

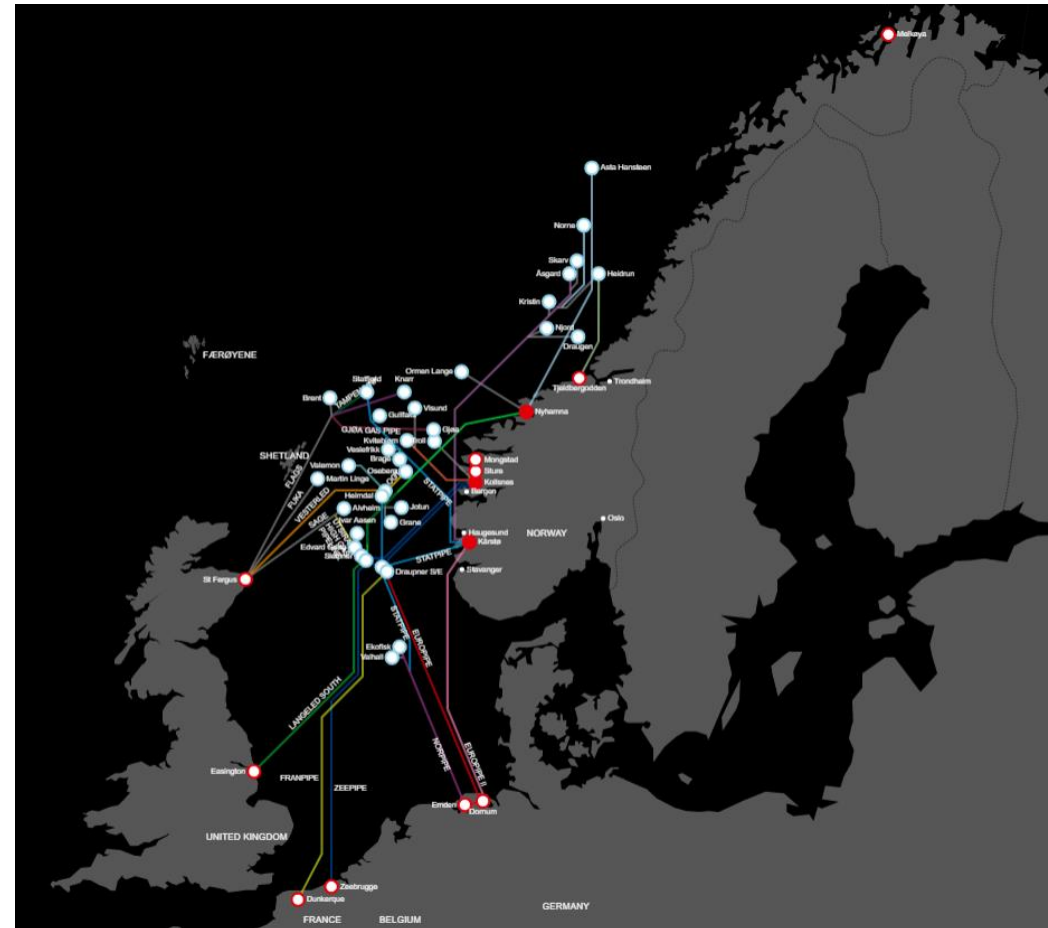
Pipeline Decommissioning – Cleaning

PPSA 16.11.2022

Equinor Pipelines Transport Net

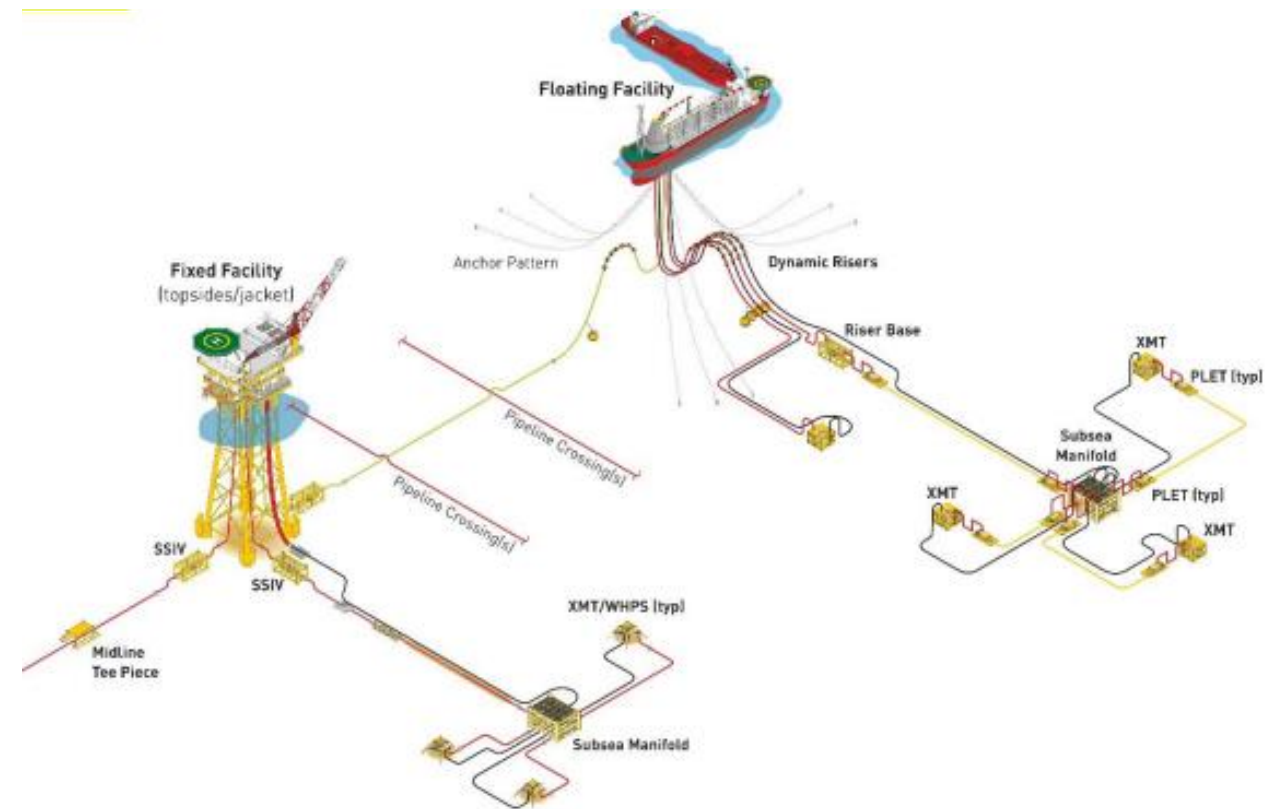
Operating and maintenance 10 000 Km Export Pipelines for Equinor and as Technical Service Provider for Gassco.

- Integrity management
- Projects and maintenance
- Flow Assurance
- External survey
- Internal Inspection (ILI)
- Cleaning/Decommissioning
- Regular/Operational pigging

