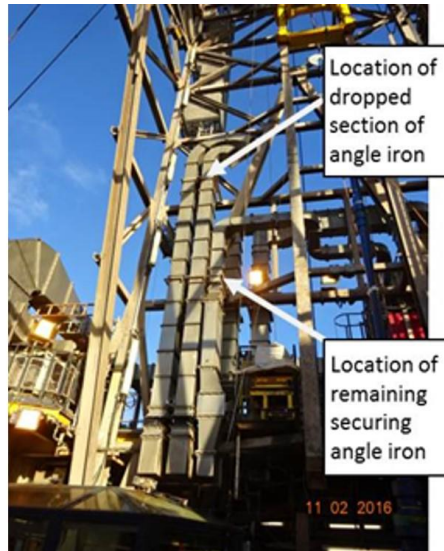


Dropped Angle Iron from Drill Floor Ducting Support



Description of Process:

During plug & lubricate (P&L) operations, a four-man team was on the drill floor breaking down a wireline toolstring.

Description of Incident:

A piece of angle iron weighing 7.75 kg, used to secure the draw-works exhaust ducting dropped from approximately 12m. The angle iron hit and smashed the re-enforced glass roof of the dog house, bounced 2m laterally (contacting one of the wireline team on their hard hat) and eventually landed a further 2m away on the drill floor.

Immediate Cause:

- the angle iron fell from the draw-works motor discharge duct after primary fixing bolts had either failed or worked loose.

Underlying Causes:

- Potential bi-metallic corrosion. Carbon steel bolts were used to secure the stainless steel angle iron section.
- The failed / loose bolts were not identified during inspection. The ducting inspection work order only called for a general visual inspection from drill floor level.
- The draw-works exhaust duct is not captured in the weekly derrick inspection as it is owned by the platform maintenance & operations team.

SAFETY ALERT

- Reliable securing practices were not utilised as evidenced by double nuts used on other parts of the structure.



Good Practice Guidance:

Lessons learned

- Carbon steel bolts must be adequately isolated from any stainless steel material to avoid the potential for bi-metallic corrosion.
- To identify failed / loose bolts; incorporate inspection of bolts in the derrick inspection.
- Clearly define responsibilities for maintaining / checking equipment.
- Level of inspection detail for support structures must be adequate and clearly defined in the work orders.
- Reliable securing practices should always be used.

Recommendations

- Review the top side inspection scope for HVAC and exhaust ducting to ascertain whether support structures are included and that the level of inspection is a close visual inspection. If not, amend accordingly.
- Inspect HVAC & exhaust support structures at height. Identify any deficiencies in the securing mechanism and rectify.
- Identify high risk areas on all platforms with regards to dropped objects and develop a scheme to mitigate the risk.
- Review dropped object picture books for all operating rigs. Ensure all items with a DROPS potential within the drilling package are included, regardless of maintenance responsibility. Rectify any omissions.