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**Overview**

This unit covers a variety of drilling operations including the preparation of the drill floor, the make up and delivery of stands and the running of the shale shakers. This unit deals with the following:

- 1 Prepare The Drill Floor For Drilling Operations
- 2 Make Up Stands While Drilling
- 3 Run And Monitor Shale Shakers

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## Support drilling operations

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### Performance criteria

- You must be able to:*
- P1 obtained a clear specification of the **equipment** and tubulars that will be needed for the drilling operations planned
  - P2 confirmed that all necessary equipment is available on the drill floor
  - P3 made sure that necessary utilities and consumables are available on the drill floor
  - P4 selected the appropriate handling equipment for the work to be done
  - P5 checked and confirmed that the handling equipment to be used is fit for the work to be done
  - P6 promptly followed the authorised practices and procedures to deal with any equipment defects and deficiencies
  - P7 given effective assistance during the rigging up and putting into service of the equipment and handling equipment to be used
  - P8 established and maintained clear communications with all persons working on the drill floor
  - P9 checked and confirmed the equipment to be used is fit for the work to be done
  - P10 selected the correct stand and manoeuvred it safely and efficiently from the fingers
  - P11 delivered the stands into the elevators safely and efficiently
  - P12 used safe lifting and manual handling techniques
  - P13 obtained a clear specification of the shaker's running requirements for the planned drilling operations
  - P14 established and maintained clear communications with the driller
  - P15 correctly dressed and lined up the appropriate shale shakers for circulation according to the instructions given
  - P16 checked the calibration of scales and dealt promptly with any problems
  - P17 checked that the shale shakers are functioning properly directly after switching them on
  - P18 monitored and maintained the efficient operation of the shale shakers
  - P19 taken prompt action to deal with defects in the equipment and problems with the mud flow return
  - P20 promptly and accurately informed the driller of any circumstances which may affect the drilling operation
  - P21 taken and weighed mud samples at regular intervals
  - P22 reported mud weight accurately
  - P23 cleaned and shut down the shale shakers after use, leaving them in a fit state for next use
  - P24 carried out basic equipment maintenance in line with specified procedures and schedules
  - P25 worked safely in accordance with operational requirements and associated **Safe Systems of Work**

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### Knowledge and understanding

*You need to know and understand:*

- K1 what the function, limitations and operating principles are of tubulars and handling equipment used in drilling operations
- K2 what care and maintenance should be carried out on tubulars and handling equipment used in drilling operations
- K3 safe lifting and manual handling techniques
- K4 current practices and procedures relating to the inspection and maintenance of drill floor equipment
- K5 where the utilities and consumables needed for drill floor equipment are located
- K6 the types, sizes, identity and function of elevators; tongs; slips
- K7 why it is important to maintain good standards of housekeeping on the drill floor
- K8 what techniques are used to manoeuvre stands from the fingers and deliver them into the elevators
- K9 what the function, limitations and operating principles are of equipment found in the derrick
- K10 safety requirements when climbing and working up a derrick, including what safety equipment and PPE to wear and how to correctly adjust restraining equipment
- K11 what protocols are used when communicating between the derrick and the drill floor
- K12 what actions are to be taken in the event of a critical situation or emergency when working up the derrick
- K13 current procedures and practices relevant to working up the derrick
- K14 what the circulation route is of the mud through the shaker house to the main pits
- K15 what are the different types and sizes of shakers screens used and what torquing sequence and values should be followed when setting them up
- K16 what circumstances should be reported to the driller including an increase or decrease in flow rate; shaker cut-out; damaged shaker screens; increase in cuttings size; inability of the shaker to handle the flow/cuttings return rate
- K17 where spare screens and shale shaker reference materials are kept
- K18 how to identify which screens are in use on each shaker
- K19 what the basic maintenance requirements are of shale shakers
- K20 what safety precautions, practices and procedures apply

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### 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 elevators; mud bucket; tongs; safety valve/1BOP; slips; bushings; rig specific equipment (applies to automated or semi-automated rigs)
- 2 **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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**Originating organisation** Cogent

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**Relevant occupations** Retail and commercial enterprise; Warehouse and distribution; Process, Plant and Machine Operatives; Plant and Machine Operatives

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**Suite** Offshore Drilling Operations

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**Key words** Drilling, shale shakers, mud bucket, elevators, tongs, safety valve, risk assessment