

Picker Mount Failure

SAFETY ALERT

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Enform

Enform is the health and safety association for Canada's upstream oil and gas industry. We provide leading health and safety training, programs and services, touching the lives of hundreds of thousands of workers each year. We are dedicated to the continuous improvement of safety with a vision of eliminating work-related incidents or injuries in the upstream oil and gas industry.

An Industry Product

This document was developed by industry for industry. Working collaboratively, Enform works with the submitting organization representative in developing these documents to improve the industry's hazard awareness. Canada's leading oil and gas industry trade associations support the use of shared information to help companies of all sizes improve performance.

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For more information on this event, please contact: safety@enform.ca

Description of Incident:

In April 2014 a truck mounted, 40 ton crane (Picker) had arrived on a new drill site location and set up to load out substructure matting. While lifting a sheet of matting, the turret bearing mount cracked and tore off, near the sub structure deck (see Fig. 1) of the picker truck causing the crane to collapse, which also bent the boom and damaged the matting (see Fig. 2). The crane cab did not completely overturn, as there was still support steel attached to the deck of the truck at the point where the crane bent over.

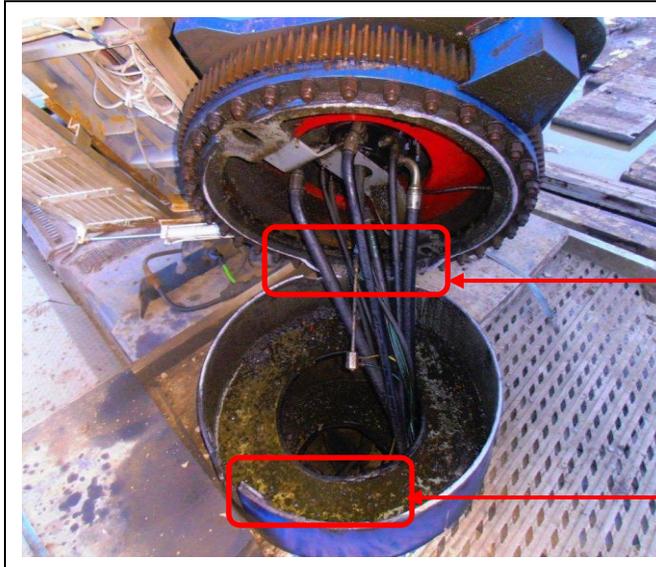


Figure 1

Turret Bearing Mount

Note: Incomplete separation of turret mount

Note: Rust in part of crack indicates pre-existing condition



Figure 2

Crane Collapse

By industry, for industry

Largely as a result of the crane remaining attached to the deck and not carrying the operator cab over, the crane operator did not sustain any injuries. Support crew followed the pre-job safety meeting outlined procedures, and were stationed well away from the lift zone, so no associated injuries were recorded.

What Caused it:

On investigation, a key consideration was whether the lift had overstressed the crane mount. The lift was found to be within chart and rated specifications for both weight and distance negating this as a cause.

All causes, immediate/system/root, lead back to the pre-existing crack not being noticed on the sub structure near where it attaches to the turret bearing mount plate. During the investigation it became apparent that this is an area that requires more attention than had been given during different levels of inspections. The area where the crack originated is only 6 inches up from the deck and very difficult to inspect on a pre-lift visual check. In addition, three different inspection companies reported this is a difficult area to Non Destructive Test (NDT) during the annual inspection. Other incidents with other operators were noted where this problem had been identified, but not adequately communicated to Industry.

Corrective/Preventative Actions Taken by Submitting Company:

- Challenge the inspectors when doing the annual inspection to complete a NDT on this area of the picker to identify any pre-existing issues.
- Thoroughly inspect the area between the bolt plate and the deck during pre-lift visual inspections.
- This incident will be shared with the Industry through Enform to be sure all are aware of this event and the importance of thorough pre-lift inspections.
- A management of change policy will be developed to initiate more research when new equipment is introduced to the work place to identify special concerns and mitigation procedures up front.

