

Water Treatment Case History

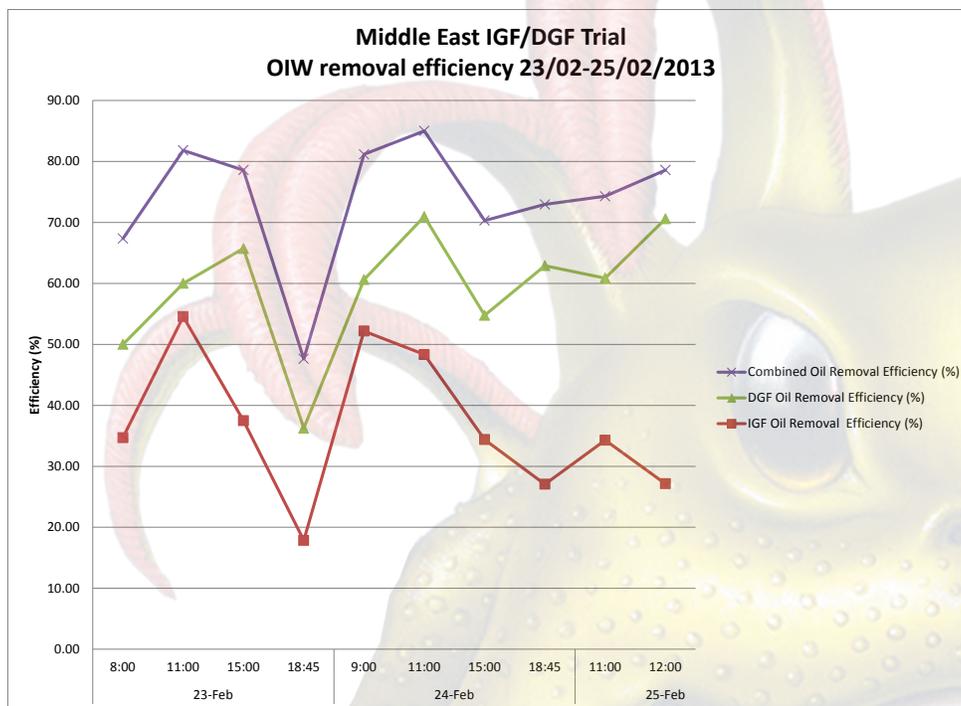
Produced Water in Middle East Treated Using CrudeSep® IGF and DGF

Challenge

A Middle East operator requested CETCO Energy Services to conduct produced water treatment trials for their Degassing Station. This particular station has been highlighted as being their most challenging with regards to oil-in-water (OIW) discharge levels with average OIW figures of 125 mg/L and mean oil droplet size of 8 to 12 µm. The produced water discharged from their final separation stage degassing vessel does not currently separate well using conventional mechanical separation technology due to a stable emulsion being created.

CETCO Solution

CETCO mobilised a two-stage compact floatation package consisting of CrudeSep® IGF and CrudeSep® DGF. This treatment package was to take a side stream of approximately 1,000 BPD from the degasser vessel produced water outlet and discharge the treated effluent to the dump well. Oil rejects from the CETCO package were reverted to the Recovery Oil Tank, with the reject gas from the CETCO unit being routed to the flare header. CETCO installed 18" CrudeSep® IGF and CrudeSep® DGF pilot units in series configuration to the degassing vessel. Chemical dosage was incorporated and optimised to aid water and oil separation and increase oil removal efficiency. Samples were collected four times throughout the day and analysed for OIW and Total Suspended Solids (TSS) by the client.



Outcome

CETCO successfully showed that the produced water from the Degassing Station can be effectively treated using CrudeSep® IGF and CrudeSep® DGF technology and chemical optimisation. The compact floatation package, with the chemical dosage optimized, achieved 85% oil removal efficiency on these challenging fluids. Suspended solids were also removed at 60% efficiency from the duration of the trial.