



Safety Alert

From the International Association of Drilling Contractors

ALERT 08 – 02

STANDPIPE PRESSURE GAUGE THREAD NIPPLE FAILURE (UNDER PRESSURE)

WHAT HAPPENED:

The rig crew was reaming back to bottom after making a connection. The hole fill was encountered before the kelly bushings reached the table, so the driller rotated the string with the kelly spinner to clean out the fill. While lining up the table and kelly bushings, the mud pump pressure spiked and simultaneously the mud pump “pop-off” (pressure relief) valve blew. At the same instant the stand pipe pressure gauge blew out of the standpipe. The pressure gauge glanced off the “A-leg” and struck a worker who was cleaning the breakout tong dies. The worker received a laceration to the head, three broken ribs, a fractured shoulder, and a collapsed lung.

WHAT CAUSED IT:

The investigation determined that the two inch nipple had only three threads buried (threaded) into the standpipe receptacle.

CORRECTIVE ACTIONS: To address this incident, this company instructed rig personnel the following:

1. Rig supervisors are to review this incident with all crewmembers.
2. Rig supervisors are to ensure crewmembers know how to properly install a high pressure nipple and / or attachments (i.e., gauge, nipple, blow-plug, “T-junction’s”, etc.).
3. When installing or repairing a high pressure line and /or attachments, this task must be supervised by the Rig Manager or Driller to ensure proper nipple selection and installation.
4. Inspect all high pressure lines and fittings to ensure the correct amount of threads have been “buried” (threaded) into the receiving receptacle.
5. A new standard for high pressure lines and fittings will be implemented at a later date within company.

Standpipe receptacle



Only three threads were buried into the receptacle on the standpipe.



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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IADC Note: Thread Engagement per Marks' Standard Handbook for Mechanical Engineers

“The normal amount of thread engagement necessary to make a joint for ANSI Standard Pipe Thread joints as recommended by Crane Co. is as follows:”

Size of Pipe, inch	Length of Thread, inch
1/8	1/4
1/4	3/8
3/8	3/8
1/2	1/2
3/4	9/16
1	11/16
1-1/4	11/16
1-1/2	11/16
2	3/4
2-1/2	15/16
3	1
3-1/2	1-1/16
4	1-1/8
5	1-1/4
6	1-5/16
8	1-7/16
10	1-5/8
12	1-3/4

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