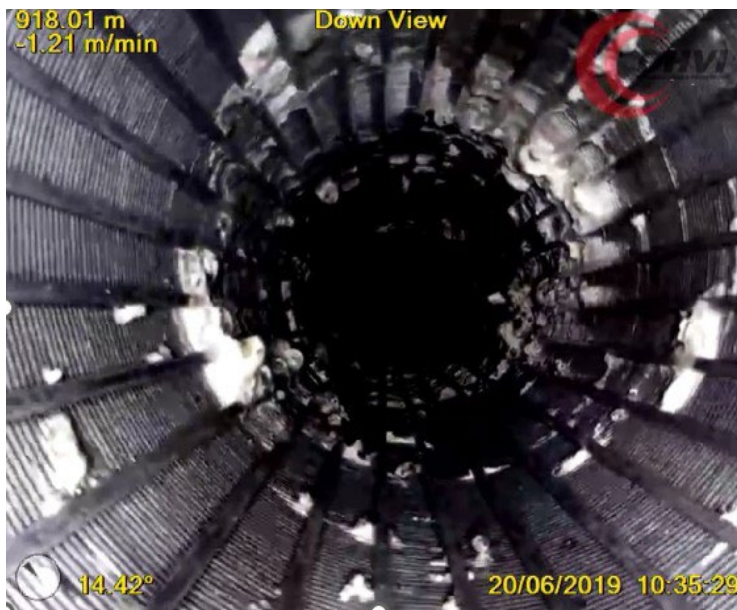


Capture™ Camera on E-Line

Case Study - Injector Well Inspection

During an annual inspection service on an injector well for the field, the camera was deployed to investigate the unusual increased pressures required while injecting which were steadily increasing over the injection cycle. While the versatility of downhole cameras allows for a variety of applications, mechanical inspections will always remain a core service, where other technologies fail to provide the full picture. DHVI's Capture Camera was dispatched to further investigate the issues found in this well.

There were several questions that were unresolved from the initial findings. Most importantly, what was the root cause of the build-up? Where were the screen issue(s), why was there debris build up on the screens as these should have been removed with the inline filtration? Working closely with the Completion engineers and using the information gathered from the previous runs, a thorough camera logging procedure was drafted to best meet the objectives. The camera was then lowered slowly through the screens on downview and then logged upwards on sideview to investigate the screen in more detail while Live Streaming the video from location to our corporate office 4,054kms away.



Downview of Sand Screen with heavy debris build-up



Sideview of Sand Screen showing extent of build-up

The camera was able to accurately determine that the main issue for the increased injection pressures, to maintain rates, was due to increased filter cake in the screens. It was also confirmed with the video that the build-up of debris was not consistent throughout the well and localized. The findings became apparent after reviewing the video with the client. The client elected to pickle the wellbore with a mild acid to see if it would reduce or eliminate the debris on the screens. The acid was circulated and the injection well was put back on with an instant noticeable reduction in rates allowing the client to get the disposal well back on line the next day with little downtime! The cost savings were immense as the well was the No.1 Injector in the field. The client was certain as to the chemical application by seeing the video as it was able to be shared with experts within their company in multiple cities simultaneously. Without the camera the client would have had uncertainty as to what caused the issue, whether it was due to mechanical failures, wellbore blockages or debris build-up which would have shut down the field by losing the injector.

