

Permian Basin, United States

# TrueSync™ hybrid permanent magnet motor (PMM) increases runtime 5x

Unique motor unlocks unprecedented efficiency in difficult, gassy, unconventional well

## CHALLENGE

Unconventional wells require a wide operating range and durability to handle sand and gas production

## SOLUTION

TrueSync hybrid PMM

- Permanent magnets provide greater torque compared to an induction motor to overcome gas and sand production issues
- Full synchronous speed
- Greater power density for deeper set points and greater drawdown
- Reduced heat generation for extended system run life
- Hybrid design provides transient torque dampening for variable production issues

## RESULT

- Efficiency gains of 20% can reduce power consumption
- Extended runlife, five times that of the competition
- Potential four-year power savings of \$250M for 1,000 wells

## Overview

In the challenging landscape of unconventional wells, operators face steep decline curves and the damaging effects of gas and sand production on electric submersible pump (ESP) systems. These dynamic conditions demand adaptable solutions that not only extend runtimes but also address power cost and sustainability concerns.

## Challenge

Traditional induction motors, while commonly used, are relatively inefficient compared to PMMs. However, PMMs in these volatile environments often struggle with synchronization issues with surface motor controllers, leading to potential catastrophic failures. Operators need a motor that can withstand these harsh conditions without compromising on performance or reliability.

## Solution

The TrueSync hybrid PMM from Summit ESP® — A Halliburton Service is a groundbreaking motor that seamlessly integrates rotor bar elements from induction motors to counteract the life-limiting effects of transient torque caused by gas production or slugging. By combining with the strengths of permanent magnets, the TrueSync™ Hybrid PMM achieves full synchronicity, delivering unmatched efficiency, enhanced stability, and prolonged operational life.

## Result

For one operator in West Texas, the TrueSync hybrid PMM significantly transformed their operations. In a particularly gassy, unconventional well, the motor increased runtime by five times compared to the competition. Lab tests further showcased a 20% efficiency gain over traditional induction motors. For an operator managing 1,000 production wells over a typical four-year cycle, this translates to power savings exceeding \$250 million.

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