

# Case Study - PIG Inspection Services

## Project

PIG Gauging and tracking for offshore 3, 6 and 8 inch stalk lines (XXS wall thickness).

## Location

Hartlepool spool base.

## Main Contractor

Pipeline Technique Ltd for Helix.

## Pipeline Owner

Davy East, BP.

## PIG Equipment utilised (3 stage testing)

1. Roxby utilised soft foam PIGS which had a hollow centre for the location of the PIG tracking transmitter.
2. Roxby used suitable 4 cup Bi-Di Polypropylene PIGS to suit the range of diameters and wall thickness as described above complete with a gauging plate, cut to 95% of the nominal bore of the pipe to be inspected.
3. PIG tracking equipment was attached into the centre of the Bi-Di PIG.

## Purpose of Inspection

Soft PIGS were used to make sure the lines were clear of any debris so the next stage of PIG gauging could be performed. A Bi-Di PIG was then sent through the pipe with the primary purpose of checking that there was no excess penetration from the welding process. A PIG tracking device was used in case the PIG got stuck at an excess weld penetration point. This would allow quick and efficient location of the PIG so it could be removed and the excess penetration from welding repaired.

## Result

All lines were cleared of debris and no excess penetration was present.

Note: As Roxby were unable to fix the launcher / receiver directly onto the pipe by means of welding, special clamps were designed and fabricated. They were then bolted directly onto the pipes.



Stalk lengths vary between 350 and 750 metres



Pressure data is logged during the PIGGING process

# ROXBY

Innovative Engineering Solutions



The launcher being connected to a 750cfm compressor



The PIG receiver being bolted into place



A pressure of between 8 - 14 PSI was applied to the PIG as it was launched down the pipe



PIG tracking being carried out on an above ground pipeline

## PIG Tracking Equipment utilised

Roxby Services used Low Frequency transmitter PIG Tracking Equipment to confirm that the gauge PIG had been launched and received successfully.

The PIGS were also tracked at intermediate points along the length of the pipeline route to monitor progress and velocity. The receivers used by Roxby are very sensitive to weak signals. Analog and digital displays provide viewing signal strengths in all light conditions. The external antenna provides extended pickup range for use in locating lost or damaged tools and tracking at locations where pipelines are buried at greater depths (up to 5 metres).

The transmitters have a LED to indicate transmitters are operating correctly and can operate for over 100 hours on continuous use.



Receiver



Antenna



Transmitter

“ Roxby have performed the duties placed upon them in a timely manner and have been pro-active in helping to solve problems that have unexpectedly arisen. ”

Colin Hunt  
Quality Assurance Manager  
Pipeline Technique Limited

# ROXBY

Innovative Engineering Solutions

2nd Floor, Offshore House  
Teesport Commerce Park  
Dockside Road  
Middlesbrough TS6 6UZ  
T: +44 (0) 1642 438700  
F: +44 (0) 1642 466879  
[www.roxby.com](http://www.roxby.com)