CHAMPIONX
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ALBERTA OIL TOOL | Ridgeback Resources

Norris Corrosive Service (CS) Sucker Rods reduce failures in a low-viability well with high water cut and deviated wellbore

CASE HISTORY

CHALLENGES

- A high water-cut well was experiencing sucker-rod fractures/breaks due to:
  - Corrosion pitting
  - High tensile loads
  - Deviated wellbore
- Needed increased sucker-rod ductility with no sacrifice of rod strength
- Average run time before failures due to corrosion pitting was 126 days
- Tried different sucker-rod solutions, but average run time was still only 6 months (180 days)

SOLUTIONS

- A custom-designed rod and guide string was installed
  - Features Norris Corrosion Service Sucker Rods
    - Corrosion Service Sucker Rods have high ductility and high tensile strength
    - Constructed of special alloy steel and designed heat treatment that resists corrosion while maintaining tensile strength

Image: Norris WCN™ Corrosive Service (CS) sucker rod

RESULTS

- Norris Corrosion Service Sucker Rods were installed on March 7, 2019
- Well has operated for nearly 400 days continuously, 200% to 300% longer than previous average run times
- No well intervention has been needed due to sucker-rod or tubing failures
- Optimized sucker-rod and guide-string design has also mitigated issues with:
  - Paraffin buildup
  - Side-loading
  - Buckling

WELL INFORMATION

Tubing Size	**73 mm**	S.G. Water	**1.03**
Pump Intake Pressure	**689 Kpa**	CO2	**5,100 ppm**
Water Cut	**99%**	PSN Depth	**1252 M**
H2S	**0%**	Total Production	**33 M^3/D @ 80% Efficiency**
Anchor Depth	**1174.6 M**	Oil Degree	**35 API**

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