Produced Water Management

Break-out Session – DHRTC Technology Conference

Peter Christensen, Senior Production Chemistry Engineer, Field Operations, Esbjerg
Produced Water Management

Where Does It Go?

- Re-injection
- Discharged To Sea
- Exported with Oil (small fraction)

Re-injection (primarily)

- Gorm

Discharged to Sea

- Dan
- Halfdan
- Tyra (currently not in production)
- Harald (currently not in production)
Break-Out Session Topics and Total

1. Environmental Impact Factor (EIF) Assessment – Our tool to monitor discharge risk and continuously improve performance
   - Project on improved EIF documentation

2. H2S scavenger is the most important chemical used offshore and when discharged it contributes to our discharge risk
   - Project on recirculating unused scavenger and reduce consumption significantly

3. Our environmental risk from PW arise from naturally occurring components in the produced water and the addition of production chemicals
   - Project on MBBR bioreactor on seabed for biological cleaning of the produced water

4. Efficient separation of oil and water is a critical performance parameter for our operation offshore
   - Project on microfluids to better understand how chemicals affect oil/water separation