



Montara Oil Spill: "A failure of sensible oilfield practice"

Posted by [Phil Hart](#) on December 8, 2010 - 11:25am



While BP's deepwater spill in the Gulf of Mexico was worldwide news for months, the worst incident of its kind in Australia in August 2009 also leaked for 74 days before the well could be brought under control. Yet in Australia media interest was muted after the first few days and most people even here would have forgotten that it ever happened. Nobody seems to care if you don't have a household name like BP?

An inquiry was completed in [August 2010](#), but [the report](#) has only now been released along with the [Government's response](#). This post provides a summary of the incident and findings, primarily based on the Inquiry's Report.

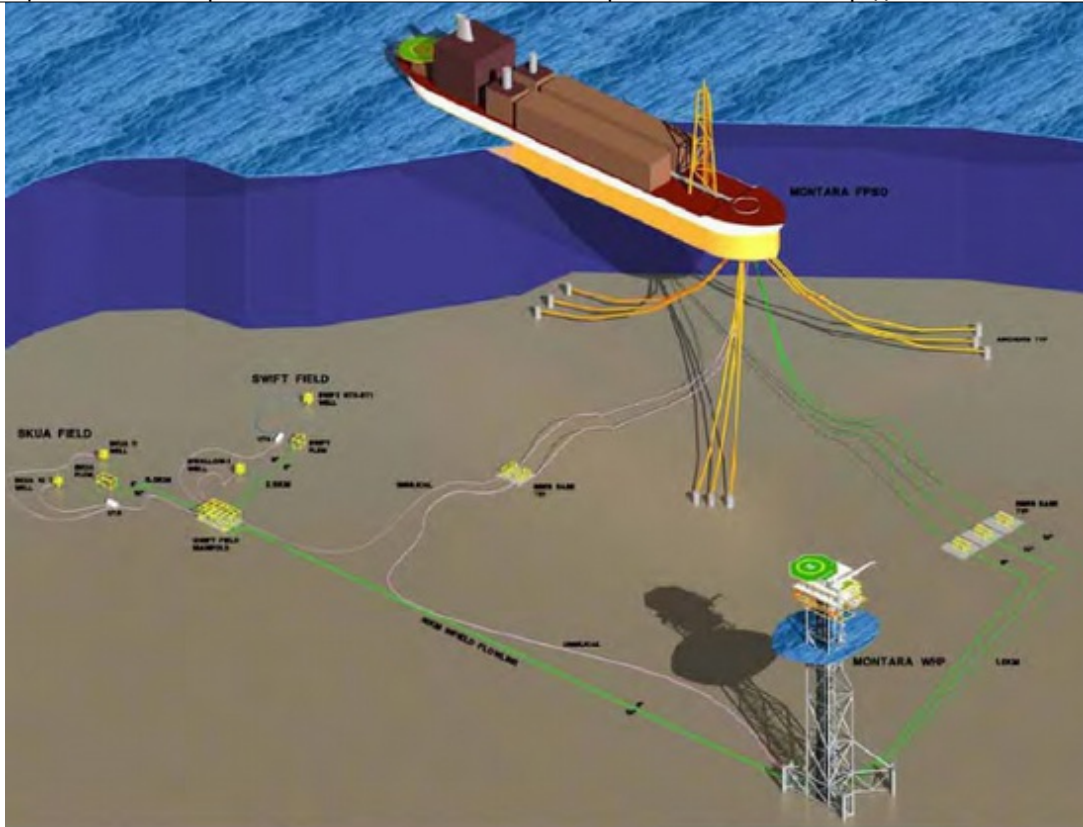
Background



The Montara Development Project is owned and operated by PTTEPAA, a subsidiary of the Thai company PTT Exploration and Production Public Company Limited (PTTEP). The Development is located in a remote area of the Timor Sea, approximately 250km north-west of the Western Australian coast, and almost 700km from Darwin.

The Montara oil spill occurred after a blowout and fire on the Montara wellhead platform. The blowout occurred on the H1 well on August 21, 2009 while the West Atlas jackup drilling rig was operating over another well at the time. Sixty-nine workers were safely evacuated from the drilling rig. The leak continued for 74 days, until an intervention well was successful on its fifth attempt on 3rd November and mud was pumped in to 'kill' the well.

