

VipR Contingency Disconnect System Demonstrates Reliability and Robustness in Vietnam



First VipR Contingency Disconnect System Run

Maintaining a reliable contingency system is critical when drilling complex well sections where circulation loss, bit plugging or mechanical sticking may occur. A multi-layer contingency BHA design is often required to provide both operational flexibility and a final recovery solution without reliance on explosives or back off subs.

During a major drilling campaign in Vietnam, DSI deployed the VipR System as part of an integrated contingency strategy to ensure operational safety, reliability and the ultimate insurance policy.

CHALLENGE

The Operator was drilling long tri-lateral 8 ½" sections through challenging clastic formations and was concerned about bit plugging, encountering losses and getting stuck. The VipR system was chosen to address these issues and to:



Restore circulation in the event of blockage or losses.



Maintain hydraulic flexibility during drilling operations.



Provide a reliable final disconnect option.

Contingency tools like the VipR must strike a balance between sensitivity and robustness. If activation occurs too easily, it introduces operational risk potentially resulting in losing the BHA. If activation fails when required, it compromises the contingency strategy. Ensuring both reliability and durability under real drilling conditions was critical for the campaign.

SOLUTION

DSI deployed the VipR Contingency Disconnect System incorporating:



VipR – final contingency disconnect solution.



PBL – hydraulic flexibility and LCM control.



Burst Disc – immediate circulation recovery.

The VipR system is designed as the last line of defence, providing a pipe severance option should all other methods fail.

Key features include:

- ✓ Non-explosive activation mechanism.
- ✓ Simple single ball-drop activation system.
- ✓ Compatibility with complex BHA configurations.
- ✓ Ability to remain dormant yet operational under extended downhole conditions including high temperature, HFTO, and Jarring.

EXECUTION

The VipR system was deployed across multiple runs during the campaign.

Run 1

The VipR assembly was deployed in the 8½" section and remained downhole for approximately five days, drilling approximately 106 m.

Following a loss curing operation using DSI's innovative PBL, a restriction was observed within the drill string. Attempts to clear the blockage were unsuccessful, and the operator activated the Burst Disc within the VipR assembly.



Designed burst pressure: **6,500 psi**

Actual burst pressure: **~6,200 psi** (within tolerance)

Upon activation:

- ✓ Circulation ports opened immediately.
- ✓ Full circulation was restored.
- ✓ Contingency system performed as designed.

Run 2

The VipR was redeployed in the lateral section and remained downhole for approximately seven days, drilling nearly 600m. During this run, the BHA experienced:



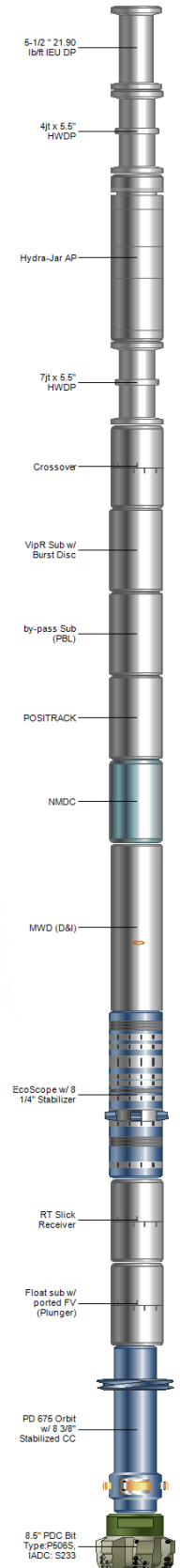
22
jar events



~15,000
lbs overpull

Despite these conditions:

- ✓ VipR remained dormant.
- ✓ No unintended activation occurred.
- ✓ Tool remained fully available as contingency.



RESULTS & BENEFITS

The VipR system demonstrated both functionality and robustness under real drilling conditions.

Key outcomes included:

- ✓ Successful activation of contingency system when required.
- ✓ Accurate Burst Disc performance within design tolerance.
- ✓ Immediate restoration of circulation following activation.
- ✓ No unintended activation under severe drilling loads.
- ✓ Verified reliability of multi-barrier BHA design.
- ✓ Maintained availability as final disconnect option throughout operations.
- ✓ Provided a verified final barrier for pipe severance without reliance on explosive systems.
- ✓ Maintaining a reliable contingency system for stuck pipe situations is critical when drilling complex well sections where circulation loss is a consideration.

The campaign validated the VipR system's ability to remain dormant under challenging conditions while performing reliably when required, ensuring operational safety and flexibility. The Operator subsequently elected to adopt DSI's new technology for all of the planned tri-lateral wells (4+4).