# Performance in Tight Tolerance Application

New Technology Solves Problems in Extreme Liner Deployment

#### APPLICATION

- 7" liner through 9.625" casing
- ID of 8.632" to set inside 8.50"
- · Open hole with washout ID up to 9.50".

### TECHNOLOGY

VES 7" One-Piece Centralizer Engineered for Close Tolerance / Under-Reamed Applications

#### LOCATION

Offshore Turkmenistan

### CUSTOMER CHALLENGE

Following numerous attempts, the customer experienced consistent issues with the liner deployment to 3,540m (11,614 ft.), requiring the ability to pass thru 9 5/8" casing and provide stand-off more than 70% in open hole, including wash outs.

The previous centralizers used in deployment never provided stand-off greater than 50% in open hole due to the consistent high drag and inability to add block weight - resulting in poor cement bond.

## 7" One Piece Tight-Tolerance Centralizer



### VES SOLUTION

Understanding the application and challenge, VES engineered a one-piece bowspring centralizer suited for extreme tight tolerance and the ability to deliver <500 lbf Running Force in 8.500" hole and Restore Force >1000 lbf inside 9.250" hole.

In collaboration with VES Application Engineering and placement software, Spirolizer zinc allow centralizers were positioned at specific points using to allow for maximum drag reduction during RIH while not compromising stand-off across critical zones.

## CUSTOMER VALUE

- An excellent cement job across critical zones including wash outs for the first time in Operator's field.
- Eliminated non-productive time during RIH allowing customer to keep operating costs low.
- Cement bond showed no channeling ensure the integrity of the well is established for many years of production.