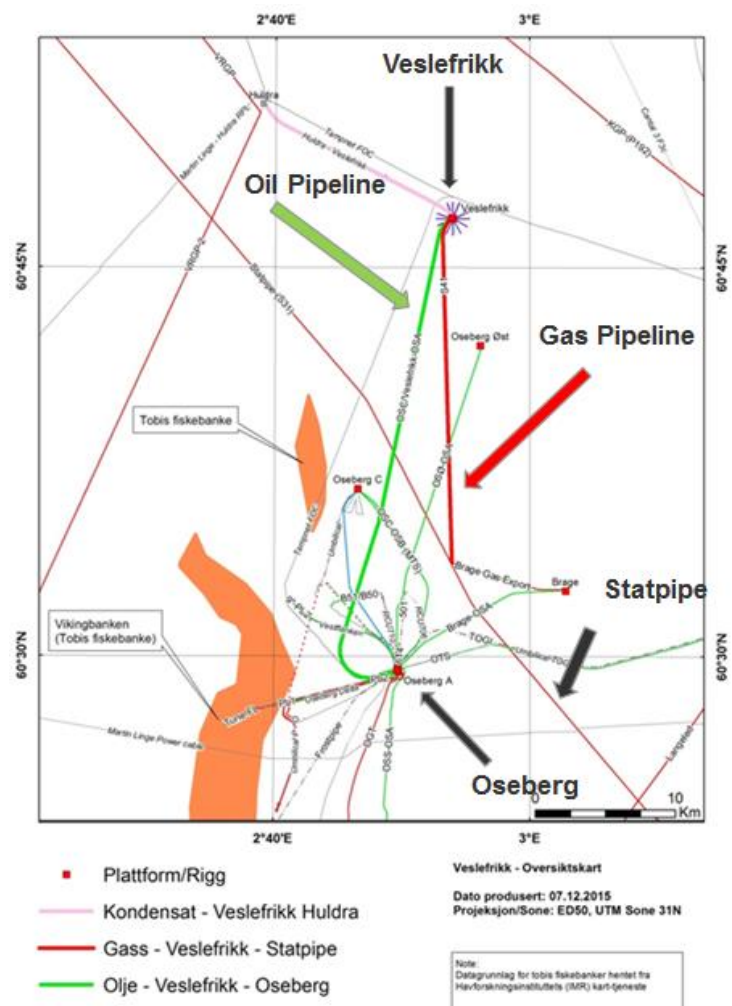


Pipeline Decommissioning – Requirements

- National and International Requirements for Decommissioning of offshore systems.
- No specific requirements for cleaning
 - Decommissioning solutions require the pipeline to be cleaned to minimize environmental impact.
 - The requirements tends to be linked to acceptance criteria for produced water discharge to sea.
 - BAT (Best Available Technology) /ALARP principal



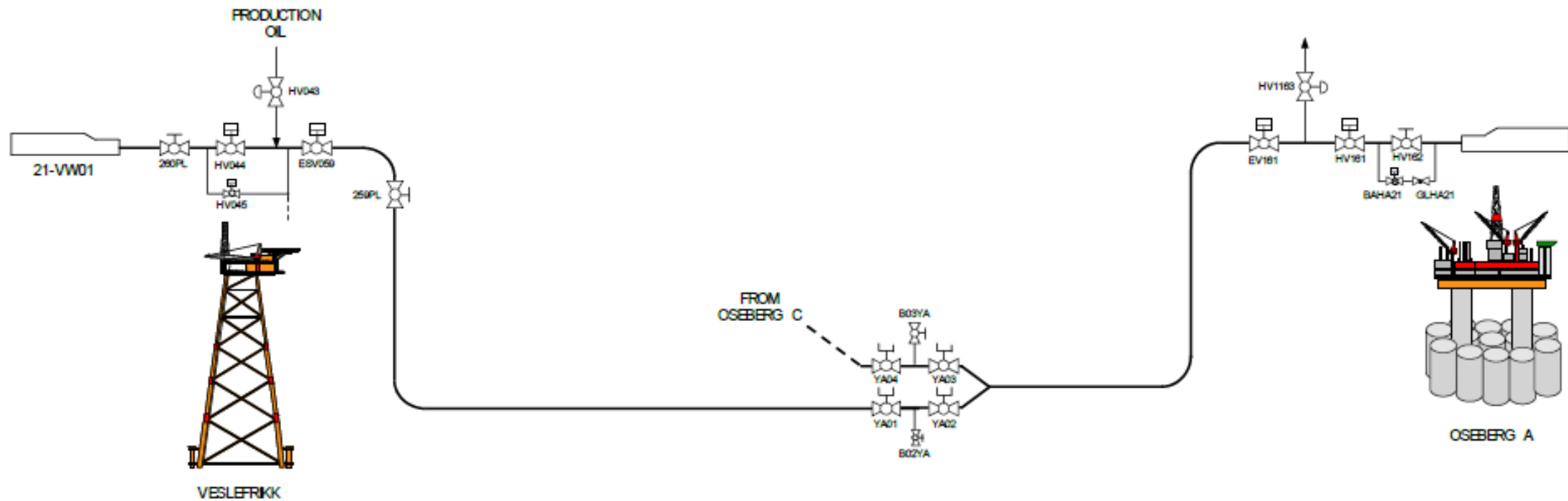
Pipeline Decommissioning – Veslefrikk



Export pipelines at the Veslefrikk field:

- 25 km, 10" gas export pipeline from Veslefrikk A to Statpipe pipeline, connected by Veslefrikk Tee structure
- 37 km, 16" oil export pipeline from Veslefrikk A to Oseberg A via Veslefrikk Y structure

