

From: Hill, Trevor
Sent: Tue May 18 12:28:35 2010
To: Wood, Douglas G
Cc: Lockett, Tim
Subject: RE: Further uploads to sharepoint
Importance: Normal

Doug

Good morning

We have thought about scenarios, but the only modelling done has been on orifice size restrictions (which we can place anywhere in the system) and elevation.

I have embedded some comments below on your three proposed causes, and then added the scenarios I was envisaging as follow...

1. Debris accumulated upstream of narrowest section of kink (cement, pipe, sand), and just downstream of mud boost line pressure measurement... though why did this debris accumulate after the riser had fallen, when it had been two days since the first flow?
2. Drill pipe tangled in riser... possible in theory... some drill pipe out of open end, some drill pipe believed to be upstream of kink (but what size?) ~4500 ft upstream, and total of ~8800 ft to account for
3. Second kink, in buried section

Open to ideas about how to model, but I feel still too many assumptions would be needed.

Regards

Trevor

From: Wood, Douglas G
Sent: 18 May 2010 03:19
To: Hill, Trevor; Lockett, Tim
Subject: RE: Further uploads to sharepoint

Trevor, Tim,

I have scanned through some of the uploaded data but have not found anything that directly discusses the scenarios for the riser. The work seems to demonstrate that the kink is unlikely to be the cause of the pressure loss in the riser section, but does not identify an alternative cause for the ~400 psi differential seen by the pressure measurement.

I can think of three causes:

- 1) Flowrate is much higher and the kink is the cause of the pressure loss - kink as modelled by mechanical folk (Julian) does not impose much restriction on flow for any conceivable flowrate, especially if no pipe is in it
- 2) There is another restriction in the riser downstream of this point which could be an extended narrowed section and specific construction - agreed... Could be a more severe kink in the buried section, or thousands of feet of twisted drill pipe
- 3) The pressure measurement accuracy is very poor leading to an incorrect assumption of pressure loss across the riser section - Would need to be a few tens of psi if only hydraulic, rather than a few hundred as measured, and it is a dP gauge, not absolute... If the hot tap for collection is pursued there will be a measurement of pressure at that location... This may be downstream of first buried section so we might miss the cause of the dP. We have the option of pushing for a small hot tap in a different location to take pressure downstream of kink and upstream of first buried section - there is a tool that drills then self taps, carrying a stab-in connection that the dispersant guys were talking about using.

Have each of these scenarios been tested with the modelling conducted to date to determine whether any can be discounted? I feel at the moment that without any further clues/information (second kink, or another collapsed section, better estimate of flowrate) then modelling will need such big assumptions that we determine the answer by

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the assumptions
Any thoughts?
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From: Hill, Trevor
Sent: 18 May 2010 00:12
To: Wood, Douglas G
Subject: Further uploads to sharepoint

Doug

The work by Oris is in Still and Video Observations... catalogue of changes to leaks appearances

Most diagrams are in Drawings and Schematics

Most hydraulics docs are in Hydraulics but I need to sort/file them into smaller groups

Regards

Trevor

Trevor Hill

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