

## ValveVA

# INTEGRITY RESTORED WITH VISUAL ANALYTICS

EV's Optis Infinity M125 provides a complete 360° image of the well enabling a new quantum of data on valve condition & status.

## CONTROL LINE LEAK

A control line was leaking and affecting the operation of the Sub-surface safety valve, which needed to be locked open and replaced by an insert safety valve.

During the lock out operation, substantial force was unexpectedly exerted on the flow tube, causing the lock out tool to get stuck. After managing to free the tool, the operator ran a check-open tool, however was unable to verify if the safety valve was successfully locked-out.

With a critical safety system compromised, the operator needed a complete understanding of the situation downhole.

## FLAPPER & FLOW TUBE CONFIRMATION

EV's Optis Infinity M125 Camera was run on Slickline with full, 360 degree footage acquired to inspect the status of the safety valve, and evaluate the position of the flapper and flow tube.

The camera was run to a depth of 600 feet where the 360 degree footage confirmed the flow tube to be in the open position. The footage confirmed there were no signs of damage, build up of deposits or other factors that would compromise the installation of the insert valve (**Fig.1**).



Figure 1: Sideview footage confirming flow tube in the open position

## ⚠️ THE CHALLENGE

A leading operator in the Netherlands experienced a control line leak that was affecting the operation of the safety valve in their gas well. The safety valve needed to be locked open and replaced by an insert safety valve. During the lock out operation, substantial force was unexpectedly exerted on the flow tube, and the operator was unable to verify if the safety valve was successfully locked-out.

## 💡 THE SOLUTION

EV's Optis Infinity M125 Camera was run on Slickline with full, 360 degree footage acquired to inspect the status of the safety valve, and evaluate the position of the flapper and flow tube.

## ✅ THE RESULTS

The 360 degree footage confirmed the flow tube to be in the open position. The footage also confirmed there were no signs of damage, build up of deposits or other factors that would compromise the installation of the insert valve (**Fig.1**). EV's proprietary Visual Analytics processes were applied to create a fully interactive 3-Dimensional model of the area of interest, enabling direct comparison of the acquired data with engineering drawings of the assembly. (**Fig.2**) Having provided conclusive proof that the flow tube was fully locked open, the operator successfully performed a rig-less intervention to install a wireline retrievable safety valve, resulting in rapid restoration of safe production and avoidance of a costly workover.

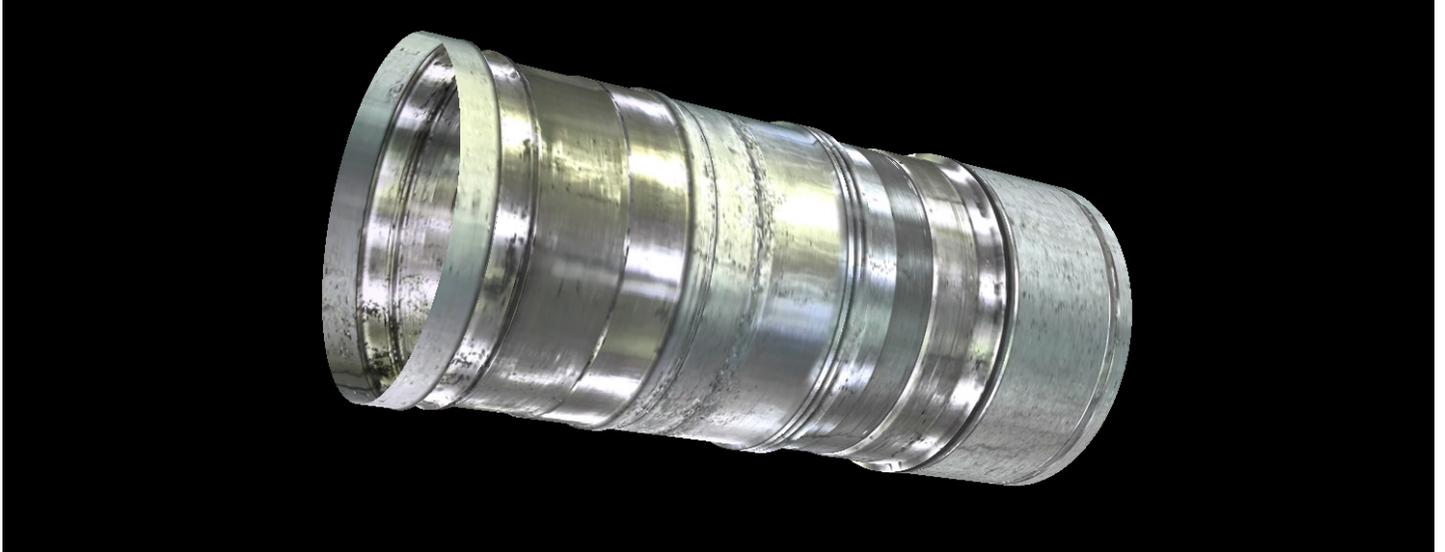


Figure 2: interactive 3D model enabling direct comparison of the acquired data with engineering drawings of the assembly.

### PROPRIETARY VISUAL INFORMATION

EV's proprietary Visual Analytics processes were then applied to create a fully interactive 3-Dimensional model of the area of interest, enabling direct comparison of the acquired data with engineering drawings of the assembly (**Fig.2**).

Visual correlation of key components, and the measurement of their geometries, provided conclusive proof that the flow tube was fully locked open and that it was safe to proceed with installation of the insert valve.

### INTEGRITY RESTORED

Armed with the quantified information provided by ValveVA, the operator successfully performed a rig-less intervention to install a wireline retrievable safety valve, resulting in rapid restoration of safe production and avoidance of a costly workover.



Figure 3: 3D fly-through visualization