The Thai operator estimated that the flow of oil may have been between 1000-1500 barrels per day in the early stages and declined to 400 barrels per day later. In total it is estimated that 30,000 barrels were spilled (plus presumably a good deal of gas and/or condensate). The total surface area over which oil or sheen was observed at one time or another was around 90,000 square kilometres.



The Incident

From the inquiry: at the time the H1 Well was suspended in March 2009, not one well control barrier complied with PTTEPAA's own Well Construction Standards (or, importantly, with sensible oilfield practice).

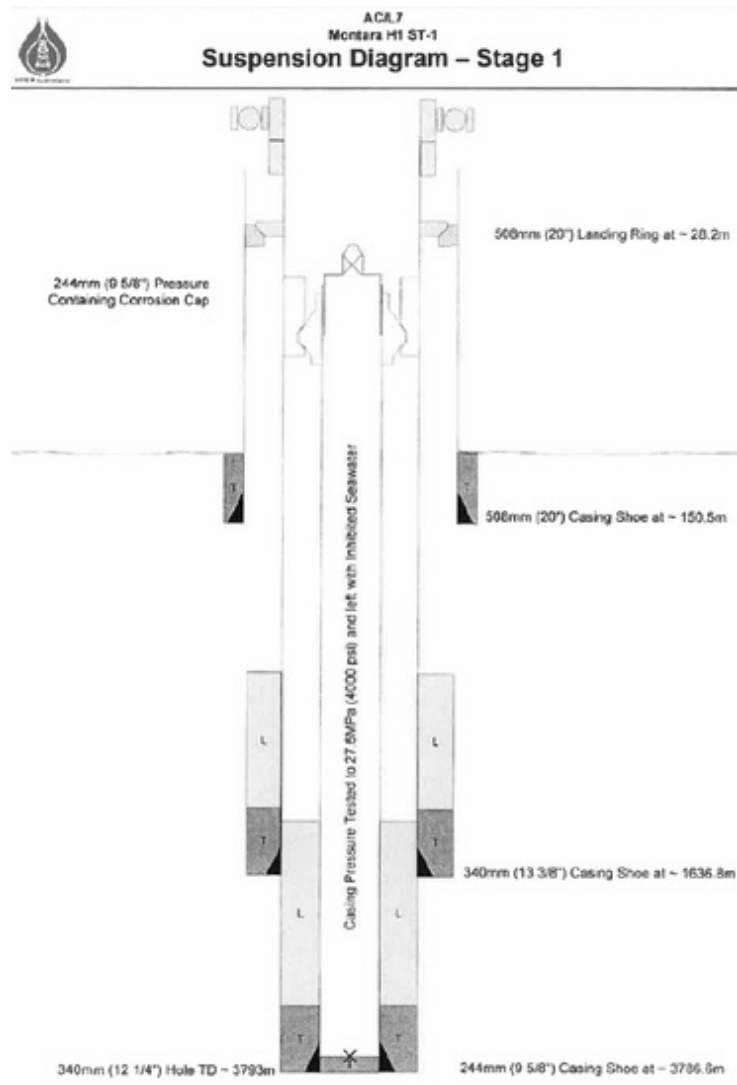
Relevantly, the 9⁵/₈" cemented casing shoe had not been pressure tested in accordance with the company's Well Construction Standards, despite major problems having been experienced with the cementing job. In particular, the cement in the casing shoe was likely to have been compromised as it had been substantially over-displaced by fluid, resulting in what is known as a 'wet shoe'. None of this was understood by senior PTTEPAA personnel at the time, even though the company's contemporaneous records, such as the Daily Drilling Report (DDR), clearly indicated what had happened. The multiple problems in undertaking the cement job – such as the failure of the top and bottom plugs to create a seal after 'bumping', the failure of the float valves and an unexpected rush of fluid – should have raised alarm bells. Those problems necessitated a careful evaluation of what happened, the instigation of pressure testing and, most likely, remedial action. No such careful evaluation was undertaken. The problems were not complicated or unsolvable, and the potential remedies were well known and not costly. **This was a failure of 'sensible oilfield practice 101'.**

As at April 2009 when the H1 Well had been suspended and the West Atlas rig had departed from the Montara WHP to undertake other work, not one well control barrier in the H1 Well had been satisfactorily tested and verified, and one barrier that should have been installed was missing. In other words, the H1 Well was suspended without regard to PTTEPAA's own Well Construction Standards or sensible oilfield practice.

