



## Petroleum Safety Significant Incident Report No. 03/2013

### Travelling block on work-over rig strikes derrick crown when derrickman in basket

#### Incident

The travelling block of a work-over rig struck the crown of the derrick. After the block hit the crown, the derrick tilted slightly away from the rig floor towards draw works, resulting in failure of the lock-down T-bar bolts for the derrick front supports. The derrick then returned to its original position.

The derrickman, who was in the rod basket (about 15 metres high at the time of incident), remained in position and braced himself as the travelling block passed the basket before colliding with the crown. Although the crown saver (a safety device) did not stop the block hitting the crown, it functioned to a level that prevented more significant damage.

No-one was injured.

#### Contributory factors

- The rig floor had been raised to increase access below and, this had decreased the derrick space.
- A risk assessment had not been conducted to assess the consequences of this operational change.
- Standard operating procedures (SOPs) were not rig-specific and failed to identify the requirement to consider stack-up height variances and travelling block tolerances.
- The rod-handling SOP, which required the driller and derrickman to establish hand signal communication during rod-pulling operations, was not followed.
- The driller deviated from the SOP by:
  - not pulling the rod out of the hole at a controlled speed
  - using a safety device as a work control device.

#### Preventative actions

- Conduct a risk assessment to evaluate the adequacy of existing controls, including procedures, when there are operational changes. For example, raising a rig floor may affect stack-up heights, rod set-back capabilities, rig floor positioning and travelling block tolerances.
- Rather than relying on a generic rig SOP, develop rig-specific SOPs. For changes that may have repercussions for other activities, ensure the consequences of those changes are considered and addressed in other SOPs as necessary. Alert affected personnel regarding any revisions.
- When undertaking an operation with changed circumstances, even where tasks are familiar and repetitive, provide regular reminders of the need to follow SOPs, particularly if recently amended.

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