

# NRPs Provide 15% Torque Reduction in 7,000m S-Shaped Well

## High Torque Concern

An operator was planning a 7km deep S-Shaped well and concerned about high drilling torque in the 5-5/8" hole section. Casing protection was also a major concern because of the very low ROP that was expected in this section. WWT's Non-Rotating Protectors were selected as solution to reduce the drilling torque and protect the casing in this long and high temperature well.

## NRP Recommendation

WWT's engineering team performed a torque and drag analysis to decide the optimum placement for NRPs. NRPs model SS3 and HT were used on this well. The HT's are designed for high temperature and were installed deeper in the well due to the high temperature. 111 SS3 and 39 HT NRPs were installed to achieve optimum torque reduction and casing protection.

## 15% Estimated Torque Reduction

The 5-5/8" section was drilled to 7,367m MD with NRPs while keeping the torque as low as 11kft-lbs. The bottom hole temperature reached 155°C and the ROP was as low as 1-2m/hr. Although the hole section was 420m long and multiple bit runs were made, NRPs showed a great performance and achieved around a 15% torque reduction while protecting the casing integrity.



**Location:** Latin America  
**Well Type:** S-Shaped  
**Objective:** Torque Reduction & Casing Protection  
**Solution:** WWT NRPs  
**Benefit:** 15% Torque Reduction and Maintained Casing Integrity

