BLACK MAMBA ROD LIFT

REPORT 23.1

# HIGH DLS KICK WITH 800-LBF SIDE LOAD IS PUT TO THE TEST BY A MAJOR OPERATOR

## BLACK MAMBA DELIVERS 100% - AS ADVERTISED - NO WEAR IN 7 MONTHS

**In Fall of 2022, Black Mamba presented its string design philosophy and product line up to a major operator in Hobbs, NM. This operator is open-minded but recognizes that often vendors over-sell and under-deliver. Black Mamba deployed its 7-per rod guide configuration on 1" Norris rod. The operator after the inspection says we delivered 100%, and it was "refreshing to see results after installation that spot on match the cited benefits of the product at the time of introduction."**

## CHALLENGE

A well was selected by the group which allowed Black Mamba's extensive erodible wear volume, bearing surface area, and polymer performance to *really* be put to the test. A 2.25" pump set at nearly 8,000 feet with 1" and 7/8" steel rods created side-loads in excess of 800 lbf/rod due to a high kick at 2,000'.

## SOLUTION

The string design called for 1" Norris N97 high strength rods throughout the high-kick area. Black Mamba's 7 guides-per-rod configuration was utilized to address the significant pain point in the survey and well geometry.

## RESULTS

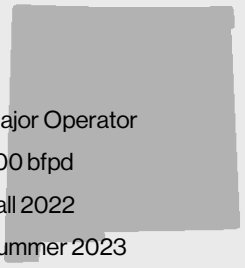
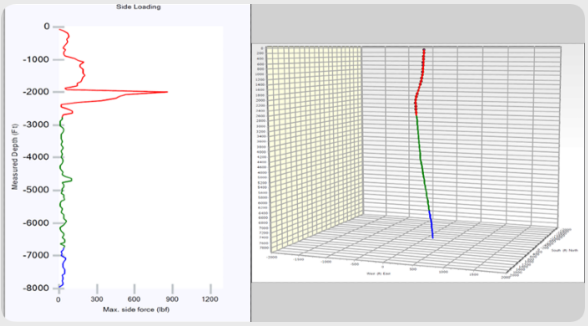
After 7 months run time, the well was pulled to address a hole in tubing at the sinker bar (1.5" k-bar) section. As the guided taper was coming out of the hole, each guide was measured and calipered. Black Mamba quickly received field feedback related to the observations - **no real wear observed**.

The erodible wear volume and large bearing surface area of the guides allowed the side-load to be distributed across the guide profile. This reduces the compressive stress on the plastic, and therefore reduces the wear rate of the guide itself. At the time of installation, Black Mamba provided unfilled polyketone (UPK) which exhibits substantial wear resistance and a very low coefficient of friction (0.06).

**Moving forward, this operator has turned to Black Mamba for nearly every rod lift installation for guiding their Endurance fiberglass sucker rod and their Norris steel sucker rods.**

## PROJECT DESCRIPTION

**LOCATION:**
**New Mexico**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|---|---|
| **CUSTOMER TYPE:** | Major Operator |
| **PRODUCTION:** | 500 bfpd |
| **INSTALL DATE:** | Fall 2022 |
| **CURRENT DATE:** | Summer 2023 |
| **RUN TIME:** | 7 months |