

### CHALLENGE

A major operator on the Norwegian Continental Shelf needed to release the annular safety valve (ASV) of a well for later completion string retrieval but were concerned about scale buildup. Normally they would use string shots and brushes to remove scale, or, they would cut the tubing & the ASV. They elected to try WASP® pulsing technology to remove the scale instead, as WASP® can more accurately target specific depths and would save both time and cost.

### LOCATION

Norwegian Continental Shelf

### CONDITIONS

Depth: 525 m (1,720 ft)  
 Temperature: 40 °C (104 °F)

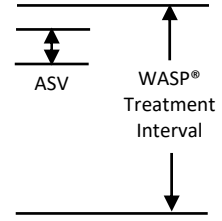
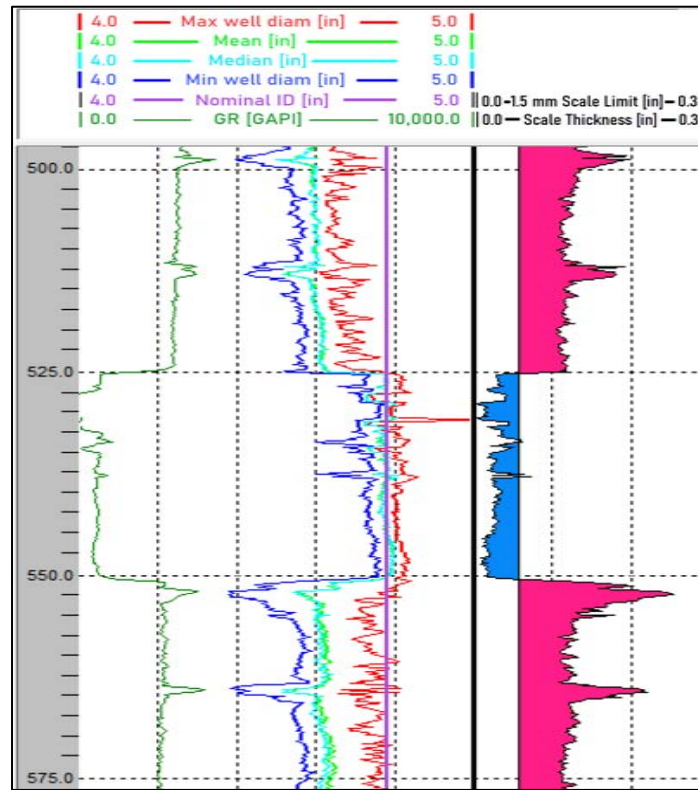


Scale Removal

### OUTCOME

- The MFC log confirmed that the scale over the interval treated had been reduced by 80 – 100%.
- The plug was set below the ASV and the ASV was released with a dedicated punch tool
- WASP® saved up to 5 days of operating time and USD 200K

