



## CHALLENGE

A major operator in the Netherlands was having difficulty retrieving a Wireline Retrievable Safety Valve (WRSV) that was no longer functioning properly. It was thought that Barium Sulphate scale ( $BaSO_4$ ) was one of the main factors. The operator wanted a safe method of removing the scale, without risking damage to the WRSV. There would also be no fluid in the well during the treatment.

## HIGHLIGHTS

Conventional oil field  
Directionally drilled

## LOCATION

Netherlands onshore

## CONDITIONS

Temperature: 20 °C (68 °F)  
Depth: 100 m (330 ft)



Scale Removal

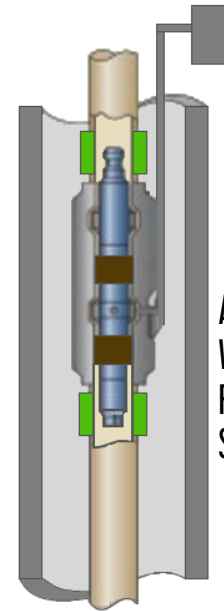
## OUTCOME

- The mini FHUT was successful in holding a fluid column in the wellbore so that the pulsing was occurring in the required environment
- A camera was run before and after the 1<sup>st</sup> WASP<sup>®</sup> run and it confirmed that scale was removed
- After the WASP<sup>®</sup> and chemical treatments, the WRSV was successfully retrieved from the wellbore

**BaSO<sub>4</sub>  
scale removed  
and WRSV  
retrieved**



The WASP<sup>®</sup> 212 Electrode with a mini FHUT attached



A typical Wireline-Retrievable Safety Valve

## SOLUTION

Remove  $BaSO_4$  scale from the WRSV to aid in retrieval using electro-hydraulic pulsing technology

- A miniature Fluid Hold-Up Tool (mini FHUT) was designed and built specifically for this well due to the lack of fluid in the wellbore
- The Blue Spark WASP<sup>®</sup> 212 (Wireline Applied Stimulation Pulsing) slimhole tool was run on third-party E-Line with the mini FHUT so as to provide a fluid environment in the wellbore while getting as deep into the WRSV as possible
- Three runs of WASP<sup>®</sup> were made, treating the WRSV and the flow coupling
- Chemicals were also circulated over the WRSV