

Elevator's strike Diving Board



At 4.30am on 14th April 2010''

Incident Description

- Driller had just completed POOH and laying out drill pipe singles.
- The next task was to start running racked stands in the hole to break and lay out. There were 6 stands of 5 ½ DP, 4" HWDP and 4 ¾ DC's.
- After running 4 stands of HWDP into hole the rig ran out of pipe dope.
- Because there was no pipe dope the Driller decided to use the Mouse hole to break the remaining stands.
- The 1st racked stand to be run into the Mouse hole (5th stand of 4" HWDP) snagged monetarily on the edge of the mouse hole as it was being lowered in.
- As the stand of pipe lowered in the Mouse hole the elevators hit the Diving Board causing significant damage.

Resultant Damage



Investigation Findings

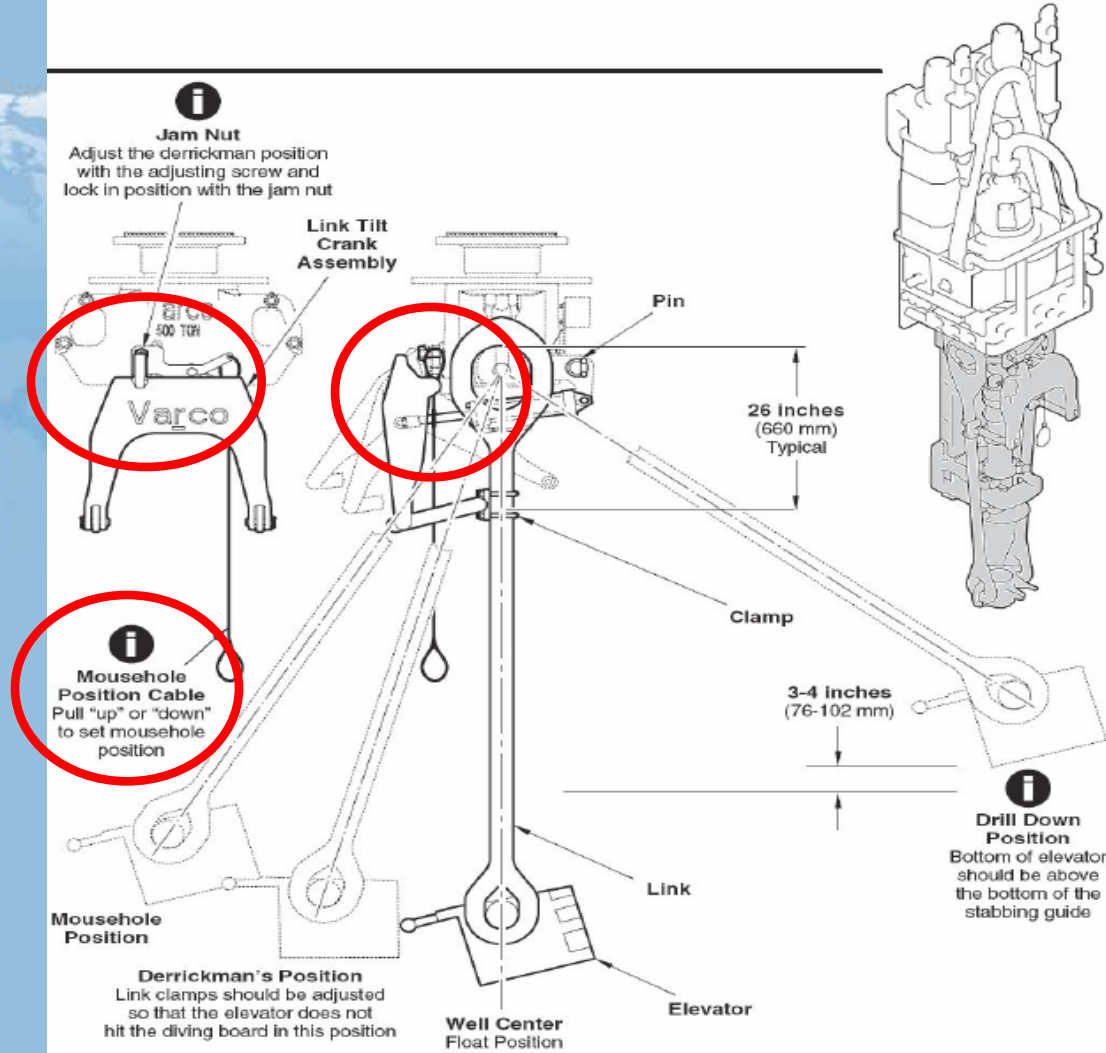
- The Driller changed the task when he ran out of thread dope because there was a risk of damaging the threads if dope was not used when making a connection whilst running HWDP in the hole.
- The well was nearing completion and the rig was reducing consumable stock holdings on the rig prior to stacking. 6 drums were ordered and received on the 2nd March. Rig was released on the day of the incident.
- Pre Job Meeting was held and procedure “Laying out Single Joints of Drill Pipe while POOH was reviewed. Did not refer to using Mouse hole.
- JSA – “Break Down stands in the Mouse hole” The JSA did not mention the hazard of striking the Monkey Board.
- Inspection after the incident showed the camera at the Monkey Board was orientated towards the back of the Monkey Board not towards the elevators.