Caliper confirms that WASP® cleans ASV of scale



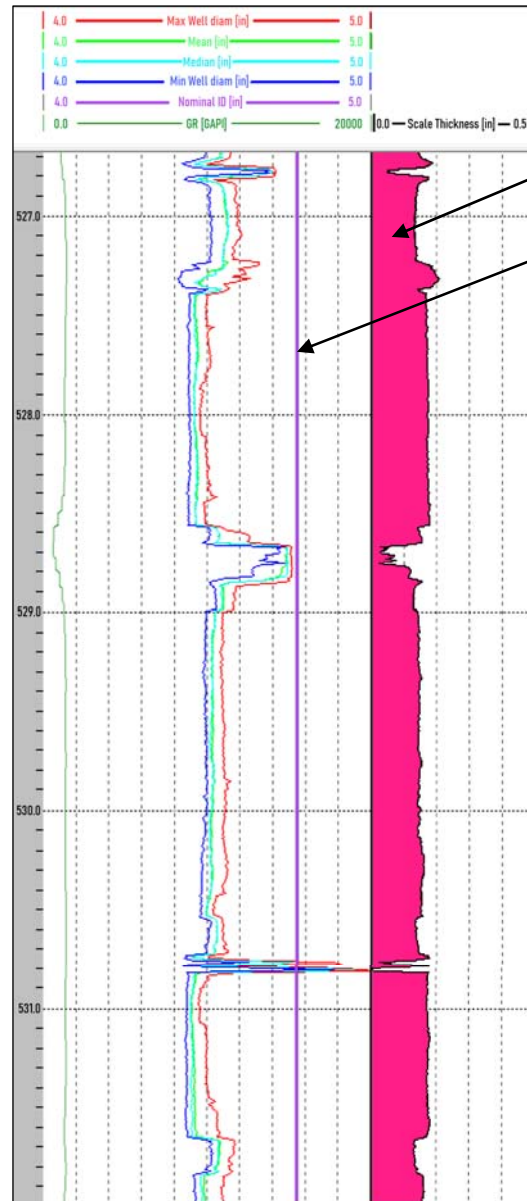
### SOLUTION

Remove scale from the upper completion of the wellbore using electro-hydraulic pulsing technology

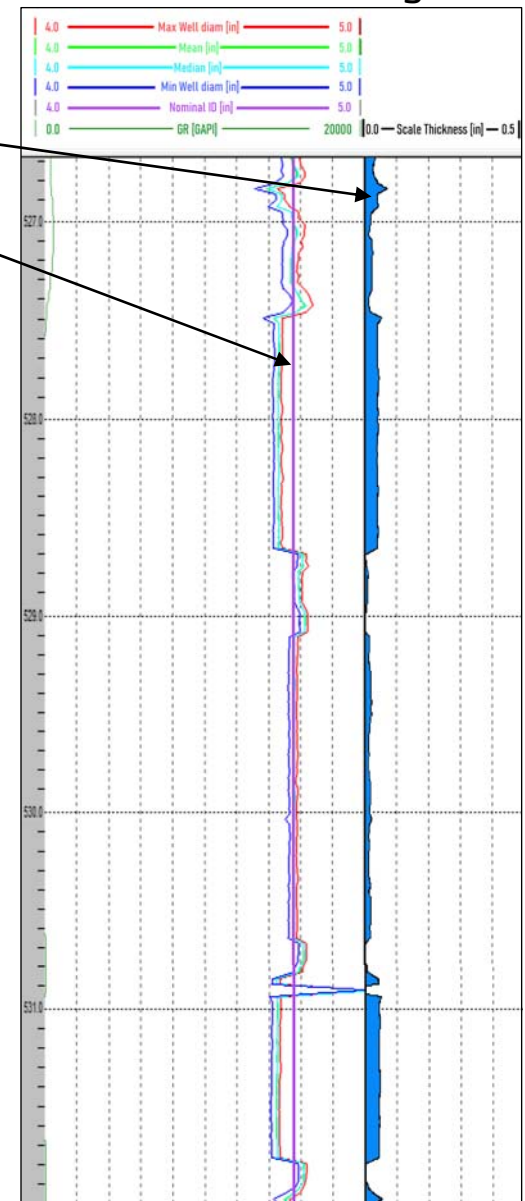
- The Blue Spark WASP® 275 (Wireline Applied Stimulation Pulsing) tool was run on third-party E-Line to the treatment interval
- A 25 m interval was treated across the ASV and below it, thereby exposing the internal “punch tool locator” profile and clearing an area for plug installation
- The treatment was completed in one run in less than 14 hours of operating time
- A multi-finger caliper (MFC) was run over the treated and untreated sections of the wellbore for comparison to the previous caliper log

### Detailed Caliper Log Comparison

Before MFC Log



After MFC Log



*“I have had a belief in the WASP® tool for some time, and it was good to finally deploy and see for ourselves.*

*We were pleased to have tools and personnel mobilized on short notice and have the WASP® tool successfully remove scale during the operation.”*

- Team Lead,  
Well Operations

