

# THE CTour PROCESS FOR PRODUCED WATER TREATMENT



In response to increasing produced water volume combined with stricter legislation and constant operational concerns, ProSep offers the CTour process. The process is one of the only technologies in the world that can cost-effectively remove both dispersed and dissolved hydrocarbons from large volumes of produced water. It does this through injecting a condensate of light hydrocarbons into the produced water stream to extract the harmful components.

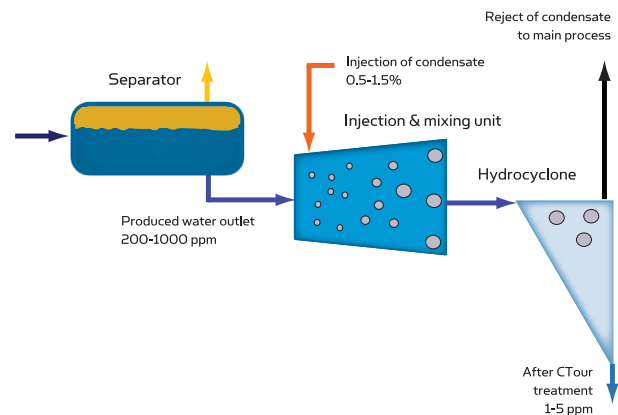
## PRODUCED WATER TREATMENT FOR THE FUTURE

Recently the CTour process was commissioned for full-scale installation on five different platforms in the North Sea. The platforms treat approximately 1.8 million BWP, which represents two-thirds of the produced water discharged in the Norwegian sector.

When operated under optimum conditions, the CTour process routinely yields residual oil discharges of <3 ppm total petroleum hydrocarbons (TPH) and at the same time removes 90-95% of dangerous dissolved polycyclic aromatic hydrocarbons (PAH) components. The CTour process has been successfully developed, tested, and installed on offshore platforms and can be implemented in most production facilities where condensate is available.



## TYPICAL CTour PROCESS



The CTour process breaks ground as a step change in the treatment approach for produced waters and has served as a vehicle in facilitating “Zero Harmful Discharges” legislation in the North Sea. It is expected to influence future discharge legislation in other countries as well since it is being considered the new “best available technology” for treating produced waters.

## ProSep’s OFFERING

- Prediction of performance
- Process definition for implementation of CTour process
- Configuration and specification of equipment for full-scale installation
- Project support
- Commissioning, start-up assistance, and project support
- Field testing

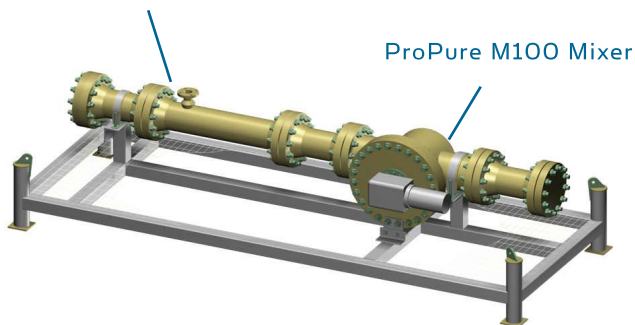


## THE CTour PROCESS

- Condensate is injected and mixed with the produced water.
- Hydrocarbon contaminants are extracted; oil and condensate droplets coalesce.
- The condensate is separated from the produced water in the hydrocyclone and routed back to the main process.

## CTour MIXER TRAIN

ProPure C100 Injection Mixer



**The unique CTour process will meet current and future requirements for water treatment.**



**Spotlight**  
on new  
TECHNOLOGY

### SPOTLIGHT AT OTC 2006

The CTour process was one of the 13 innovative technologies recognized by OTC 2006 with the Spotlight on New Technology award.

ProSep Inc., which consists of ProPure, ProPure ME, ProSep Technologies, Inc., and ProSep AP, is the exclusive supplier of the CTour patented technology.



**Typical North Sea CTour Test Facility Setup**

## REFERENCES

The CTour process treats approximately 2 MBPD of produced water offshore Norway which corresponds to two-thirds of the country's total. Detailed references available upon request.

## FOR YOUR INFORMATION

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