

API Hydro Scheme Pipe Inspection Case Study

API (UK) Ltd

API is a specialist pipe inspection company offering clients a unique service of live water pipe inspection. The process involves inserting a camera and hydrophone sensor live into a pressurised pipeline whilst the pipe remains under normal operating pressure and in service.

API recently undertook a live pipe inspection project in Scotland on 5.5 km of 400mm PVC/Ductile Iron Hydro Plant pipeline, due to a reduction in hydraulic output identified by the client.

The inspection scheme was not a standard project due to the challenging mountainside terrain and access issues. Pre planning for the project was the key to its success, and on site pre surveys were undertaken. The hire of a specialist all-terrain vehicle was organised for the inspections along with an experienced driver.

The client organised and installed 10 camera insertion points along the pipeline utilising under pressure saddles and fittings, fusion welded or clamped to the PVC pipeline and configured with ball valves for camera insertion.



Insertion Point Example



System Set Up

The entire 5.5 km of pipeline was successfully surveyed, with no leaks being identified; however air pockets were identified in 2 sections of pipeline, and also a 50 metre section of pipeline was successfully identified as being imploded due to terrain type and backfill.



Air Pockets Identified



Pipe Implosion Identified

The client installed 2 additional air release valves on the pipeline and exposed the imploded section identified during the live surveys (see images below).



Sensor Traced Above Ground



Exposed Imploded Pipeline

The necessary repairs were undertaken and the pipeline outputs have now returned to the original maximum output levels. The estimated cost of lost revenue due to the reduced hydraulic output is approximately £300 000 per annum.