COROD® Continuous Rod in Sandy, High DLS Well

Reduces CAPEX 25%, Lowers Connected HP 40%, and Pumps 13K BBL/$1.3M without Intervention

Objectives

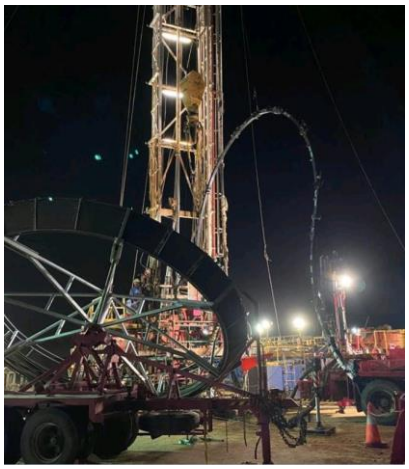
- Supply a reliable artificial-lift solution (ALS) for an oil producing well with challenging wellbore geometry within the sandstone beds of western Egypt.
- Reduce lifting OPEX costs by deploying an efficient, cost-effective system that can endure the highly deviated wells and require fewer well interventions.
- Transition to an end-of-life, ALS as the well continues to decline.

Our Approach

- The client requested a technical solution designed for wells with highly deviated geometry. Other vendors would not recommend installing conventional sucker rods in wells with high dogleg severity (DLS). Throughout the well's history, the electrical submersible pump (ESP) started declining in production performance. The well was drilled to 4,898 ft (1,493 m) with 7 in. (17.8 cm) casing, 3-1/2 in. (8.9 cm) tubing and records of maximum DLS of approximately 19.30°/100 ft (30 m).
- After an extensive technical review, Weatherford proposed a reciprocating rod-lift (RRL) system combined with COROD® continuous-rod technology as the most reliable solution for this challenging application. COROD is a unique evenly-distributed contact-load product which makes it ideal for highly deviated wells.
- The transition from high-volume ESP technology to a lower volume and more cost-effective solution like an RRL system with COROD is key to improving profitability and accelerating returns on investment (ROIs) in declining oil producers.

Value to Customer

- An RRL system utilizing COROD continuous rod was deployed in the well. The system was landed at 3,937 ft (1,200 m) with a wellbore geometry as high as 11.70°/100 ft (30 m). Despite this challenging well completion, the RRL system with COROD has been in continuous operation for more than nine months as of this report.
- With this cost-effective and reliable solution, the client reduced its initial CAPEX investment by 25 percent.
- As of today, the system has produced more than 13,000 barrels of oil; which represents more than $1.3 million USD.
- An RRL system utilizing COROD showed a 40% reduction in connected horsepower compared to the previous ESP system deployed in this well.



Weatherford COROD® continuous rod is a superior well-optimization solution for RRL and alternative to conventional sucker rods. COROD requires only two connections–one at the top and the bottom. Contact loads are evenly dispersed throughout the rod string, significantly reducing tubing-and-rod wear for fewer interventions, enhanced uptime, and longer assembly lifespans.

LOCATION/FIELD
Egypt/NEAG-1

WELL TYPE
Onshore, deviated well, oil producer

FORMATION
Sand-1

CASING
7 in. (17.8 cm)

TEMPERATURE
220°F (104°C)

TUBING SIZE/ANGLE
3-1/2 in. (8.9 cm) tubing/9.42 DLS

PRESSURE
800 psi (5.52 MPa)

DEPTH
3,936 ft (1,200 m)

PRODUCTS/SERVICES
- COROD continuous rod, MER6
- Mobile gripper unit
- Portable forge welder
- Small-reel deployment unit

Weatherford®