

Bottomhole temperature, degF [degC]	194 [90]
Bottomhole pressure, psi [MPa]	3,190 [22]
Carbon dioxide (CO ₂), %	6.24
Hydrogen sulfide (H ₂ S), %	12.34
Pump setting depth, ft [m]	5,670 [1,728]
Motor outer diameter (OD), in [cm]	4.56 [11.58]
Pump OD, in [cm]	4.00 [10.16]

Background

When depleting the oil reservoirs in the South Sturgeon Lake region, well production often changes from sweet to sour condition, containing hydrogen sulfide and carbon dioxide. The highly corrosive fluid compromises run life in conventional ESPs, leading to premature failures. An operator in the field asked for an ESP system that could withstand the corrosive operating condition and therefore improve oil recovery and ESP run life.

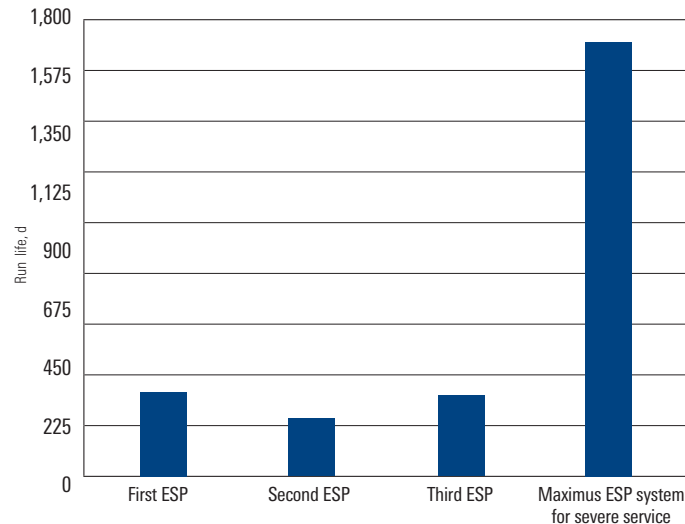
Technology

- REDA Maximus* ESP system for severe service
- REDA Lead* lead-barrier ESP power cable
- MONEL® and boronized corrosion-resistant pump coatings

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REDA Maximus ESP System for Severe Service Extends Run Life by 550% in Corrosive Wells, Western Canada

Fit-for-purpose system ran 1,714 days despite high CO₂ and H₂S, eliminating workovers and production deferrals and improving operator economics



A Maximus ESP system for severe service was designed with tandem severe service protectors, severe service motor lead extension, high-efficiency motor, REDA Lead cable, and corrosion-resistant pump. The system ran for 1,714 days, a 550% improvement over the average run life of previous conventional ESP installations. This improved the operator's total cost of ownership, eliminating five workovers and the associated production deferment.