



Australian Government

RIIOGD203E Prepare and operate drilling fluid systems

Release: 1

RIIOGD203E Prepare and operate drilling fluid systems

Modification History

Release	Comment
1	This unit replaces RIIOGD203D Prepare and operate drilling fluid systems. One performance criteria added; two performance criteria removed; and, several performance criteria amended. Performance and knowledge evidence amended.

Application

This unit describes a participant's skills and knowledge required to apply prepare and operate drilling fluid systems in drilling.

This unit is appropriate for those working in assistant roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Unit Sector

Drilling

Elements and Performance Criteria

1. Plan and prepare for operations	1.1 Access, interpret and apply drilling fluid system documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Identify and address potential risks, hazards and environmental issues and implement control measures 1.4 Select the personal protective equipment appropriate for the work activity 1.5 Conform to safe working practices and current legislative and operational requirements 1.6 Resolve coordination requirements with others at the site prior to commencing, during and on completion of the work activities 1.7 Assess geographic layout is appropriate for the type of fluid system in use 1.8 Assess operation of mud mixers, dump valves and equalising
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	valves 1.9 Identify and locate mud pump and discharge system
2. Establish operational requirements	2.1 Clarify difficulties in carrying out the instructions with the relevant personnel 2.2 Confirm availability and status of necessary permits to work 2.3 Confirm availability of necessary third party utilities 2.4 Confirm availability of required quantities and type of consumables 2.5 Identify errors, omissions and shortages and take appropriate remedial action within functional responsibility
3. Select and test equipment	3.1 Identify and select equipment appropriate for the work to be performed 3.2 Confirm equipment is functional and fit for the purpose and the environment in which it will be used 3.3 Identify defects in the equipment and take appropriate remedial action within functional responsibility 3.4 Lubricate fluid circulation components
4. Prepare drilling fluids	4.1 Confirm availability of sufficient quantities and types of fluids against operational requirements 4.2 Confirm tanks and mixing equipment are clean and free from contamination in accordance with instructions 4.3 Mix and treat fluids to specification 4.4 Obtain, correctly label in writing and store samples 4.5 Identify defects in the equipment and take appropriate remedial action within functional responsibility
5. Pump drilling fluids	5.1 Confirm recording and monitoring devices are pre-set to required parameters 5.2 Operate equipment 5.3 Identify faults and defects accurately and take appropriate remedial action within functional responsibility 5.4 Assist with obtaining samples, weigh, measure viscosity and record details 5.5 Record in writing data accurately at appropriate times and frequencies in accordance with operational requirements
6. Operate hopper system	6.1 Recognise operation of the hopper system 6.2 Operate and maintain hopper system and associated

	components
	6.3 Measure, calculate and log in writing mud properties correctly
	6.4 Recognise, record and report changes in returns of drilling fluid and pit volumes

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIOGD203E Prepare and operate drilling fluid systems	RIIOGD203D Prepare and operate drilling fluid systems	Performance criteria amended, added and removed. Performance and knowledge evidence amended	Not equivalent

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIOGD203E Prepare and operate drilling fluid systems

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Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant legislation, documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of prepare and operate drilling fluid systems including:
 - operating and maintaining all the mud treatment units
 - interpreting and acting on additional flow in the mud returns or an increase in mud pit volume
 - lubricating fluid circulation components
- works effectively with others to undertake and complete the prepare and operate drilling fluid systems tasks that meets all the required outcomes including:
 - organising work activities to meet all task requirements
 - communicating clearly and concisely with others to receive and clarify work instructions
- demonstrates completion of preparing and operating drilling fluid systems that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - maintaining and operating mud mixers, dump valves and equalising valves in the mud pits system
 - safely adding mud materials to the mud systems as instructed
 - accurately taking mud properties readings and legibly recording them

Knowledge Evidence

The candidate must demonstrate knowledge of the following in preparing and operating drilling fluid systems:

- organisation and site requirements and procedures for:
 - work health and safety procedures and individual obligations
 - rig safety and emergency procedures
 - safe operating procedures when operating equipment
 - chemical handling procedures
 - company and statutory guidelines, procedures and practices
- principles of the systems, equipment and their relationship to other plant
- fluid types and composition
- the layout of mud circulating, mixing and suction systems
- assessment of geographic layout related to the type of fluid system in use the layout of shaker, degasser and settling pits, and sand traps
- and complying with safety data sheets (SDS)
- rig maintenance requirements
- non-routine drilling operations
- man management/rig management

Assessment Conditions

- Assessors must satisfy the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory competency requirements for assessors; and industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other units of competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this unit of competency, and through the minimum years of current* work experience specified below in an industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an industry subject matter expert. The industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or industry sector as follows:

Industry sector	AQF** Level	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this unit is being assessed outside of the Resources and Infrastructure Sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered to indicate the AQF level.

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