

Bob Kaluza Interview- Wednesday 28th April 2010.

Bob was doing a short 5 day trip on DW Horizon. The regular WSL was attending well control school. Bob was due to finish his trip on the next morning following the event.

I was a substitute, assigned to Thunderhorse which was having some upgrades done.

I didn't know the background to the well - arrived on the 16th and was due in the next morning. Had been on DW Horizon around 8 or 9 years ago to learn about deepwater operations, had been an observer for around 9 months. At that time the guys said they had a well from hell - when I came back they said this was the second well from hell.

Everything was in good shape when I got there. I arrived just after running casing.

First job on tour was to convert the diverter - then we had problems shearing out the floats.

I did the diverter sub - Don did the cement job. We had an Alloman hand on the rig. Did not have a Weatherford hand for shearing out the floats.

To shear out we had to gradually ramp up - I called town as I wasn't sure how high to go (Weatherford said 7 - 800 psi). I called 2 times and spoke to John Guide. Got the OK to go higher went to 3000 then sheared out at 3124 psi.

Pressured up at 1 bbl/min told the Doey as soon as it takes pressure take it real easy. It was a very sensitive formation.

After shearing kept going at 1 bbl/min and had 128 psi. My opinion is that after it sheared the flow came back real quick. I said "Wow look at how much fluid we got back"

Halliburton had modelled that at 4bbbls /min pressure should be 570 psi.

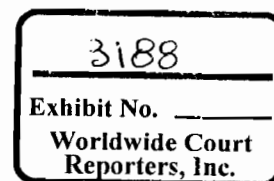
Ramped up in 1 bbl increments slowly to 4 bbl/min at 350 psi.

I said "that is odd you guys this is very low".

This was 14ppg at 18000 ft.

Switched pumps from number 3 to number 4 took 205 psi to break over then at 4 bbls/min had 390 psi. That was an anomaly. I discussed it with John Guide and Keith Dagle. John said pump cement.

I went off tour - the cement job went well - got the lift pressure.



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During the wiper trip before running casing got 1120 units of gas in a 3000 unit system. That was the maximum gas we got off bottom - went back to background gas and pumped out of hole for a while.

We did not circulate bottoms up before the cement job. The program called for 1 1/2 times the drill pipe volume - it didn't call for bottoms up from the shoe to surface before the cement job.

Steve asked about the cement job differential - I would think it would be close to balance. Of course the cement will be slightly higher on the back side. Did not flow back much - there was a limit of 6 barrels.

I came on tour when we were getting ready to run in hole for the positive and negative tests.

From openwells it looked like everything went ok.

I set the slips on the casing but it all went just right. Everything landed out 5 feet deep. The note said the actual depth was 5 foot deep. It sheared just fine and the seal set properly.

Running in hole with tapered drill string -
821 ft of 3 1/2" open ended then 5 1/2" and 6 5/8"

Went to 4900 and did the positive test.

Closed the blind/shear rams and pumped down the kill line. - 250 and 2500 psi for 30 minutes. 6.7 bbls to 2700 then settled rock solid. Discussed with Mark - the subsea guy. Don't know if they pumped through the kill line.

Then ran in hole to 8367 ft at around 15:00 hours.

I thought there would be attorneys hear.

The permit was modified for the surface cement plug. It was a different sequence. While running in the hole I was in the office and Hafle called to ensure I had seen the modified APM. Brian was on the rig sleeping as he was on the cement job. Mark called to go through the ADP - said I should talk to Brian so I went to wake up Brian. The team in town wanted to do something different - Mark was on vacation.

They decided we could do the displacement and negative test together - don't know why - maybe trying to save time. At the end of the well sometimes they think about speeding up.

Bob showed us his copy of the bullet point program.

Mark was out of the office and the team got together and discussed doing it as per the bullet points. The town team had decided to do it differently - Brian said he would talk to Mark.

It sounded to me that the team including John had decided this.
In this case we just went and did it this way.

I went to the rig floor. Did the positive test. Ran in hole to 8367ft.

Went through the mud engineer's displacement program n the rig floor. On Thunderhorse we've done many displacements - we went through this - I had a couple of questions. I asked Wymen if he was comfortable. I wanted to go and do the plug calculations with the cementers.

I left the rig floor.

The displacement program - boost line then the choke line.

Steve started to do a drawing of the BOP then Bob took over. He couldn't recall how many choke lines there were said he was sure it went to the lower choke.

Boost line was 73 barrels
Choke and kill lines 100 barrels each.

Procedure was to pump the volume then close valve with the BOP open. There were no problems with this.

These were long term crews had said they had done this many times Wymen went through the procedure.

I went to the office and did the cement calcs - typed up an 8 - 10 page procedure.

When finished I went to the rig floor. They (Wyman) was filling the riser. The spacer was above the top annular. Open down the drill pipe - the kill and choke lines were closed. It appeared to me the displacement was finished and they were filling the riser. I don't know why they were filling the riser - they were topping it off. One guy was watching it with a flash light. There was 1260 psi on the drill pipe.

Nothing had been bled off that I know of - Randy and Lee were there.

Randy said we always did the negative test on the drill pipe. By the ADP we said we would do it with the kill line. We discussed ways of doing it.

Discussed 1260 psi - we may have a little tube pressure - we'll bleed it. The way we were hoked up - cement stand to cement unit. Called Vance on the cement unit to bleed off - there was 1262 on the digital gauge.

If this is comprising of fluid it will bleed off quickly and it did. Bled to 0 with 15 barrels. We can hold this and we have a negative test.

We then looked at the pressure recording chart and discussed the bleed offs

I had assumed they had just shut down (when arrived on rig floor). Had 1262 psi - bled to 0.

We discussed the kill line thing (lack of pressure). I said we need to monitor on the kill line. Let's open the kill line and see what happens - it started to flow. The cementer called and said it had started to flow I said shut it in we could have an overbalance. I will talk to Don and see what he wants to do.

I think they closed the IBOP. Bled 3 - 4 barrels off the kill line and I told him to shut it in.

I went downstairs and Don was up. I told Don what was happening. It may be underbalanced