When the West Atlas rig returned to the WHP in August 2009 it was discovered that

the 13^{3/8} " PCCC (pressure containing anti-corrosion caps) had never been installed. The absence of this PCCC had resulted in corrosion of the threads of the 13^{3/8} " casing and this, in turn, led to the removal of the 9^{5/8} " PCCC in order to clean the threads. This was viewed by PTTEPAA personnel as a mere change of sequence that simply involved bringing forward the time of the removal of the 9^{5/8} " PCCC. PTTEPAA's Well Construction Manager, Mr Duncan, took a positive decision not to reinstall the 9^{5/8} " PCCC. **This meant that, according to PTTEPAA's operational forecast and drilling program, the H1 Well would have been exposed to the air without any secondary well control barrier in place for some 4 to 5 days, with sole reliance on an untested primary barrier (the cemented 9^{5/8} " casing shoe) that had been the subject of significant problems during its installation.**

After the 9^{5/8} " PCCC had been removed, the H1 Well was left in an unprotected state (and relying on an untested primary barrier) while the rig proceeded to complete other planned activities as part of batch drilling operations at the Montara WHP. The Blowout in the H1 Well occurred 15 hours later.



It seems that Halliburton who performed the cement job were aware there was a problem, but the operator accepted it anyway:

Despite the fact that the Halliburton cementing report clearly showed that the casing shoe could not be regarded as having barrier integrity, the report was 'signed off' by Mr Treasure (PTTEPAA's senior on-rig representative) later in the evening on 7 March 2009, with a handwritten annotation 'good job well done'.

[And from the detailed section of the report:]

The extraordinariness of this state of affairs need not be laboured. It suffices to reproduce the following evidence given by Mr Treasure.

Q. To someone who's familiar with this document, it's not a matter of missing the words. I want to put to you that a person who would ordinarily see this document would know, without a second glance, that this was not a normal situation; correct?

A. Yes, sir.

Q. That there had been a problem experienced; correct?

A. Yes.

Q. And that that problem hadn't been resolved; correct?

A. Yes, sir.

Q. So in this document was all the information, I want to put to you, that anyone in your position needed to realise that a problem had occurred and had not been resolved; correct?

A. Correct.

Q. In the clearest of terms; correct?

A. It was obvious, yes.

Q. Well, it can't be any clearer. What else do you think Mr Doeg (Halliburton) should have done to make it clearer to you?

A. There's nothing else he could do, is there?

In this case it seems that the lines of responsibility for accepting the poor cement job are clear and that Halliburton does not bear much of the blame. Whether that will be the case for the Gulf of Mexico incident remains to be seen. One doubts that Halliburton are pleased their name has been associated with both incidents, but they do not have many peers in their line of work so it could easily be coincidence.

In summary, as at April 2009 when the H1 Well had been suspended and the West Atlas rig had departed from the Montara WHP to undertake other work, not one well control barrier in the H1 Well had been satisfactorily tested and verified, and one barrier that should have been installed was missing. In other words, the H1 Well was suspended without regard to PTTEPAA's own Well Construction Standards or sensible oilfield practice.

Having worked in the industry, my impression was that most operators are working pretty hard to prevent accidents like this. The quotes from the inquiry above suggest that is not the case, with the Thai operator in this case failing to meet the most basic requirements for safe drilling. How many other two-bit (thanks for the pun Euan) operators are there operating round the world in such a cavalier and incompetent fashion?

Inquiry Findings

The inquiry did not mince words:

In essence, the way that PTTEPAA operated the Montara Oilfield did not come within a 'bulls roar' of sensible oilfield practice. The Blowout was not a reflection of one unfortunate incident, or of bad luck. What happened with the H1 Well was an accident waiting to happen; the company's systems and processes were so deficient and its key personnel so lacking in basic competence, that the Blowout can properly be said to have been an event waiting to occur. Indeed, during the course of its public hearing, the Inquiry discovered that not one of the five Montara wells currently complies with the company's Well Construction Standards. Indeed, so poor has PTTEPAA's performance been on the Montara Oilfield, the Inquiry considers it is imperative that remedial action be instituted.

