



## BP's Deepwater Oil Spill - There will now be a slight intermission (pause) - and open thread 2

Posted by [Heading Out](#) on July 22, 2010 - 6:24pm

Topic: [Environment/Sustainability](#)

Tags: [deepwater horizon](#), [oil spill](#) [[list all tags](#)]

**This is a second copy of this post, with 5:30 update and new tropical storm information. Previous comments can be found at <http://www.theoildrum.com/node/6766>.**

**Update 5:30pm EDT:** *BP has received approval to leave the well capped indefinitely. New hurricane update by Chuck Watson at end of post. Unfortunately, new storm track will tend to blow any oil hovering offshore toward land (eastern Louisiana, Alabama, Mississippi, and Florida coasts).*

The approaching tropic system that has been mentioned in earlier posts has now not only caught the attention of the folks at the Deepwater well, but has moved them to action. Because of the length of time that it takes to disconnect the systems and then move the vessels out of harms way, BP decided to insert a storm packer, or plug, into the relief well and has gone ahead and put it into place. (From Kent Wells briefing on [Wednesday afternoon](#).)

This will allow them to disconnect the drilling platform from the well and to move it out from the site if necessary. Before the rig could set the packer it had to withdraw all the drill pipe from the well, though it would use some of it to set the packer, which was put into the well 300 ft below the seabed.

The sequence of events that Mr Wells had defined, and which appears to have won the approval of the review panel and Admiral Allen, was that the relief well would have to be cased before the static kill of the well was attempted. There is a concern that, with the relief well only about 4 ft from the original well, in a condition where the relief well has only rock walls without a liner, the risk of possible wall failure in the relief well was too great.

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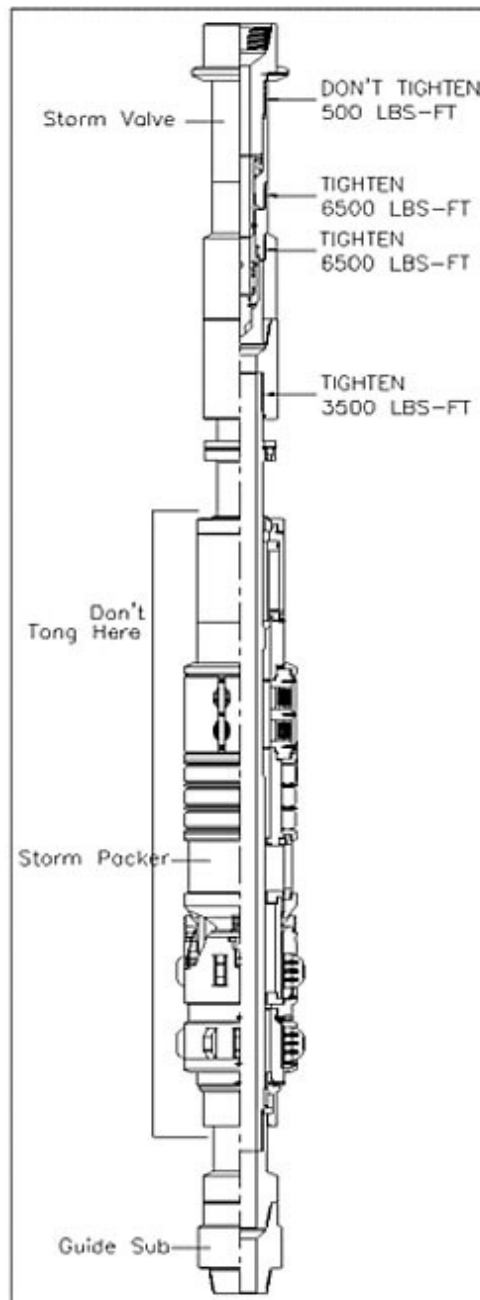
This is not a judgment that it is easy to argue with without much more information on the actual geology at the current bottom of the relief well. If the rock is intact, and relatively competent, given that the well is still above the zone where the leak has likely damaged the rock, then this may be somewhat overcautious, but if there is any risk of weak rock, and of communication between the two wells then it may be a valid precaution. Although it should be noted that the original well is supposed to be still sealed with casing and a liner at this level in the well – since the RW was supposed to run the last casing while some 50 ft above the end of that liner.

