BLACK MAMBA ROD LIFT

REPORT 24.3

PROGRESSIVE CAVITY PUMPING IS A WIN WITH SINGLE FIN, HELICAL ROD GUIDES FROM BLACK MAMBA ROD LIFT

BLACK MAMBA'S INNOVATIVE DESIGN COMPLIMENTS ROTATIONAL PUMPING

CHALLENGE

An Indonesian operator was experiencing numerous mechanical failures in a particular well (M-37) equipped with a progressive cavity pump. The failures were mainly due to continuous contact between the rods and the tubing. The well is deviated (>43o) with a tortuous well path and significant dog legs. This resulted in rod failures, tubing leaks and excessive strain on the pumping equipment.

M-37 averaged a Mean Time to Failure (MTF) of 112 days (3.7 months). The average MTF for all wells in this operator's two fields was ~180 days (6.0 months). Production for the M-37 consistently produced 18 BOPD with an 85% water cut (total production of 120 BFPD) before the Black Mamba installation.

SOLUTION

Black Mamba recommended their Complete Rod Control system through 7/8" API sucker rods. Complete Rod Control is achieved through BMRL's 7-guides-per-rod configuration. When CRC is used from top to bottom throughout the rod string, it allows the operator to pump the well with absolute certainty, preventing all metal-to-metal contact between the rods and the tubing. Additionally, Complete Rod Control prevents sucker rod buckling if compression in the rod string exists.

The 7/8" sucker rod string with Black Mamba guides was installed in M-37 in May 2022.

RESULTS

The operator elected to set the pump above the perforations during the trial phase to evaluate Black Mamba performance. **M-37 ran for over 820 days, which was ~7.3X prior runtime of 112 days.** During this time, the well had two pump failures or drive issues not related to the Black Mamba guides. A total of four rods with Black Mamba guides were replaced due to some wear and damage to the guides (related to torque issues). Therefore, 97% of the rod string with Black Mamba guides ran for the duration of the trial before the operator pulled the string and ran another complete rod string with Black Mamba guides.

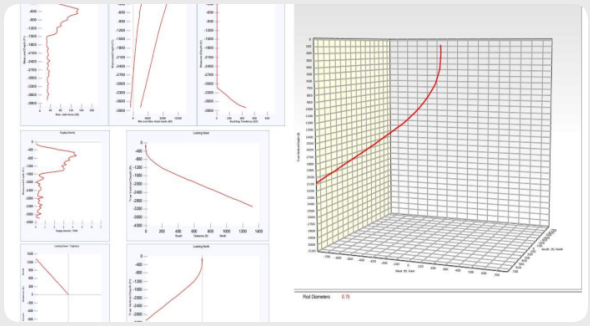
Current production is 34-38 BOPD with a water cut of 77%. This production is double the original production of 18 BOPD when the Black Mamba guides were originally installed. The operator has maintained the speed of the pump between 220 - 250 rpm.

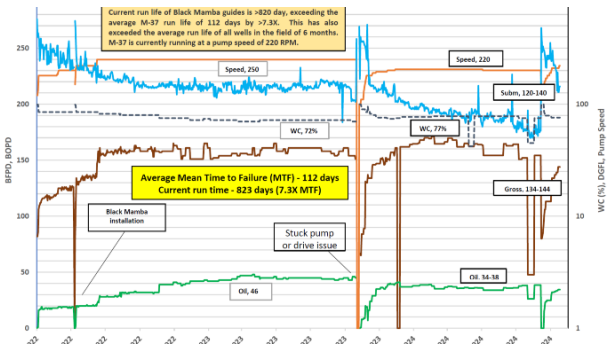
The rod string with Black Mamba guides exceeded expectations in terms of production and runtime.

PROJECT DESCRIPTION

LOCATION:
Indonesia

CUSTOMER TYPE:	Regional Major
PRODUCTION:	160 bfpd
INSTALL DATE:	May 2022
CURRENT DATE:	Oct 2024
RUN TIME:	820





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