

Dear. Dr. David Borthwick, submissions@montarainquiry.gov.au

Further to submission **SUBM.1810.0001.0001** Labrador HoldingsWA Pty., Ltd there are a couple of urgent matters which I think should be raised, as the inquiry is veering quite far from the actual TOR because of technical misunderstandings. I hope that I can point them out so as to ensure that TOR 1 is actually achieved. The original statement in the hearings were that the issue was not so much on what people did but to determine the root cause of the event.

The first point relates to the "normal pressure" of the reservoir. Professionally, when reference is made to the SG (specific gravity) of the fluid in relation to formation pressure it is meaning the density where a gradient applies. It should for example be said that the formation pressure has 1.4 SG EMW (equivalent mud weight) at a designated depth. For any reservoir, the highest EMW is at the top of the reservoir and the greatest overbalance is at the bottom of the reservoir. For this to be fully understandable to all parties in the hearing, and this includes PTTEP as they also do not understand the way the term is used, an interactive multimedia model should be played to demonstrate what the overbalance was at each point in the reservoir. It will be shown that the treated seawater was adequate to prevent the formation fluid from flowing.

The second point is in relation to why the kick occurred. It can again be modelled so that all parties can see what led to the uncontrolled flow. The talking in ignorance of the true happenings is resulting in the inquiry being carried away on issues that are not relevant to the root cause.

Barriers are important and the behaviour of personnel when they do not have all the facts is indeed a concern. Those on the Montara H1 operation are not that different than on other operations globally and having insufficient experience and tracking / mapping process is a major hazard. Ensuring that there are adequate competent personnel is a major step the regulatory function could play a role in, and indeed, hopefully, after this inquiry they will staff up with adequate systems and expertise to be on top of the hazards that are encountered in oil and gas drilling and completion operations.

In this case, all parties got disoriented on every issue that was occurring during the casing job. There will be a lot of red faces when it is understood what actually occurred leading up to this event. Note that recently Woodside had a dynamically positioned deepwater drilling unit working in WA and took a kick where gas migrated to the BOP and became ice hydrate. It hydrates plugged the choke and kill lines on the subsea BOP. Because of the "secrets" in the industry, there will be no learning from this and no understanding how this event can be avoided. That recent incident is actually quite aligned with what happened on the Montara H1 well and can lead to a repeat of such an experience if the root causes of such loss control is not made evident.

It can be verified that "gas" entered the casing when the float equipment failed... Gas was at the casing shoe area even though all the cement had been displaced out of the casing into the annulus and the shoe was in the oil leg 4 m above the oil /water contact.

The hearing must bring this to light. Unfortunately there is not sufficient expertise or transparency in information sharing at the hearing to achieve TOR1 at this point.

The only way to really demonstrate how the gas got into the casing when the floats failed is to do a simulation, a digital model.

There will be more events like this if it is not demonstrated what happened. The gas came in with the 7 bbls of influx when the floats failed. The shoe fluid was already channeled at this time. The over displacement would have increased the channel but it may also have been adequately contaminated with gas to where open channels existed.

There is little benefit to putting emphasis on the "wet shoe" theory due to the pumper displacing more than the flow back volume. It was a mistake, but not the root cause of the flow is in the cementing practice followed by PTTEP and other operators. The West Australian Regulatory Group passed on to your inquiry the fact that channeling does occur on cementing displacement when casing is in inclined or horizontal well bores. They do not yet understand why gas gets into the channels in such reservoirs as on Montara H1.

What occurred with the gas that came in with the initial float failure is that it slowly migrated up the casing. When in horizontal conditions this migration up the casing would be very slow. What did occur is that it finally got close enough to surface (atmospheric pressure) where the "burp" was pushing a hydrostatic column of fluid out of the casing. THIS is what created the under balance, and the well began to flow.

THE ONLY way everyone will realise what has created this situation is to make a model of the event on a simulator. There are practices being used BY ALL OPERATORS GLOBALLY that is leading to such loss control events. It is a responsibility of you, the commissioner to bring adequate expertise and tools to this inquiry so that there can be learning's for both the industry and regulatory groups, to never have another uncontrolled flow, onshore or offshore.

I hope my comments are useful. I would like to point out that the email address on the Labrador HoldingsWA letter head is no longer operable. Please substitute [REDACTED] for [REDACTED] (RECCALL = [REDACTED] responsibility centred computer aided lifelong learning). My mobile is [REDACTED].

Sincerely yours,
Wayne A. Needoba,
Managing Director
Labrador HoldingsWA Pty., Ltd
Trustee for the Well Planning Trust