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But with the static kill now on hold until after the “weather” storm has passed, and the drillship

brought back on site (if it has to move), the well re-established, and the plug removed, and then, after checking the well, taking time to run the casing, cement it in place, and check the cement quality after insertion (something that will be a priority into the foreseeable future), it may be some time before the static kill is implemented.

There are a number of different ways the well can be temporarily plugged, but in general a packer is used. This is a device that contains a section with a flexible rubber sleeve (see below). The packer is lowered into place, and the packer inflated (you might think of it as similar to blowing up a bicycle tire) so that the packer section fills the well bore, and stops fluid from leaking. (The full procedure for installing one version of such a packer is [given here](#).)



*Diagram of the parts of a storm packer (From [Packers and Service Tools Inc](#) )*

There is an alternate system made by [Weatherford described here](#). This has three sealing sections rather than the one shown above.

After the storm, and with the rig relocated, the drill string can re-attach to the top of the packer, deflate the rubber section, unsealing the well. The packer is removed and the well can restart. The removal of the packer is not without risk, and accidents [can happen](#). But with that packer in place, the relief well operation is on hold, and so is implementation of the static kill, in BP's eyes. Given that it will take 3 -4 days to re-establish the well and run the casing, the end of the operation is now moving inexorably into August.

There is one additional worry however, and that is that the current seal on the well is being allowed as a test condition. It is possible, and [Admiral Allen alluded to this](#) in his press conference today, that the well will need to be re-opened before the vessels disperse ahead of the storm. With all the connections to the floating risers, and the dispersant tanks not having been connected up and tested, this may lead back to a spillage of the full flood of the oil into the Gulf, until such time as the vessels return and re-establish control after the storm has passed. (The weather one, not the political storm this decision is likely to raise). That action will come down, as other things have, to the judgment and decision of just one or two individuals who will decide whether to leave the well shut-in or to re-open it.

The leaks in the system are, at the moment, very slow, though not insignificant, since they are pointing out points of weakness in the system. Can they be left for a week to ten days, without deterioration? – that is a judgment call. And it requires an assessment of what the consequences of a failure would be, relative to the oil invasion that will come with opening the valves.

