



WELL OPERATIONS GROUP ADVISORY

Reference Number:	HQS-OPS-ADV-09
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Monitoring well control integrity of mechanical barriers

Advisory:

The following will be added to the next revision of the Well Control Handbook to clarify the requirements for monitoring and maintaining at least two barriers when displacing to an under-balanced fluid during completion operations. This clarification is as a result of a recent well control event on a Transocean rig which occurred due to a failure of a tested mechanical barrier.

Refer to section 8, subsection 9, 1 "Completions"

Existing text:

When installing completion hardware (tailpipe, packer, extension joint, safety valve, etc.) into any of the above types of well, it is necessary to adhere to the Transocean procedure and maintain a minimum of two independent tested barriers at all times. This can be achieved by utilizing the Drilling BOP, a known monitored column of fluid, cemented and tested casing / liner, or tested mechanical barriers (plugs, packers, etc.).*

The preferred method of testing barriers is in the direction of flow from the well. This cannot always be achieved (i.e. open hole below barrier) and therefore, depending on the type of equipment installed, a test from above may be accepted.

Additional text (to be inserted below above text)

**When preparing to displace to a completion fluid which will put the well under-balanced, a displacement pumping schedule must be developed and then followed. Monitoring the volume alone is inadequate and does not satisfy the requirement for "a known monitored column of fluid". The pumping schedule must identify: (1) the volumes to be pumped, (2) the planned displacement rate(s), (3) the position of the fluid interface(s) at all times, (4) the resultant U-tube pressures in the well at all times and, (5) most importantly the point at which the completion fluid will become under-balanced with respect to formation pressure. During this process the integrity of existing mechanical barriers must be monitored at all times. Any increase in return flow will indicate that a barrier may have failed and the well must be immediately shut-in. There have been situations in the past where a tested mechanical barrier has failed during completion operations.*

Do not be complacent because the reservoir has been isolated and inflow tested. Remain focused on well control and maintain good well control procedures.

*Refer to the well operations group website for examples of displacement charts.
http://www.rigcentral.com/hqs/pt/well_operations_group/Well_Control.asp*

EXHIBIT # 1523

WIT: _____

Application: (All Operations / Installations)

The Advisory applies to all rigs.

Responsible Person (Actions to be taken):

1. Operations Manager Performance to ensure all relevant personnel understand this clarification
2. Rig Manager Performance to ensure to ensure all relevant personnel understand this clarification
3. OIM / Toolpusher to ensure compliance during applicable completion operations.

Reference to Management System documentation:

Well Control Manual (HQS-OPS-HB-01) Section 8, Subsection 9

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