Veslefrikk 16" Oil Export Pipeline



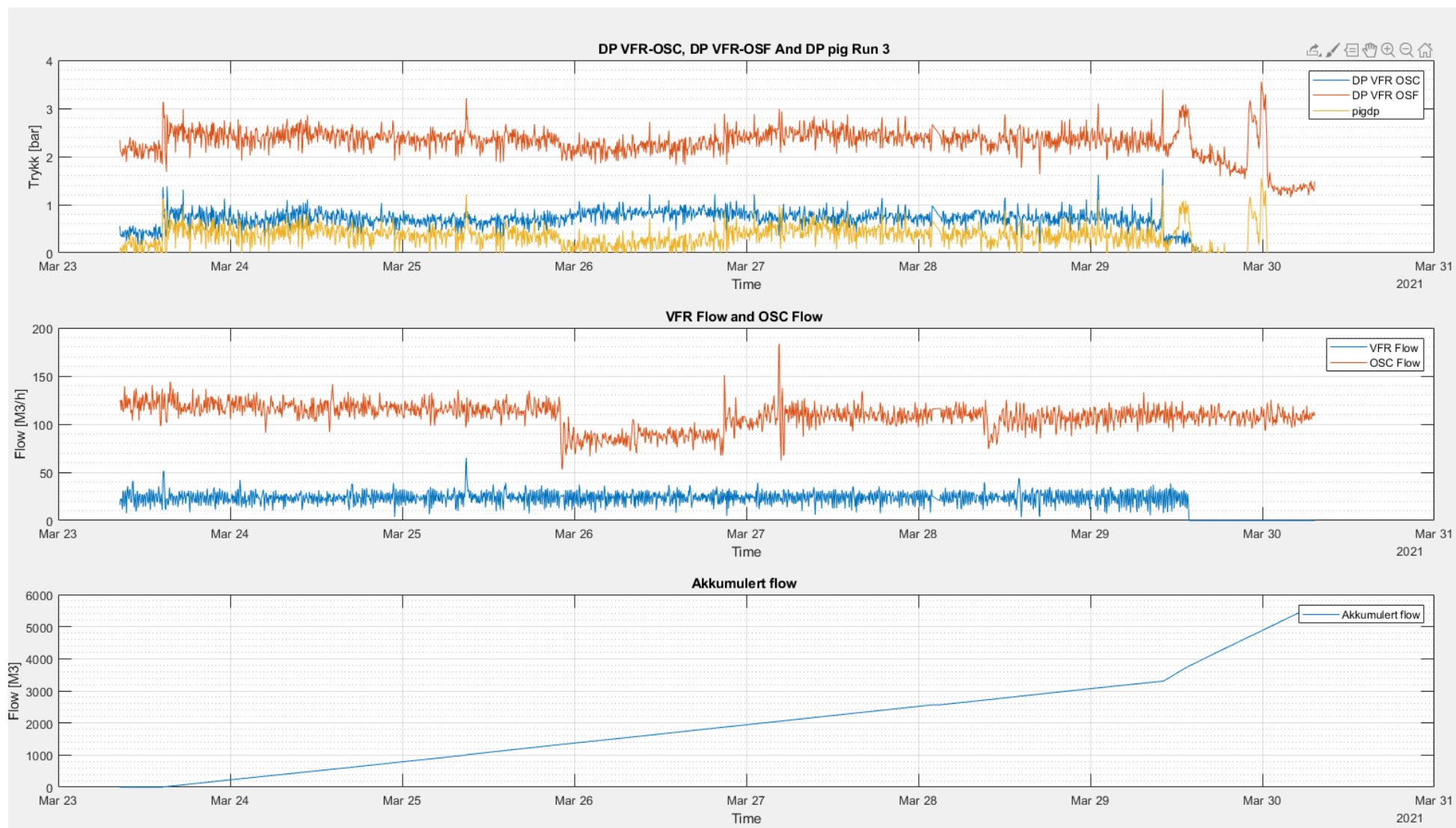
23.2 km, 16" Oil Pipeline from Veslefrikk A to Veslefrikk Y

Pigging History of the 16" Veslefrikk Oil Pipeline

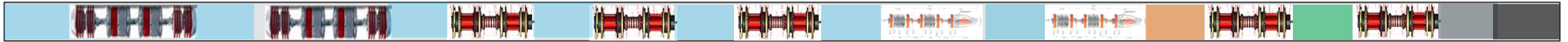
- ILI 2006, 2013 and 2018.
- Heavy wax pipeline, operational pigging optimized.
- Precleaning program and wax inhibitors from March 2021.