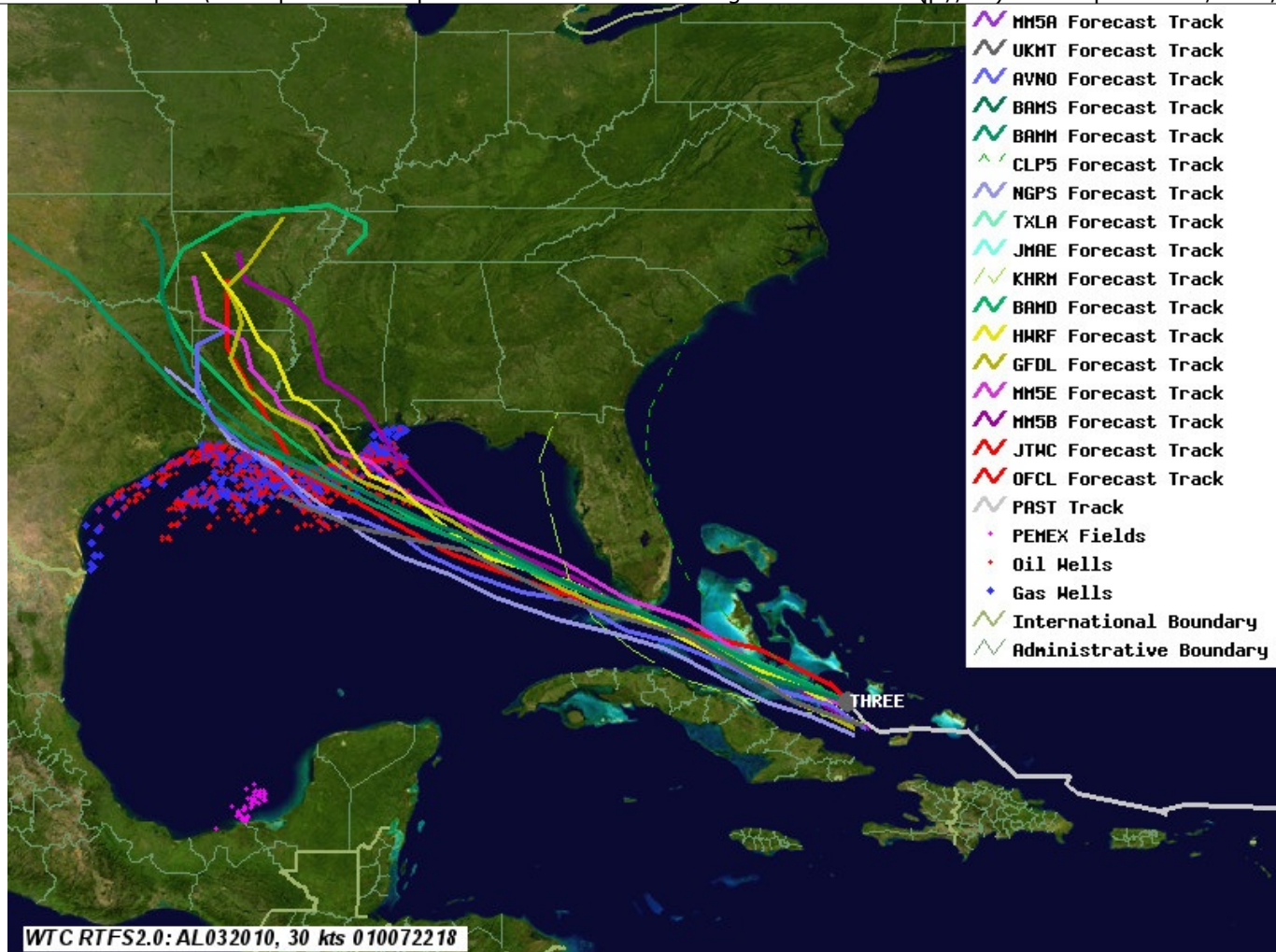
The storm will affect other activities associated with the spill. Crews that were skimming the oil have been laid off, and some of the boom may also be moved. It will be interesting to see how the newly dredged islands hold up in this weather.

### **Chuck Watson's Storm Update 5:30 pm EDT**

Tropical Depression #3 is still moving through the Bahamas on track to cross far south Florida or the keys before entering the Gulf. Forecast tracks are amazingly well grouped to take the storm across the gulf and into the Louisiana coast in 3-4 days. The question is how strong it will be when it gets there. None of the models takes it much over 50 knots, or middle tropical storm strength. National Hurricane Center is sticking with a peak of 45 knots, which is reasonable.

As noted earlier, the main disruption of this storm is forcing precautionary evacuations and shut-ins. Our production models are now showing a peak of 30% to 60% shut in for a few days, but no long term damage, with full production restored within 10 days. I'd bet on the higher end of the range simply because nobody wants to guess wrong and have an accident . . .

Unfortunately, on this track, the storm will tend to blow any oil hovering offshore inshore on to the eastern Louisiana, Alabama, Mississippi, and Florida coasts. However, the waves and rain should help dilute oil on the surface, and inland rains should help flush out estuaries. Hurricanes tend to stir up the upper 200 meters of water at most, with most of the effects in the upper 50 meters or so.



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