



# Safety Alert

From the International Association of Drilling Contractors

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ALERT 03 – 49

## CHEMICAL BURN

### WHAT HAPPENED:

The crew was running pipe into the hole and drilling fluid came out of the pipe as they ran a stand in. An employee reported to the Driller that he had drilling fluid splash onto his legs. The Driller advised him to wash the area with water and to change clothes. Prior to leaving location, at the end of tour, the employee reported to the Rig Manager who looked at the contacted area and noted some redness on the employee's legs, but it did not appear to him that chemical burns existed. The employee left location after tour to go home and on his way, he felt increasing pain on his legs and went to an emergency room for treatment. He was treated for first and second degree burns, received pain medication, and he was admitted to the hospital for continued treatment of the chemical burns. The drilling fluid contained calcium chloride.

### WHAT CAUSED IT:

A Root Cause Analysis (RCA) was conducted and the Key Factors, which resulted in the incident along with Action Items to prevent recurrence, were addressed.

1. Ineffective communication of operation/hazard. Supervisors did not follow through with specific instruction to crew regarding PPE. No MOC for change in operations JSA procedure was not followed; i.e. no specific JSA written
2. Employee did not have a change in clothing. Employee orientation did not include having a change of clothing handy
3. Because the hazard was not recognized, the employee was not wearing a slicker or chemical suit when the fluid came out of the pipe. The well was not slugged adequately due to lack of material to do so.
4. Employee did not wash off the chemical properly. Employee was told to change, but since he had never been burned with this chemical did not follow instructions fully. In addition the crew was not experienced with this chemical and there was no JSA specific to the use of Calcium Chloride.

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

All Districts, Drilling Superintendents, should review the Action Items and conduct surveys on their rigs to determine if similar conditions exist. Based upon the survey results, they should develop an Action Plan for submission to their District Manager and / or District Superintendent to prevent recurrence.

1. Action Item: Develop a MOC for using calcium chloride solutions. Reinforce to supervisors to follow up and ensure compliance with procedure developed from the MOC
2. Action Item: Include a discussion in orientations with new hires about having a change of clothing handy.
3. Action Item: Order enough fluid for slugging, prior to commencing the trip. Remind driller and crew to be prepared for the unexpected.
4. Action Item: Write specific JSA to include MSDS review.

**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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