



## Case History: Produced Water Treatment

CETCO was contracted by Shell to demonstrate the effectiveness of its CrudeSep® and CrudeSorb® produced water treatment technologies on the Auk platform in the North Sea.

Client: Shell Auk

CETCO Oilfield Services mobilised an 18" diameter twin vessel CrudeSep® test skid and a RFV 3000 adsorption skid comprising of dual sock filter pods and two vessels holding adsorption media canisters. The CETCO equipment was tied in downstream of the existing WEMCO and hydrocyclones and successfully treated produced water at a variety of rates. Samples were taken from a variety of points and analysed by the Shell appointed chemist offshore.

Historically produced water on the Auk platform has been very hard to treat despite the use of chemicals. This may be attributed to finely dispersed oil droplets, mechanical inefficiencies and to some extent the presence of soluble hydrocarbons. CETCO's CrudeSep technology achieved a discharge level of 20-30 mg/l oil in water, surpassing current DTI legislation and attaining Shell's internal target of <30 mg/l. This performance was recognised by Shell as highly significant since no water clarifier chemistry was required. The CrudeSorb® adsorption media located downstream of the CrudeSep polished this water achieving the ultimate target of zero mg/l oil in water. Throughout the trial process conditions fluctuated dramatically, however the CETCO package still managed to discharge low oil in water concentrations when handling surges.



CETCO equipment on Auk platform

Shell was extremely pleased with the overall trial and particularly impressed with the oil recovery efficiency of the CrudeSep® technology when compared with the existing hydrocyclones. Further, the combined use of CrudeSep® and CrudeSorb® can provide 100% efficient treatment of discharged wastewater to existing production facilities due to erosion from solids and acidic fluids.

### WATER TREATMENT



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