Investigation Findings cont;

- Statements said the bails were not retracted prior to lowering the stand.
- Using the Mouse hole to break HWDP is only performed sometimes and would not be considered a routine task.
- The Adjusting Screw and Jam Nut were not installed on the Link Tilt. The Jam Nut stops the bails from being extended to the Mouse Hole during normal operations
- The Planned Maintenance System inspection does not specifically refer to the Jam Nut or Adjusting Screw in any inspection. The OEM does not indicate it should be part of an inspection routine.

Link Tilt – Jam Nut

Adjusting the link tilt



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Link Tilt – Jam Nut cont;

- One of the original Mechanics still with HAES stated that the Jam Nut and Adjusting Screw were intact when the rig was first commissioned late 2007.
- The earliest photo that can be found with the Jam Nut and Adjusting Screw missing was taken 9th January 2009.
- National Oilwell Varco Top Drive Service Manual states “Jam Nut – adjust the Derrick man's position with the adjusting screw and lock into position with the Jam Nut adjusting screw and lock” There is no mention of ongoing inspections.
- NOV Safety Alert dated 21st January 2010 about TDS8 and Jam Nuts breaking off.
- MR was raised for new Jam Nut and Adjusting Screw on the 25th March 2010.

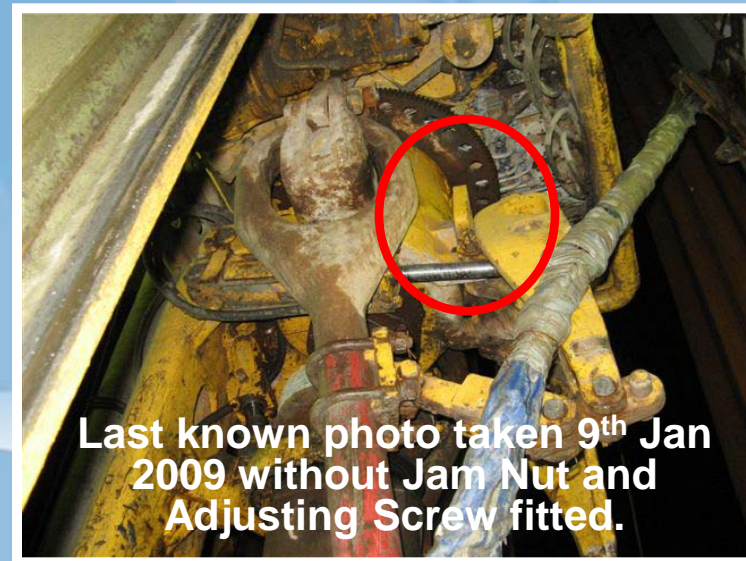
Photo taken China
August 2007



Where Jam Nut and Adjusting
Screw should be



Last known photo taken 9th Jan
2009 without Jam Nut and
Adjusting Screw fitted.



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A World of Difference

What changed? – Stop the Job TRIGGERS

There were 3 noticeable events which if different could have prevented this incident.

1. The removal of the Jam Nut and Adjusting Screw. Removal should have been documented – Management of Change.
2. Running out of thread dope. There should have been sufficient stock of thread dope – stocks should have been monitored, and
3. Changing job to use Mouse Hole instead of hole centre. Job needed to be reassessed

Conclusion

- There was one change that happened during the task which if it had not taken place the incident would not have occurred (in this instance). The Driller opted to use the mouse hole to break down the stands into singles and then to lay out sideways because the thread dope had run out. This changed the task and the mode of operation required by the driller.
- The Investigation team concluded that the jam nut and adjusting screw had been removed from Rig 103 some time between the first commissioning in December 2007 and prior to the 9th of January 2009 (approximately a 12 month period) and that the rig continued to operate without this safety control in place as a normal practice. The investigation team has been unable to find out any further detail when or why the link tilt jam nut was removed or for what reason.
- Given that the Investigation team considers that the drilling crew knew that the link tilt jam nut was missing, it can only conclude that the driller involved in the incident made an error by extending the bails too far and then did not retracting the bails prior to lowering the stand into the Mouse hole and this caused the elevators to hit the diving board.

The team considers the removal of the jam nut/adjusting screw and the acceptance to operate without this control in place is the root cause of the incident.

Remedial Actions

Action	Status
Raise an Equipment Failure Report for the repair of the Diving Board/Monkey Board so that repairs are tracked through repair to completion.	EFR raised. Material ordered and received. Waiting on opportunity to repair.
Conduct inspection i.e. MPI of all repairs undertaken to damaged Equipment	Awaiting repairs
Add the inspection of the Jam Nut and Adjusting Screw to all PM inspections.	Completed.
Ensure Jam Nut is fitted prior to rig commencing next contract. Add to Pre Spud Inspection.	In progress
Review "Layout Sideways" JSA and include all learning's from this incident.	Completed.



Thank you

Any questions