



# Safety Alert

From the International Association of Drilling Contractors

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ALERT 10 – 34

## FATALITY OCCURS DURING OFFLINE CEMENTING OPERATIONS

### WHAT HAPPENED:

The operation at the time of the incident was rigging down the cementing head and bonnet. It is believed that the crew started rigging down the ancillary parts of the cement head (hoses and a “T” piece) some hours before the final rig down job commenced. As part of this preparatory work the lower valve on the cement head was closed to prevent fluid leaking onto the deck after the return line was drained. This valve remained closed until the time of the incident. During the time between the closure of the valve and the removal of the cement bonnet, pressure continued to build up in the system due to the effects of thermal expansion from the cement job. The calculated pressure build up within the system was more than 140 psi. Later the Well Head Engineer (WHE) went to the dog house with the JSA (Job Safety Analysis) for the ‘Installation of the Xmas Tree’ (which followed the rigging down of cement head activity). The WHE discussed the JSA with the Tourpusher, who told the WHE to wait until the cementing supervisor arrived, so that all parties were present and the JSA could be conducted for all elements of the task, beginning with rigging the down of the cement head.

While waiting for the cementing supervisor, the WHE met with the Assistant Driller (AD), who was the supervisor responsible for assisting both Service Companies with the manpower and lifting capabilities for rigging down the cement head / bonnet and installation of Xmas tree. They went through the WHE’s JSA and then proceeded to the production deck and the well head in question. Prior to the arrival of the cementing supervisor and prior to conducting the pre-job meeting, the locking nuts from the cement bonnet were all released. There was no check and the personnel did not recognize that it was under pressure. As the last locking nut was loosened, the bonnet and cement head released from the well (pushed upwards) and toppled towards the AD, pinning him between the annulus valve on an adjacent well and the cement head. The AD was severely injured and passed away shortly after.

### WHAT CAUSED IT:

- The JSA was not conducted with all participants in the task.
- The valve was not opened to ensure there was no pressure on the cementing head.
- Pressure build up was not checked prior to removing the locking bolts.
- The WHE began the task after being told to wait until the cementing supervisor was on site.

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

- No work shall start before all involved personnel are present and the pre-job is undertaken (incorporating JSA / TBRA (Task Based Risk Assessment) and detailed job instruction).
- Complex tasks that involve multiple parties need to be properly planned and systematically undertaken through the use of detailed work procedures.
- No critical task process shall be modified without the Management of Change process being followed and communicated to all affected personnel.
- Assume that equipment with a capacity to be under pressure or energized is in that state until you can prove otherwise.
- Compliance with and effective use of the Pre-Job Meeting methodology and use of the 4-Point Check / JSA / TBRA process is the duty of every individual and a condition of employment.
- JSA’s are not a substitute for Detailed Instruction Guides; they are a supplement to the guides.
- Every Critical Task requires a Detailed Instruction procedure.

**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.**

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Issued December 2010



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Photo 1 – approximate Crush points between annulus valve and valve (1) on cement head



Photo 2 Position of head during impact



Photo 3 damage to Hard Hat

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