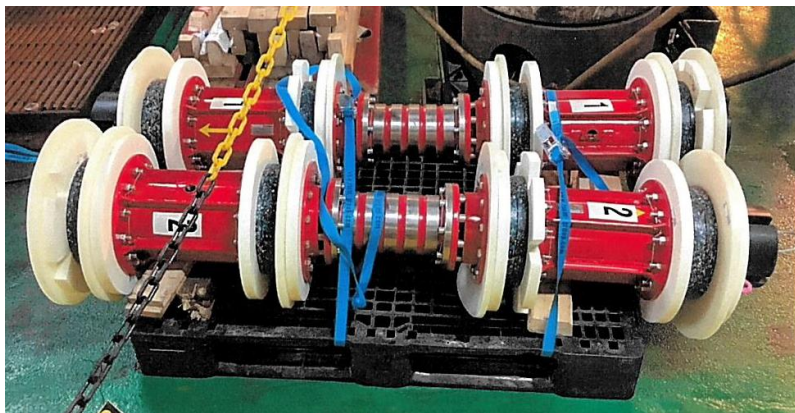
Pressure Data from Precleaning - 2021



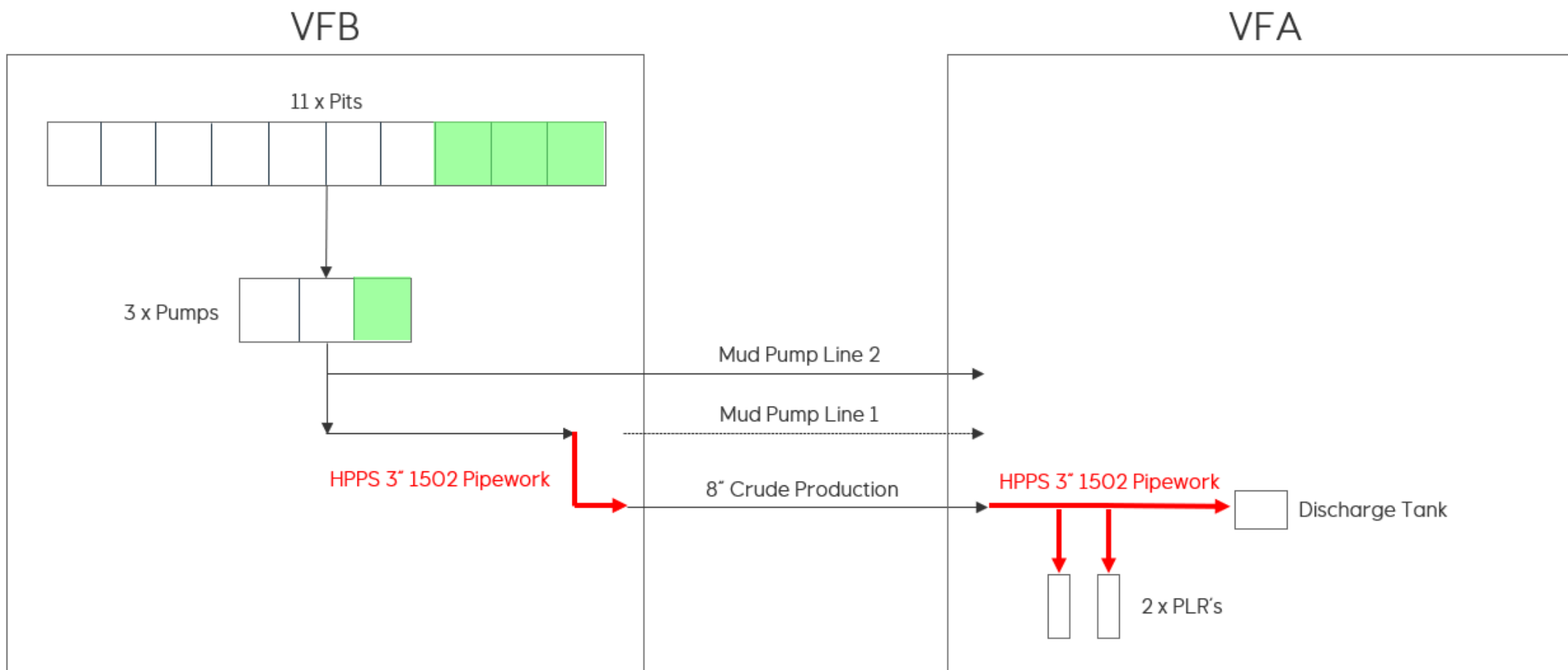
Decommissioning Pig Train



- 20m³ batches of wax dissolving chemicals and sea water.
- Customize pig designs.
- Two isolation tools last.

