



## Produced Water- Recycle

Oil and gas operations generate high amounts of water with the oil and gas production. This water is known as produced water. For every m<sup>3</sup> of oil produced, there are 4 to 7 m<sup>3</sup> of water produced. The produced water typically contains TSS (20 to 150 ppm), high TDS specifically sodium and chlorides (2000 to 250,000 ppm), and oil (30 to 200 ppm). The **RSL Membranes™** treat produced water in this high TDS environment such that the treated water is consistently less than 5 ppm of oil (typically 1 ppm), less than 1 ppm of TSS and less than 1-micron particle size. **RSL Membranes™** have been used in China, the US and Canada to treat produced water. Isle Utilities, a global water technology assessor, has identified **RSL Membranes™** with its small footprint as the lead technology to be assessed for the treatment of produced water generated on offshore rigs. Petro China has rated RSL Membranes™ as the best available produced water treatment technology in the world.



Produced Water treatment-Raw water 132 NTU Permeate <0.5 NTU- Permian Basin New Mexico



Produced Water Treatment Raw water 161 NTU Permeate <0.3 NTU- Permian Basin Texas

# dbehytec



Left- Operator taking sample of raw water- Two Membrane Housings 12.5 m<sup>3</sup>/hr each  
Right- Operator taking sample of permeate from Membrane housing 1



Left -Raw produced water: Center-Permeate- housing 1 and 2; Quality-1 ppm oil, <1ppm TSS,<1 micron:  
Right – Oil separated in Housing and automatically drained from housing