



**PTTEP Australasia TIMOR SEA OPERATIONS
Incident Information #54**

Date: 3 October 2009 1330 WST

PTTEP Australasia is due later today to begin the final phase of the main drilling element of the relief well program to stop the flow of oil, gas and water from the Montara well head platform in the Timor Sea.

The planned drilling by the *West Triton* rig of the 8½ inch hole from 2,375m to the final target depth of 2,600m is expected to take about 24 hours to complete.

This will allow for sophisticated electro magnetic ranging tools to be used to intercept the existing leaking well before drilling into it and pumping heavy mud to stop the flow of oil, gas and water.

The relief well drilling to full depth, interception and injection of heavy mud operation remains on schedule to take a total of three-and-a-half weeks (from the drilling start date of 14 September) to stop the leak.

Preparations have continued over recent days for the ‘well kill’ operation. The ‘kill fluid’ used to make the heavy mud is now onboard the *West Triton* ready to be deployed.

Some 24 hours after the flow has stopped, a specialist crew from ALERT Well Control will board the *West Atlas* drilling rig and the Montara well head platform from the support vessel *Nor Captain* to further secure the well by plugging the well bore. This phase of the operation is expected to take about another week.

All equipment needed for the reboarding of the Montara well head platform is now on the supply boat *Pacific Challenger* and will be transferred and positioned onto the *Nor Captain* today.

Members of the ALERT reboarding team are on stand-by at the Truscott air base in the Kimberley and a Perth-based boarding team is also on stand-by.

PTTEP is aware of claims in recent media coverage regarding the potential impact of oil sheen in Indonesian waters. Observations of the slick are undertaken by the Australian Maritime Safety Authority (AMSA) on a daily basis. Very patchy, light sheen has been seen in both Australian and Indonesian waters. Light sheen is typically 0.0001mm in thickness - it poses no threat to shorelines but can be of concern to birdlife. AMSA's priority remains to keep the majority of oil still leaking from the Montara well head platform within the vicinity of the rig to mitigate risk to the environment.

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NOTE: This media statement and all previous statements issued by the company can be viewed at www.au.pttep.com.



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 sulfides.

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 is an inorganic substance which is not expected to be harmful to aquatic life.

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.

PTTEP will be making between 4,000 and 6,000 barrels of kill weight mud (between 635,950 litres and 953,900 litres) for the purpose of this operation.

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.



What happens then?

Monitoring of the *West Atlas* drilling platform and the well will take place for approximately 24 hours to ensure no fluid is lost in the relief well.

The *West Atlas* platform will be re-boarded and a slickline plug will be run into the well. This plug is about 90cm long overall and is lined with a 10-15cm long rubber element that provides a seal and metal slips that anchor the plug in place in the well. This process will take up to four days

Slickline plugs are capable of holding about 7500psi pressure below them.