

PROJECT EXPERIENCE

Paraffin & Hydrate Remediation via eelReel

Production enhanced from 0 bbls/day to 1800 bbls/day after eelReel run

A GoM deepwater operator was experiencing deposition and partial blockage issues resulting in flow assurance impediments in an uninsulated tie-back, in approximately 2,700 feet of seawater. This atypical blockage was a combination of paraffin deposition coupled with hydrates. Past partial plugging events had been temporarily relieved by heated diesel flushes through a common subsea manifold and a piggable loop. Ultimately, the line developed a plug and caused a total field shut-in. The normal routine of production chemical treatment was the predominant method of mitigation and was unsuccessful in fully resolving the issue.

TECHNICAL CHALLENGES

The flowline became totally obstructed without clear understanding of the location of the deposit. A chemical soak on the line was attempted, and after a 60-day offshore campaign, no resolution was achieved. The 6-inch flowline consisted of a 4,500 feet steel catenary riser and 8,700 feet of subsea flowline.

The riser and flowline had an ID difference of approximately 3/16" (riser having smaller ID), posing challenges to maintaining a hydraulic seal during a mechanical cleanout using BlueFin's patented eelReel technology.

PLAN OF EXECUTION

- Equipment spread Engineered to API 14C standards.
- Pre-job Torque and Drag modeling performed in BlueFin's proprietary software to validate the expectations of field performance and mitigate limitations of engineered components and stresses on coil tubing.
- Fully integrated Project Execution Plan delivered to the Client and used in acquiring a BSEE permit.
- Unique tool design engineered to achieve extended reach capabilities and allow the tool to safely traverse the riser and flowline segments without any loss of performance.

TECHNICAL ACHIEVEMENTS & BENEFITS

- Successfully completed BSEE inspection upon rig-up with zero deficiencies, including adherence to all API 14C guidelines.
- Safely and fully remediated the paraffin and hydrate blockages.
- Safely traversed the transition and ID step up between the Riser and flowline without loss of thrust and tool performance.
- Job done in 13 days with zero incidents and no environmental impact.



LOCATION

Gulf of Mexico

SOLUTIONS

Prior to mobilization, simulated testing was performed onshore at BlueFin's operational headquarters in order to validate that the eelReel tool could safely negotiate:

- Pipe bends within the topsides piping configuration
- The two different ID segments in the line

The tests yielded positive results and prepared BlueFin for field execution. BlueFin prepared a fully integrated plan to clean the line utilizing the eelReel tool technology, deployed through standard 1.5" coil tubing.