written work instructions
- internet and intranet.

Work conditions include:

- night time operations
- day time operations
- hot climates
- cold climates
- wet weather conditions
- high wind.

Equipment includes:

- cranes
- front-end loaders using bucket or forks
- winch trucks
- prime movers with trailers and dog trailers
- carrier mounted rigs and service units.

Operational instructions include, but are not limited to:

- safety procedures
- environmental considerations
- completion sequence
- well head preparation
- preparation and inspection of loading slings and chains
- material availability if maintenance, servicing or repair is to occur.

Working practices include, but are not limited to:

- permit to work systems
- safety meetings and Job Safety Analysis
- safety harnesses to be worn aloft during rig down
- no smoking
- correct dogging practices.

Remedial action taken to deal with errors, omissions and shortages may include, but are not limited to:

- review specific Job Safety Analysis
- submit a Corrective Action Request (CAR) against a procedure (if applicable to TQMS)
- notify immediate supervisor for advice or authorisation if problem outside of jurisdiction
- adhere to company emergency response flowchart if dealing with safety or environmental issues.

Documents to be read include:

- operator's representative's instructions
- checklist for shut down.

Records to be completed include:

- tour book
- request of materials received
- transport manifests.

Evidence Guide

Context of assessment

Competency must be assessed in the normal or simulated work environment within the bounds of safety and in accordance with work procedures.

Assessment shall include those aspects of the core competencies that are consistent with the work environment of this unit.

Guidelines will be in line with statutory/legal requirements, enterprise specific policies and procedures and codes of practice.

Critical aspects of evidence

It is essential that competence is fully observed in the critical aspects of:

- Accuracy in adhering to the operators wishes as outlines in the drilling program.
- Forward planning.
- Logistical preparation.
- Hazard identification.
- Communications.
- Completion schedule correlated against well prognosis and drilling program.
- Loadout sequence observed for signs of “double handling”.

Underpinning knowledge and skills

Knowledge

A knowledge of:

- Well completion or abandonment procedures.
- Rigging and dogging practices.
- Auxiliary equipment functions and service requirements.
- Specific rig tear-out sequence.
- Road haulage regulations.
- Safety and environmental issues.
- Communication equipment.
- Emergency procedures.
- Preventative maintenance.
- Workplace relations and award conditions.

Skills

The ability to:

- Operate rig components.
- Oversee forklift operations.
- Use satellite or ground communication.
- Issue permits and work orders.
- Organise work teams into efficient working units.
- Dog a crane and secure rigging.
- Troubleshoot breakdowns.

Resource implications

The resources available will be specific to the individual employer and the particular worksite.

Consistency in performance

Competency in this unit needs to be assessed over a period of time to ensure consistency of performance in a range of conditions.

Key competencies	Level
Collecting, analysing and organising information	3
Communicating ideas and information	3
Planning and organising activities	3
Working with others in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3