

## SAFETY ALERT Rotary Rig wire ropes

### Event:

Whilst undertaking a rotary borehole a sub-contractor removed SPT rods when the wire rope of the service winch- failed causing the SPT rods to free fall down the borehole: all works were stopped pending investigation.

The investigation concluded operator error. The service winch rope was over wound causing an entanglement of the steel wire rope terminations in the sheave, shearing the wire rope. Additional factors leading to the failure was the application of a 5mm diameter steel wire rope instead of the winch manufacturer's recommended 10mm and incorrect application of the wire rope terminations, overtightening the grips as a calibrated torque wrench was not used. Evidence of a preplanned maintenance regime was not identified nor inspections pre or post use.



### Guidance:

The maximum load capacity of the winch should be clearly displayed on the manufacturer's plate of the winch, including the safe working load (SWL)- the wire rope- should be clearly identifiable on the feruled -end of the rope.

Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) determine that wire ropes must be inspected by a competent person at least annually. If the wire rope is being subjected to condition which are liable to result in dangerous situations a greater regime of inspection should be in place.

The BDA does not support the use of temporary steel wire rope terminations on a -service winch- of rotary drilling rig. Only the application of a permanent fixed -feruled termination is acceptable. Due to the requirements determined by LOLER the circumstances leading to the need for a temporary termination should not occur.

This event is preventable:

- ) Temporary steel wire rope terminations should not be used on service winches
- ) A steel wire rope should minimally equal the maximum load capacity of its winch
- ) Regular, documented, inspections must be carried out by the operator
- ) A Certificate of Thorough Inspection should be provided for each wire rope indicating:
  - o SWL
  - o the factor of safety applied
- ) A Certificate of Thorough Inspection should be provided for each winch indicating the maximum load capacity
- ) Certificates of Thorough Examination must conform with Schedule 1 of LOLER
- ) Inspection periods shall be appropriate to the lifting equipment and its use
- ) All loads subjected to the service winch -wire rope must be known in order to comply with LOLER