



Australian Government

RIIOGF302D Operate drilling fluids and mud pits

Release: 2

RIIOGF302D Operate drilling fluids and mud pits

Modification History

Release	Comment
1	This unit replaces RIIOGF302A Operate drilling fluids and mud pits
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to operate drilling fluids and mud pits in Drilling.

This unit is appropriate for those working in operational roles.

No licensing or certification requirements apply to this unit at the time of publication.

Unit Sector

Drilling

Elements and Performance Criteria

1. Plan and prepare for operations	1.1. Access, interpret and apply Operate drilling fluids and mud pits documentation and ensure the work activity is compliant 1.2. Obtain, read, interpret, clarify and confirm work requirements 1.3. Identify, address and report potential hazards, risks and environmental issues and implement control measures 1.4. Select and wear personal protective equipment appropriate to the work activities 1.5. Resolve coordination requirements with others at the site prior to, during and on completion of work activities and ensure briefings/handover details are communicated 1.6. Confirm availability and status of necessary permits to work 1.7. Confirm availability of necessary third party utilities
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2. Operate mud pits	2.1. Align valves in pits to ensure correct pit usage 2.2. Confirm plugs are fit for operation 2.3. Seal or secure tanks 2.4. Set high and low alarms 2.5. Operate mud pit room ventilation system 2.6. Operate hoppers 2.7. Operate dust extraction system during mixing 2.8. Supervise forklifts operations 2.9. Store chemicals in appropriate storage area
3. Operate, maintain and repair mud conditioning equipment	3.1. Engage and/or adjust appropriate equipment as directed by supervisors or mud engineer 3.2. Clean all equipment and visually inspect for leaks and correct operation 3.3. Identify faults or potential faults, record and report to relevant personnel 3.4. Perform periodic or scheduled preventative maintenance on all mud treatment units
4. Monitor mud	4.1. Monitor and record mud properties and parameters 4.2. Set alarms to monitor mud 4.3. Check viscosity and weight of mud conform to specifications as directed by mud engineer 4.4. Maintain appropriate volumes and types of drilling fluids as required by well program or company 4.5. Use appropriate mixing procedures to obtain desired properties 4.6. Recognise warning signs of a kick, record and report immediately

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

RIIOGF302A Operate drilling fluids and mud pits

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 RIIOGF302D Operate drilling fluids and mud pits

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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 applicable documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of the operation of drilling fluids and mud pits including:
 - identifying, addressing and reporting potential hazards and risks
 - controlling identified hazards
 - carrying out emergency response
 - identifying, addressing and reporting environmental issues
 - preparing written records and reports
 - rectifying and/or reporting faults and malfunctions
- works effectively with others to undertake the operation of drilling fluids and mud pits that meets all of the required outcomes including:
 - complying with written and verbal reporting requirements and procedures
 - communicating clearly and concisely with others to receive and clarify work instructions
 - communicating clearly and concisely with others to resolve coordination requirements prior to commencing and during work activities
- demonstrates completion of the operation of drilling fluids and mud pits that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - recognising and reporting equipment malfunction or failure

- aligning valves in pits for operability and safety
- operating and servicing mud treatment equipment
- performing periodic or scheduled preventative maintenance on mud condition equipment
- operating and servicing transfer valve
- weighing mud and perform viscosity checks
- maintaining volumes and types of drilling fluids as required
- regularly monitoring pit levels, mud properties and cuttings size
- performing numerical calculations including:
 - mud viscosity
 - mud weight
 - volume
 - uphole velocity
 - quantities
 - pressure
 - water loss

Knowledge Evidence

The candidate must demonstrate knowledge of the following in applying the operate drilling fluids and mud pits through:

- accessing, interpreting and applying legislative, organisation and site requirements and procedures for:
- 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
- safe operating procedures when operating equipment
- understanding functions of the mud pits
- using warning signs of kicks
- applying troubleshooting techniques

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; 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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