

COGODR10 - SQA Unit Code D7X8 04

Prepare and run the drilling fluid conditioning cleaning systems



Overview

This unit is about the preparation and running of conditioning systems for drilling operations. It deals with setting up of systems to ensure that they function as required, starting, running and shutting them down correctly. This unit deals with the following:

- 1 Prepare The Conditioning System For Use
- 2 Run Conditioning Systems

Performance criteria

- You must be able to:*
- P1 established the running parameters for the conditioning system prior to start up
 - P2 made sure that the fluids, air and power sources needed for the system to work are available before start up
 - P3 checked that the **Equipment** is lined up correctly and in a fit condition for use before starting it
 - P4 checked that the equipment is running properly directly after starting it
 - P5 taken prompt action to rectify or report any equipment defects and shortages
 - P6 carried out basic equipment maintenance in line with specified procedures and schedules
 - P7 informed the relevant parties promptly and clearly prior to starting the equipment
 - P8 reported the system status to the appropriate person when satisfied it will meet operational requirements
 - P9 kept accurate records of all relevant information
 - P10 set the level indicators on the system to the correct point once it has been started and the fluid levels in the active pit have settled
 - P11 brought the system on-line and made sure that it functions effectively in accordance with instructions
 - P12 monitored system parameters on a regular basis
 - P13 informed the relevant parties clearly and promptly of any adjustments to the equipment that may have an effect on the pit levels
 - P14 responded promptly when the system **deviates** from specified operating limits, taking the right actions to restore it to the required state
 - P15 taken samples of drilling fluid regularly and accurately record the weight and viscosity of each sample
 - P16 brought the system off-line correctly in accordance with instructions
 - P17 shut the system down correctly in accordance with instructions
 - P18 worked safely in accordance with operational requirements and associated **Safe Systems of Work**

Knowledge and understanding

You need to know and understand:

- K1 the operating principles and function within drilling operations of the following drilling fluid conditioning equipment including shale shakers; de-gassers; centrifuges; hydrocyclones; mud guns
- K2 what effects start up and shut down have on active system levels
- K3 when different types of conditioning equipment need to be used according to the condition of the drilling fluid
- K4 what safety and environmental protection measures need to be taken into account in setting up mud conditioning systems
- K5 what are the key demands of national and international legislation applying to drilling operations
- K6 what types of mud are used in drilling operations
- K7 what the mud flow cycle is from source to discharge and return to the system
- K8 what limits apply to the operation of conditioning systems and how this may be affected by harsh or severe environmental conditions
- K9 what to do when things go wrong with conditioning systems, including what reporting and recording procedures to follow
- K10 what sorts of equipment defects should be repaired and adjusted immediately and when to replace or report the defective item to a senior member of staff
- K11 what the basic maintenance requirements are of mud conditioning systems
- K12 what the maintenance schedule is for the equipment
- K13 how to take, measure and record drilling fluid samples
- K14 what checks and monitoring must be undertaken when running the following equipment:
- K15 what actions should be taken as a result of changes to the weight and viscosity of drilling fluids
- K16 what types of fluids are used in drilling operations and what are their functions and limitations
- K17 what limits apply to the operation of fluid conditioning systems
- K18 what remedial actions need to be taken in the event of equipment failure; blockages; loss of power
- K19 what recording and reporting requirements need to be followed

Additional Information

Scope/range

During this work you must take account of the relevant worksite operational requirements, procedures and safe working practices AS THEY APPLY TO YOU.

- 1 How to use 'Safe Systems of Work' processes to identify hazards and mitigate or reduce risks to as low as reasonably practicable (ALARP)
- 2 How to select, use and care for PPE (to include sight/hearing protection, coveralls, coveralls, gloves, footwear, hard hats, respirators)
- 3 The implications of statutory (e.g. HASAWA and COSHH) and organisational requirements
- 4 How to interpret operational requirements (e.g. relevant policies, procedures, instructions, codes of practice, standards, schedules)

The following terms in **bold** relate directly to those shown in **bold** in the Performance Statements.

- 1 **Equipment** must include shale shakers; de-gassers; centrifuges; hydrocyclones; mud guns
- 2 **Deviations** must include minor deviations; significant deviations
- 3 **Safe Systems of Work** must include processes or systems that incorporate Hazard Identification, Risk Assessment, Permit to Work and any other associated systems.

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