

Rotaflex® Pumping Unit

Eliminated Failures and Decreased OPEX by 75%,
Saves \$1.1 Million in First 24 Months of Operation

Objectives

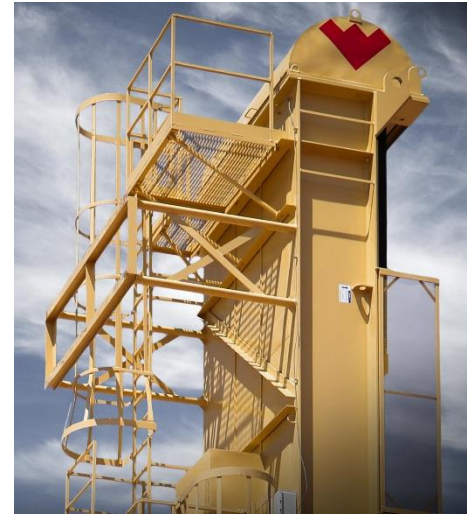
- Decrease frequent jet-pump failures and related intervention, maintenance, and operations costs in a severe-service well with heavy sand ratios.
- Reduce cost of well ownership. The well was originally completed with an electrical-submersible pump (ESP) and under the current jet-pump system, the MTBF and OPEX was \$51,000 monthly (\$40,000 rental fees and \$11,000 energy consumption). The combination of sand with high-pressure fluid prematurely eroded the jet pump and surface equipment, resulting in multiple workovers per year. Associated costs from well-intervention servicing and deferred production totaled \$139,000 per year for a combined well-ownership cost of \$751,000 per year.

Our Approach

- Following a thorough analysis of the application and pertinent artificial-lift technologies, Weatherford Artificial Lift Solutions determined that reciprocating rod-lift technology offered a more productive and sustainable system for enhanced production with mitigated operations challenges.
- Due to the well depth, a Rotaflex long-stroke unit and WellPilot® variable-speed drive was selected to manage the high-polished rod and cyclic loads. High-strength sucker rods and King Cobra guides were chosen to mitigate the high sucker-rod loads and rod/tubing contact-forces of up to 384 lbf (174 kg). A patented Weatherford sand-tolerant pump was deployed to effectively produce the sand, ensuring smooth operation of the downhole pumping-system.
- The team deployed the rod-lift solution to the wellsite and within 20 days, the Rotaflex system commenced producing the well at the prior rate of 200 BPD and continues operating after 24 months of production.

Value to Customer

- After 24 months of operation, the Weatherford fit-for-purpose, Rotaflex rod-lift solution effectively reduced operations and well-servicing costs associated with this challenging well—resulting in a 75% reduction in cost of ownership that saved the client \$1,123,920 in OPEX (ongoing).
- Successful deployment of the new artificial-lift system enabled the operator's field team to focus on other priority wells and redeploy the jet-pump system to another well, creating additional values.



The Rotaflex long-stroke pumping unit effectively reduced well OPEX and well-servicing costs associated with ESP failures in a challenging, sand-laden well.

CLIENT

Gran Tierra Energy

LOCATION

Colombia

WELL DEVIATION

40°

PRODUCTION RATE

200 B/D

Oil API

19.5

WATER CUT

<1%

SAND CUT

2%

WELL DEPTH

10,400 ft (3,170 m)

PRODUCTS/SERVICES

- Artificial lift solutions
- Rotaflex long-stroke pumping unit
- WellPilot variable-speed drive
- Sand-tolerant pump
- High-strength sucker rods
- King Cobra rod guides
- Rod rotator