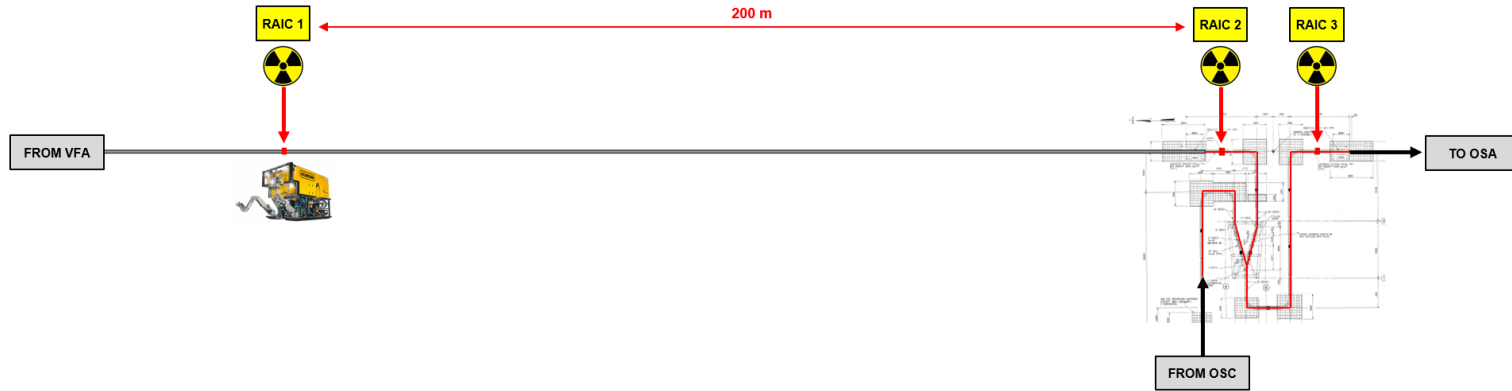


Veslefrikk A & B Equipment

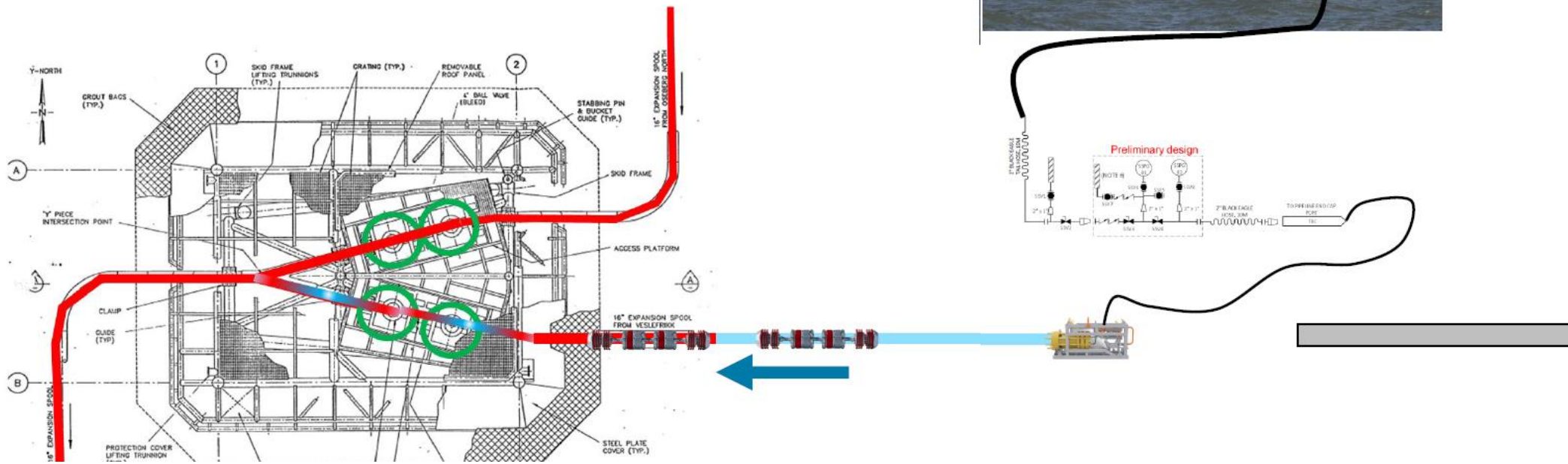




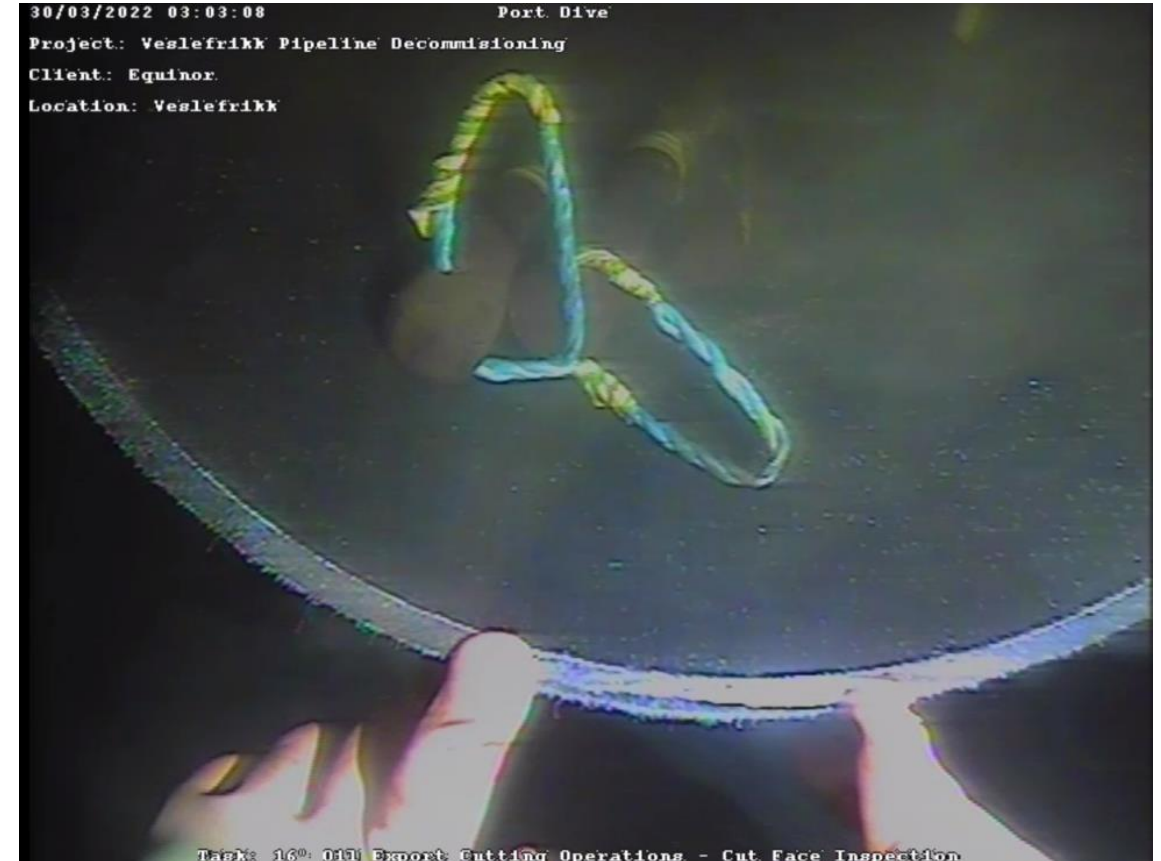
Pig detection/setting of isolation tool with E-Rov



16" Oil – Cut Location



Clean 16" Oil Pipeline



The dive supervisor asks about the quality of the pipe and the diver responds as follows:

- At 07:22:10 the diver confirms the pipe is in 'good condition'
- At 07:22:20 the diver confirms there is 'no scale or damage' and that it's 'good clean pipe'
- At 07:22:38 the diver confirms there is 'no trace of oil'

Pipeline Decommissioning –Cleaning

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