

## IPC MPD

### Case Study 1: MPD and Workover in an Ultra-Deep Oil Well with Slimhole

#### OVERVIEW

- Operation Time: May – July 2024
- Operation Area: Northwest China
- Reservoir Type: Oil Well (Ultra-Deep, Slimhole)
- Mud Density: 2.16 – 2.20 g/cm<sup>3</sup> (18.02 – 18.36 ppg)
- Mud Type: OBM
- ECD Window: <0.05 g/cm<sup>3</sup> (<0.42 ppg)
- Casing Runs: 1 (6 in)
- Well Depth: 6,260m – 8,100m (20,541 ft – 26,575 ft)
- Applied in: MPD, Workover



## RESULTS

- Completion of MPD and well intervention operations in an ultra-deep well exceeding 8,000m (26,247 ft)
- Simulation of the wellbore pressure window through real-time and high-precision hydraulic modeling enabled precise pressure control during both circulation (drilling) and non-circulation phases (tripping and connections) to meet formation pressure requirements

## Case Study 2: MPD and Cementing in a High-Pressure, High-Production Gas Well

### OVERVIEW

- **Operation Time:** April – October 2023
- **Operation Area:** Southwest China
- **Reservoir Type:** Gas Well (High-Pressure, High-Production)
- **Mud Density:** 2.12 – 2.25 g/cm<sup>3</sup> (17.70 – 18.77 ppg)
- **Mud Type:** OBM
- **ECD Window:** <0.1 g/cm<sup>3</sup> (<0.83 ppg)
- **Casing Runs:** 2 (8 1/2 in, 6 in)
- **Well Depth:** 3,410m – 5,072m (11,190 ft – 16,632 ft)
- **Applied in:** MPD, Cementing



## RESULTS

- Ensured safe operations in the high-pressure gas well
- Successfully resolved more than 8 downhole kicks and loss events across 2 sections
- Achieved 9 days of constant bottomhole pressure circulating operations during 14 gas discharge operations, reducing NPT and shortening the well completion cycle

## Case Study 3: MPD and Cementing in a Gas Well in a Fractured Reservoir with High H<sub>2</sub>S

### OVERVIEW

- **Operation Time:** February – July 2021
- **Operation Area:** Southwest China
- **Reservoir Type:** Gas Well in a Fractured Reservoir (High H<sub>2</sub>S)
- **H<sub>2</sub>S Content:** >30,000 ppm
- **Mud Density:** 2.32 – 2.40 g/cm<sup>3</sup> (19.37 – 20.03 ppg)
- **Mud Type:** WBM
- **ECD Window:** <0.1 g/cm<sup>3</sup> (<0.83 ppg)
- **Casing Runs:** 2 (8 1/2 in, 6 in)
- **Well Depth:** 4,804m – 6,210m (15,758 ft – 20,379 ft)
- **Applied in:** MPD, Cementing



## RESULTS

- Precise bottomhole pressure control enabled safe operations in the well with high H<sub>2</sub>S content
- Significantly improved drilling efficiency and cementing quality
- New record set: 250m (820 ft) deeper than the planned measured depth and the faster exploration well

## Contact Us

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