



Safety Alert

From the International Association of Drilling Contractors

ALERT 09 – 07

FAILED “O” RINGS RESULT IN DROPPED DRILL STRING

WHAT HAPPENED:

The rig operation was back reaming. During this operation, the air supply to the drum clutch of the draw works suddenly bled off, resulting in the top drive along with the drill string to moving down approximately 10 feet (4-meters). The drill pipe elevator came in contact with the rotary table resulting in damage to the bails and the link tilt hydraulic cylinders.



Damaged equipment



Re-Set Valve



Failed brittle “O” Rings

WHAT CAUSED IT:

Combination of leaking o-rings and the tattletale hole being plugged. The o-rings were found to be brittle and allowed air to leak by the shaft into the end cap. The tattletale hole was found to be plugged and caused the pressure to build up in the end cap exerting pressure against the end of the valve stem inside the body and shifted the valve into the vent position which shut off the air to and dumped air from the drum clutch.

CORRECTIVE ACTIONS: To address this incident, this company did the following:

1. As an immediate corrective action, the o-rings were changed on this valve.
2. Rig supervisors were instructed to install a keeper pin on the drillers console to prevent the reset handle from moving into the vent position without removing the keeper pin. This can be accomplished by welding a pin tab on the drillers console on the first rig move.
3. Contact the valve manufacturer and inform them of the incident and see if they have had a similar incident in the past.
4. Maintenance manager is to obtain the recommended maintenance and inspection procedures from reset valve manufacturer and add the procedures to the company’s Preventive Maintenance System.

The Corrective Actions stated in this alert are one company’s attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.

This material is presented for information purposes only. Managers & Supervisors should evaluate this information to determine if it can be applied to their own situations and practices

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