Offshore Industry Regulation

The Northern Territory is too small to manage the regulation and oversight of the oil industry, and a new national regulator has been recommended - this would seem well overdue!

The Northern Territory has also contended that 'at all material times prior to the [Blowout], the Territory appropriately administered the licence area within which the Montara Wellhead Platform is located'. The Inquiry has no hesitation in rejecting this contention.

and again..

The Inquiry is of the view that nothing should detract from the primary responsibility of PTTEPAA to ensure well integrity. **However, the Inquiry finds that the NT DoR's regulatory regime was totally inadequate, being little more than a 'tick and flick' exercise.**

By way of example, when PTTEPAA submitted an application to suspend the H1 Well utilising PCCCs rather than a cement plug, it received preliminary approval in 30 minutes. However, as the Inquiry heard from the manufacturers of the particular PCCC used, they were not intended to be used as barriers against a blowout. In this respect, the information that had been conveyed to the NT DoR was seriously deficient. However the NT DoR, which had no real prior experience with PCCCs, gave almost immediate approval for their use.

Dispersants



The use of dispersants has been contentious in the response to both the Montara and Gulf of Mexico incidents. Since the Montara incident occurred in open ocean, and dispersants are normally used where coastlines and other sensitive marine areas are at risk, there has been some debate about whether the use of dispersants was justified. The inquiry found that an appropriate net benefits decision making process was used and the decision to use dispersant was appropriate. It seems unlikely that any other finding will be made for the Gulf of Mexico.

The inquiry also found that the use of skimmer vessels recovered about 10% of the total oil released to the environment.

Response to the Inquiry

Government Response: The 21 August 2009 uncontrolled oil and gas release at the Montara oil field, operated by PTTEP Australasia (Ashmore-Cartier) Pty Ltd (PTTEP AA), and the more recent incident on 20 April 2010 at the BP operated Macondo oil field in the Gulf of Mexico, where 11 lives were lost, serve as strong reminders to governments, regulators, the offshore petroleum industry and the broader community of the risks of complacency in the operation and regulation of offshore petroleum activities.

While the Government has in its response accepted almost all of the inquiry's findings, there are many vague motherhood statements and a lot of actions that are for the industry, but the Government is happy to accept them on their behalf. For instance, in numerous cases we get the following listed as 'Actions to Date': *Following the Montara and Gulf of Mexico incidents, the offshore petroleum industry has performed its own safety checks. A number of companies have implemented further actions..*



As the report states, regulation of the Australian oil industry needs a complete overhaul to prevent wildcat operators like this creating more 'accidents waiting to happen'. I am personally amazed that an oil company as bad as this still exists and that they were allowed to operate here in Australia, a country that is normally seen as modern and effectively regulated.

In this context, the most significant finding of the inquiry, which has been agreed to by the Australian Government, is the creation of a new national regulator to oversee the offshore petroleum industry. Hopefully they will have the resources and skills to prevent such an incident, which clearly the Northern Territory agency did not have.

Conclusion

While the Montara spill was perhaps an order of magnitude smaller than the Macondo Gulf of Mexico spill, it is surprising how little attention was paid to Montara even in Australia. It could be argued that the media overplayed the BP incident (serious as it was) with seemingly 24 hour, non-stop coverage and hyperbole. However, for the Australian media and public to turn an almost blind eye is a little concerning. Perhaps our 'dig it up, ship it out' mentality has weakened our concern for the environment. Or perhaps the lack of a recognisable household name meant there was nowhere for people to turn their anger and attention.

Most of the major international oil companies have had their moment (or extended duration) in the public gaze at one time or another over the last decade. The national oil companies from around the world rarely feel any such heat no matter how low their environmental or ethical standards may fall. Despite evidence of an 'accident waiting to happen', the criticisms levelled at the Thai operator will not do it much harm outside Australia, especially since they do not exist as far any consumers are concerned. They will though have to work hard not to lose their license to operate in Australia given the numerous and blatant failings uncovered.

However, the review into BP's Gulf of Mexico Macondo blowout will not occur outside the spotlight. The entire industry will be hoping that the mistakes among BP and its partners and contractors do not amount to a 'failure of sensible oilfield practice' or they will all feel the repercussions, through increased costs, delays and even cancelled projects around the globe.



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