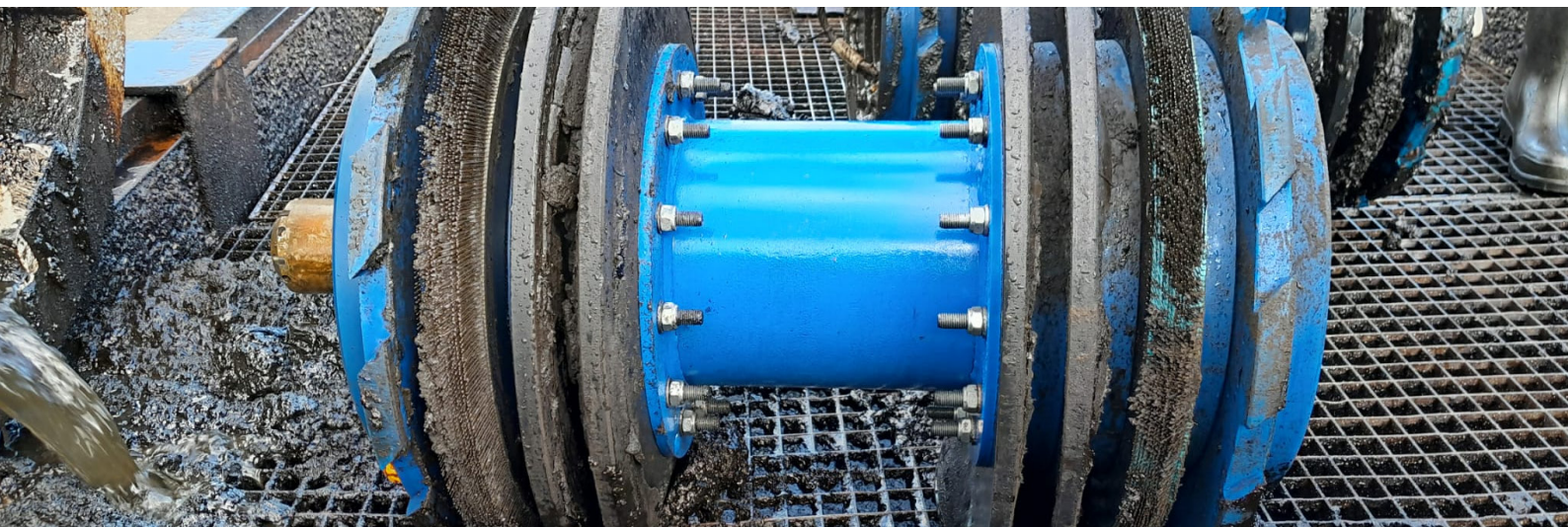




Case Study

Integrated Pipeline Cleaning, Inspection and Preservation for Offshore Asset Decommissioning

Introduction

We were contracted to deliver a turnkey pipeline cleaning, inspection, and preservation solution for a large offshore crude oil export pipeline as part of a decommissioning project.

The objective was to recover valuable hydrocarbons, remove accumulated wax deposits, assess the pipeline's integrity, and preserve the asset for potential future use. By combining multiple services into a single integrated operation, Intero minimized waste generation, reduced operational complexity, and provided the client with a complete understanding of the pipeline's condition.

Asset Details

- Pipeline diameter: 20-inch
- Pipeline length: Approximately 85 km
- Pipeline product: Crude oil and wax deposits
- Application: Offshore export pipeline
- Services: Cleaning, displacement, UT inline inspection, and preservation
- Inspection technology:
Ultrasonic Inline Inspection (UT ILI)

Scope of Work

Intero was responsible for the engineering, planning, and execution of a complete cleaning-to-inspection program.

The scope included hydrocarbon displacement, progressive wax removal using bi-directional pigging, ultrasonic inline inspection, filtration and environmental management of displaced fluids, and final preservation of the pipeline using corrosion inhibitor and biocide chemicals.

All activities were managed through a single project team, providing the client with one point of contact throughout the project lifecycle.



The Challenge

The pipeline contained significant wax deposits that posed a risk of blockage during cleaning operations. At the same time, the remaining crude oil had to be recovered for commercial value rather than disposed of as waste.

Environmental restrictions further complicated the project, as water discharge was not permitted at the onshore terminal location. This required careful planning of displacement and flushing operations to ensure compliance with environmental requirements.

In addition, the asset owner required an integrity assessment to support future decisions regarding the pipeline. Cleaning and inspection therefore had to be combined within a single operational sequence while maintaining safe and reliable pig passage over the full pipeline length stress.

At the same time, strict timelines required all activities to be completed efficiently without compromising safety or operational control.

The Solution

Intero developed an integrated pigging strategy combining hydrocarbon displacement, progressive wax removal, inline inspection, and preservation in a single project.

A specially configured cleaning train using bi-directional pigs and chemical batches was deployed to gradually remove wax deposits while minimizing the risk of blockage. Following successful cleaning, an ultrasonic inline inspection tool was incorporated into the operation, allowing pipeline integrity data to be collected without requiring a separate inspection project.

To support the return cleaning and inspection run, We installed temporary pumping and water handling systems, enabling controlled displacement and flushing of the pipeline. Once cleanliness criteria had been verified, preservation chemicals were injected to protect the asset for potential future service.

The Result

- Successful recovery of hydrocarbons for commercial reuse
- Effective removal of wax deposits throughout the pipeline
- Combined cleaning and ultrasonic inspection completed in a single operation
- High-quality integrity data successfully collected and delivered to the client
- Oil-in-water levels maintained below 30 ppm
- Pipeline cleanliness independently verified
- Pipeline preserved for potential future operation
- Minimal waste generation despite the large pipeline volume

Advantages

- Turnkey execution through a single contractor
- One dedicated project management team
- Combined cleaning, inspection, and preservation in a single campaign
- Reduced operational interfaces and project complexity
- Environmentally responsible approach with minimal waste generation
- Real-time monitoring of pipeline cleanliness during inspection
- Efficient execution across both onshore and offshore locations

