



FACT SHEET

HEAVY MUD AND THE RELIEF WELL

Drilling began at 1800 (CST) on 14 September 2009 to drill the relief well to a depth of 2.6km below the seabed to intersect the existing, leaking well and allow for the injection of 'heavy mud' directly into the existing well bore to stop the leak of water, gas and oil.

The well will then be considered 'killed.'

What is the 'heavy mud'?

'Heavy mud' is a mix of water, a natural material called Barite (also known as Baryte in some countries) and polymers (which thicken the mixture), or salt (which can be saturated into the mixture to make it heavier).

Barite is a dense sulphate mineral that can occur in a variety of rocks (including limestone and sandstone) with a range of accessory minerals such as quartz, dolomite and metal sulphides.

Barite is commonly used to add weight to drilling fluid. Its high Specific Gravity assists in containing pressures and preventing blow outs. It is insoluble in water and will sink in the marine environment.

Does it have any environmental impact?

Barite, a naturally occurring insoluble sulphate mineral, has minimal impact on the marine environment and its use is approved by authorities.

How does heavy mud work in this instance?

Barite will be mixed to a heavy mud weight (known as a 'kill weight' mud) on the *West Triton* drilling platform, using an onboard mud mixing system.

This heavy mud mixture weighs more than oil and gas. It will be pumped from the platform down into the relief well. This therefore creates a hydrostatic pressure greater than that seen in the existing oil/gas/condensate reservoir – that is, it creates a force high enough to push the mud through. With a greater hydrostatic pressure in the well than in the reservoir, the heavy mud will displace the oil/gas/condensate and the flow will stop.

Once a hole has been inserted into the casing, it will take about three hours for the heavy mud to be injected into the well bore to stop the flow of oil and gas.

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