

## RestrictionVA

# IDENTIFYING AND OVERCOMING A CASING BREACH

EV's Integrated Video Caliper (IVC) tool incorporates qualitative & quantitative measurements to identify the root cause of restricted wellbore access

## WELLBORE HOLD-UP

The operator was midway through a frac, when they experienced a hold-up at around 2,500 metres, which they suspected to be a casing collapse.

With a frac fleet now on standby, and live guns on site, diagnosing and resolving the issue is essential to prevent escalating costs and reduce operational risk.

## CASING BREACH

With time being critical, EV rapidly mobilized a 24-arm Integrated Video Caliper, or IVC, from one of our many strategically located operating bases. The IVC was deployed on E-Line, providing real time high-definition video, combined with multi finger caliper measurements to help identify the causes of the hold up.

Upon reaching 2050 metres, the cause of the hold-up was immediately identified. A full breach of the casing was located just above a connection. The sideview footage revealed the extent of the damage in detail, and that the perimeter of the split was evidently eroded by proppant flow into the annulus (**Fig.1**). While it turned out not to be a casing collapse, this breach is evidently causing loss of pump-down pressure and restricting access to the well.

## ⚠ THE CHALLENGE

An operator in Canada was midway through a frac, when they experienced a hold-up at around 2,500 metres, which they suspected to be a casing collapse. With a frac fleet now on standby, and live guns on site, diagnosing and resolving the issue is essential to prevent escalating costs and reduce operational risk.

## 💡 THE SOLUTION

EV's Optis® Integrated Video Caliper (IVC) was deployed on E-Line, providing real time high-definition video, combined with multi finger caliper measurements to help identify the causes of the hold up. The IVC tool was rapidly mobilized from one of our many strategically located operating bases.

## ✅ THE RESULTS

Upon reaching 2050 metres, the cause of the hold-up was immediately identified. A full breach of the casing was located just above a connection. The sideview footage revealed the extent of the damage in detail, and that the perimeter of the split was evidently eroded by proppant flow into the annulus. (**Fig.1**). Using EV's Integrated Dimensioning software, an EV analyst provided detailed and accurate measurements to determine the split was approximately 1cm wide and 18cm long (**Fig.2**). The visual assessment was confirmed by detailed analysis of the caliper data. Additional 3D views were produced to help visualize the casing split in more detail (**Fig.3**). With this information, the operator was able to patch the casing breach on the next run, allowing them to successfully complete the frac job and put the well onto production.



Figure 1: Sideview footage of casing breach

## UNDERSTANDING THE SEVERITY

Using EV's Integrated Dimensioning software, an EV analyst provided detailed and accurate measurements to determine the size of the split. These measurements revealed the split was approximately 1cm wide and 18cm long (**Fig.2**). The visual assessment was confirmed by detailed analysis of the caliper data. Additional 3D views were produced to help visualize the casing split in more detail.

The combination of video and caliper data integrated within the same software is unique to EV, helping increase understanding and enabling operators to make decisions with confidence.

## FRAC JOB COMPLETED

With the quantified information provided by RestrictionVA, and a clear visual understanding of the restriction provided, the operator was able to patch the casing breach on the next run, allowing them to successfully complete the frac job and put the well onto production.

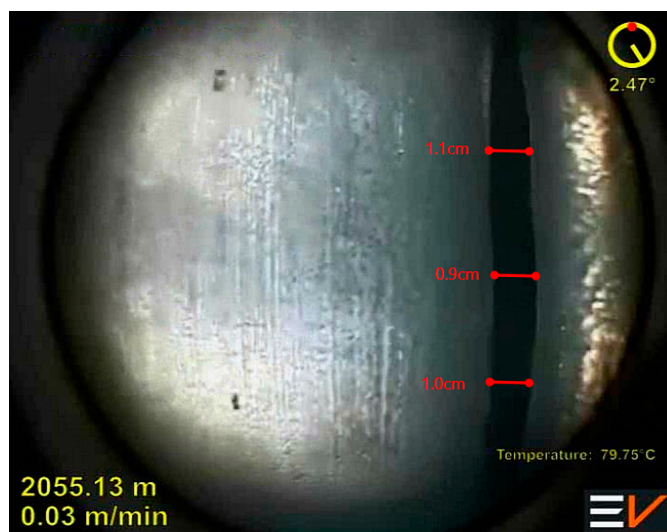


Figure 2: Measurements revealing extent of casing split

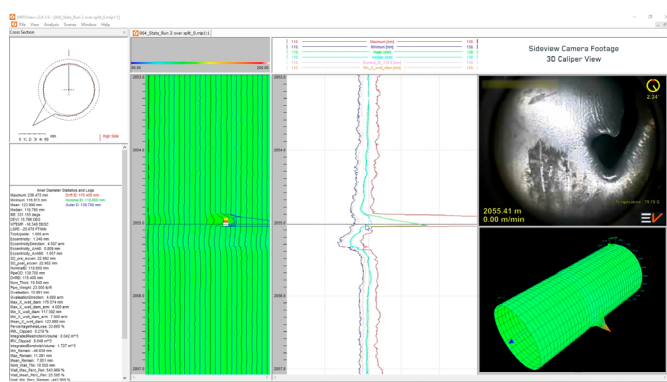


Figure 3: Combined video and caliper view

***“The camera & caliper data provided by EV was instrumental in allowing us to patch the casing breach and finish the frac”***

*Completions Team Lead*